

基于相位旋转的SCMA码本优化方法

To solve the high bit error ratio (BER) problem under the condition of high overload of sparse code multiple access (SCMA), the influence of phase rotation on the SCMA code is studied firstly. Two schemes of optimizing the phase rotation angle are then proposed based on the controlled-distance among the constellation points of synthetic constellation. The first scheme is called the rotation based on maximizing minimum euclidean distance (M-rotation) and the second is the rotation based on exponential average (E-rotation). E-rotation achieves better BER performance than M-rotation, but M-rotation is outstanding at the case of high signal-to-noise ratio (SNR). With respect to the decoding complexity, both schemes have no distinction but E-rotation gets better performance than M-rotation when the partial extrinsic information transmission of MPA (PEIT-MPA) is adopted.

General information

Publication status: Published

MoE publication type: A1 Journal article-refereed

Organisations: Electronics and Communications Engineering, Chongqing University of Posts and Telecommunications, Huawei Technologies Co., Ltd.

Contributors: Shao, K., Zhou, B., Wang, G., Yu, B.

Number of pages: 9

Pages: 2354-2362

Publication date: 2018

Peer-reviewed: Yes

Publication information

Journal: Xi Tong Gong Cheng Yu Dian Zi Ji Shu/Systems Engineering and Electronics

Volume: 40

Issue number: 10

ISSN (Print): 1001-506X

Ratings:

Scopus rating (2018): CiteScore 0.9 SJR 0.198 SNIP 0.478

Original language: Chinese

ASJC Scopus subject areas: Control and Systems Engineering, Electrical and Electronic Engineering

Keywords: Codebook design, Phase rotation, Sparse code multiple access (SCMA), Synthetic constellation

DOIs:

10.3969/j.issn.1001-506X.2018.10.29

Source: Scopus

Source ID: 85056877151

Research output: Contribution to journal > Article > Scientific > peer-review

Обзор параметрических методов позиционирования на основе концепции отпечатка пальца

General information

Publication status: Published

MoE publication type: A2 Review article in a scientific journal

Organisations: Department of Automation Science and Engineering, Research area: Dynamic Systems, Department of Mathematics, Research group: MAT Positioning, Research group: Positioning

Contributors: Müller, P., Raitoharju, M., Ali-Löyty, S., Wirola, L., Piche, R.

Pages: 3-35

Publication date: 2016

Peer-reviewed: Yes

Publication information

Journal: Giroskopiya I Navigatsiya

Volume: 24

Issue number: 1

ISSN (Print): 0869-7035

Original language: Russian

Electronic versions:

Survey_2016_01_01

DOIs:

10.17285/0869-7035.2016.24.1.003-035

URLs:

<http://urn.fi/URN:NBN:fi:tty-201609234547>

Bibliographical note

Translation of "A Survey of Parametric Fingerprint-Positioning Methods", Gyroscopy and Navigation, vol 7, issue 2, 2016, pp. 107-127.

Yliopistomatematiikan sähköisten tehtävien ja matemaattisen ajattelun kehittäminen

General information

Publication status: Published

MoE publication type: A1 Journal article-refereed

Organisations: Mathematics, Research group: Positioning, Research group: Computer Science and Applied Logics

Contributors: Myllykoski, T. J., Mattila, P., Ali-Löytty, S., Kaarakka, T., Viro, E.

Number of pages: 11

Pages: 46-56

Publication date: 2018

Peer-reviewed: Yes

Publication information

Journal: FMSERA Journal

Volume: 2

Issue number: 1

ISSN (Print): 2489-4583

Original language: Finnish

URLs:

<https://journal.fi/fmsera/article/view/69887/38422>

Additional files:

[Myllykoski_et_al](#)

Research output: Contribution to journal › Article › Scientific › peer-review

Wood compression model for radial compression of earlywood and latewood

General information

Publication status: Published

MoE publication type: B3 Non-refereed article in conference proceedings

Organisations: Department of Mechanical Engineering and Industrial Systems, Research group: Kokeellinen

virtaustekniikka, Research area: Applied Mechanics, Department of Automation Science and Engineering, Research area:

Dynamic Systems, Research area: Measurement Technology and Process Control

Contributors: Moilanen, C., Björkqvist, T., Saarenrinne, P.

Number of pages: 6

Pages: 261-266

Publication date: 2015

Host publication information

Title of host publication: Proceedings of the XII Finnish Mechanics Days

Publisher: Rakenteiden Mekaniikan Seura ry

ISBN (Print): 978-952-93-5608-9

ISBN (Electronic): 978-952-93-5609-6

URLs:

http://rmseura.tkk.fi/smp_proceedings/SMP12_Proceedings.pdf

Bibliographical note

ORG=mei,0.5

ORG=ase,0.5

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific

Wirelessly powered implantable system for wireless long-term monitoring of intracranial pressure

This paper presents the pressure readout results from a piezoresistive pressure sensor in a biological environment mimicking the human head properties for intracranial pressure (ICP) monitoring application. The piezoresistive pressure sensor is wirelessly powered through inductively coupled antennas. After successful activation of the sensor, the pressure readout is demonstrated from 0 mmHg to 30 mmHg with a resolution of one mmHg.

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Faculty of Biomedical Sciences and Engineering, Research area: Dynamic Systems, Research group:

Wireless Identification and Sensing Systems Research Group

Contributors: Khan, M. W. A., Björninen, T., Sydänheimo, L., Ukkonen, L.
Pages: 122-124
Publication date: 1 Mar 2017

Host publication information

Title of host publication: Proceedings of IEEE 2017 International Workshop on Antenna Technology

Publisher: IEEE

ISBN (Electronic): 978-1-5090-5176-2

Electronic versions:

8572183

DOIs:

10.1109/IWAT.2017.7915334

URLs:

<http://urn.fi/URN:NBN:fi:tty-201712202421>

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Wireless Authentication using OPACITY Protocol

Authentication using wireless keys simplifies the user daily life and opens the door to a number of promising applications in the area of pervasive computing, Internet of Things and Tactile Internet. However, this approach raises several research challenges, including but not limited to: which communication technology to use, how to guarantee the relevant security level, and, last but not the least, how to integrate the wireless authentication systems into already deployed authorization solutions. In this paper, we address the above mentioned questions by proposing a wireless authentication solution based on the NFC-capable smartphone and using OPACITY authentication protocol that is compatible with existing access control mechanisms in OS Windows 8. We start with qualitative comparison of Bluetooth, RFID and NFC technologies in terms of applicability for wireless authentication. We then describe the OPACITY protocol in general, and its adaptation to wireless authentication scenario. We finally present the high-level architecture of our solution and highlight some Windows OS specifics we faced during the reference implementation. We believe that demonstrated interoperability between wireless authentication solution and existing access control mechanisms in modern OS provides an important step towards further development of advanced authentication methods, based on wireless keys.

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Department of Electronics and Communications Engineering, Research group: Emerging Technologies for Nano-Bio-Info-Cogno

Contributors: Petrov, V., Bezzateev, S., Zybin, V.

Pages: 253-258

Publication date: 2015

Host publication information

Title of host publication: 2015 7th International Congress on Ultra Modern Telecommunications and Control Systems and Workshops (ICUMT)

Publisher: IEEE

ISBN (Print): 978-1-4673-9282-2

DOIs:

10.1109/ICUMT.2015.7382438

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Winner-Does-Not-Take-All: Selective Attention and Local Bias in Platform-Based Markets

We examine competition between platforms in platform-based markets with agent-based modeling. In our proposed model, a consumer adopts a platform that offers the most relative utility of competing platforms. More specifically, the utility is derived from the local direct network effects arising from the social network of the consumer and the indirect network effects arising from complementary products of the platform. We portray the consumer as selectively attentive and locally biased. We contrast the proposed model to several alternative models with empirical data from the competition between Sony's PlayStation 3 and Microsoft's Xbox 360 and show that the proposed model, where the aforementioned consumer characteristics, and platform pricing, explain the adoption decisions of consumers and thus the division of the market between platforms. We offer important insights on how the dynamics of competition on the macro-level emerge from micro-level interactions between consumers.

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Department of Mathematics, Research group: MAT Intelligent Information Systems Laboratory, Lappeenranta University of Technology, Hanken School of Economics

Contributors: Huotari, P., Järvi, K., Kortelainen, S., Huhtamäki, J.
Publication date: Jan 2015

Host publication information

Title of host publication: Academy of Management Proceedings : Meeting Abstract Supplement
Publisher: Academy of Management

Publication series

Name: Academy of Management. Annual Meeting Proceedings
Publisher: Academy of Management
ISSN (Electronic): 2151-6561
URLs:

<http://proceedings.aom.org/content/2015/1/16901.short>

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

Why don't one maximizes database utilization in product and service development in manufacturing?

General information

Publication status: Published
MoE publication type: A4 Article in a conference publication
Organisations: Industrial and Information Management, Research group: Business Ecosystems, Networks and Innovations
Contributors: Väyrynen, H., Manu, M.
Number of pages: 13
Pages: 93-105
Publication date: 7 Jun 2017

Host publication information

Title of host publication: Proceedings of the 12th International Forum on Knowledge Asset Dynamics 2017 : St. Petersburg, Russia, 7-9 June 2017
Place of publication: St. Petersburg, Russia
ISBN (Print): 978-88-96687-10-9

Publication series

Name: Proceedings IFKAD
ISSN (Print): 2280-787X
Keywords: Technology adoption, DATABASE, customer oriented approach, Practice, Development
Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

Who is who in Big Social Data? A Bibliographic Network Analysis Study

The aim of the study is to investigate who are advancing the knowledge on Big Social Data and the related concept of Social Big Data, 'who' are these people citing and building their work on, and what are the topics and outlets where the discussion takes place. For that purpose, data was extracted from Thomson Reuters Web of Science with the search term "Big Social Data" and "Social Big Data" spanning the years from 2012 to 2016. The search resulted in 58 articles in 39 different outlets. In order to go into the depth of Big Social Data and Social Big Data, co-author bibliographic network analysis was performed on the extracted data. The co-author network analysis revealed 149 nodes (authors), and 308 edges (co-authoring relationships) between the authors. Betweenness centrality were calculated for the nodes to demonstrate who are the central authorities and their domain on the topic of Big Social Data and Social Big Data. The visualisation based on co-author network analysis provides insight into the possible clusters of authors in the topics of Big Social Data and Social Big Data. Co-citation analysis was performed for the combined network of Big Social Data and Social Big Data authors. This study was carried out using Ostinato process model for visual network analysis. The findings of the

study provide insights on the leading authorities (authors) advancing the knowledge in Big Social Data. From the community of Big Social Data three authoritative clusters were identified, one with authors located in Singapore and Scotland, another with authors located in Denmark, and third based in London, England. The Social Big Data communities were mainly located in Asia, with two authoritative clusters, one located in Japan, and another with authors located in South-Korea and Spain. The topic modelling uncovered that the themes discussed in Big Social Data and Social Big Data communities were fairly similar, dealing with analysis of social media data in various ways. Most commonly the focus was on Twitter or Facebook data analysis. Further, the bibliometric analysis provides an indication for potential outlets (Journals and Conferences) for Big Social Data and Social Big Data themed articles, as well as, their impact on the field.

General information

Publication status: Published
MoE publication type: A4 Article in a conference publication
Organisations: Industrial and Information Management, Research group: Business Data Research Group
Contributors: Jussila, J., Menon, K., Gupta, J., Kärkkäinen, H.

Pages: 161-169
Publication date: 3 Jul 2017

Host publication information

Title of host publication: Proceedings of the 4th European Conference on Social Media ECSM 2017
Volume: 4
Place of publication: Reading, UK
Publisher: Academic Conferences and Publishing International Limited
ISBN (Print): 978-1-911218-46-3
ISBN (Electronic): 978-1-911218-47-0
ASJC Scopus subject areas: Computer Science(all)
Keywords: social media
Electronic versions:

Who is who in Big Social Data? A Bibliographic Network Analysis Study

URLs:

<http://urn.fi/URN:NBN:fi:tty-201802141223>

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

White Knights of the Smart City

In this paper we will demonstrate how a science fiction storyboard was used as a means for delivering and discussing future technology and design innovations. We present a case in which an illustrated storyboard exemplified the interactions of an experienced-centered technology design concept - a winter caretaking system for a smart city and two devices that could assist its citizens. In the science fiction introduced, the emphasis is on the experience-centered design approach, particularly experiences relating to nurture, sympathy and control.

General information

Publication status: Published
MoE publication type: A4 Article in a conference publication
Organisations: Department of Pervasive Computing, Research area: User experience, VTT Tech Res Ctr Finland, VTT Technical Research Center Finland, Human Factors Complex Syst
Contributors: Kymäläinen, T., Sahar, F., Palviainen, J.
Number of pages: 12
Pages: 223-234
Publication date: 2014

Host publication information

Title of host publication: Workshop Proceedings of the 10th International Conference on Intelligent Environments
Publisher: IOS Press
Editors: Augusto, J., Zhang, T.
ISBN (Print): 978-1-61499-410-7

Publication series

Name: Ambient Intelligence and Smart Environments
Publisher: IOS PRESS
Volume: 18
ISSN (Print): 1875-4163
Keywords: Science-fiction prototype, storyboard, intelligent city, user experience design, experience-centered design
DOIs:
[10.3233/978-1-61499-411-4-223](https://doi.org/10.3233/978-1-61499-411-4-223)
Source: WOS
Source ID: 000360238400028
Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

What's inside a rubble pile asteroid? DISCUS - A tomographic twin radar Cubesat to find out

A large fraction of asteroids with diameter $d > 240$ m are suspected to be loose piles of rocks and boulders bound together mainly by gravity and only weak cohesion. Still to date the size and distribution of voids and monolithic fragments inside these "rubble-piles" are not known. To perform a full tomographic interior reconstruction a bistatic CubeSat configuration has been investigated by Tampere University of Technology (TUT), Radar Systemtechnik GmbH (RST) and the Max Planck Institute for Solar System Research (MPS). The concept is based on two 6U CubeSats, both carrying an identical 1U sized stepped frequency radar. As stepped frequency radars can be built compact, require less power and generate less data volume compared to other radar applications they are well-suited for small satellite platforms. In 2017 the Concurrent Design Facility of ESA/ESTEC conducted two studies relevant for DISCUS. In the Small Planetary Probes (SPP) study DISCUS served as a reference payload for a piggyback mission to a Near-Earth Asteroid (NEA) or even a Main Belt Asteroid (MBA). The M-ARGO study investigated a stand-alone mission to a NEA, with a DISCUS sized instrument. Based on the spacecraft design of SPP and M-ARGO we could prove the instrument requirements as feasible

and evaluate our science case from the orbits and mission duration that have been identified by these studies. Using inversion methods developed for medical tomography the data would allow to reconstruct the large scale interior structure of a small body. Simulations have shown that the measurement principle and the inversion method are robust enough to allow full reconstruction of the interior even if the orbits do not cover the entire surface of the asteroid. The measurement results of the mission will help to gain a better understanding of asteroids and the formation mechanisms of the solar system. In addition, the findings will increase the predictability of asteroid impact consequences on Earth and improve future concepts of asteroid deflection.

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Computing Sciences, Research group: Inverse Problems, Max Planck Institute for Solar System Research, GomSpace A/S, 3D Profi GmbH, RST Radar Systemtechnik AG, University of Bern, MEW-Aerospace UG, GMV Innovating Solutions S.L., Royal Observatory of Belgium

Contributors: Bambach, P., Deller, J., Martel, J., Vilenius, E., Goldberg, H., Sorsa, L., Pursiainen, S., Takala, M., Wurster, A., Braun, H. M., Lentz, H., Jutzi, M., Wittig, M., Chitu, C. C., Ritter, B., Karatekin, O.

Publication date: 2018

Host publication information

Title of host publication: 69th International Astronautical Congress, IAC 2018

Publication series

Name: Proceedings of the International Astronautical Congress, IAC

ISSN (Print): 0074-1795

ASJC Scopus subject areas: Aerospace Engineering, Astronomy and Astrophysics, Space and Planetary Science

Bibliographical note

jufoid=85566

Source: Scopus

Source ID: 85065313725

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

What Engineering Scientists Know and How They Know It: Towards Understanding the Philosophy of Engineering Science in Finland

Knowledge, research and science are all concepts into which every member of the scientific community must have some kind of insight. Although nowadays there appears to be a general consensus that engineering science is a scientific enterprise in and of its own, this has not been the case for very long. As a scientific discipline, engineering science has been somewhat neglected from the standpoint of epistemology and philosophy.

This study aims at understanding the prevailing philosophy of engineering science in Finland. It strives to comprehend the essence and challenges of knowledge and knowledge-creation processes in the field. It is hoped that the resulting comprehension will improve the research community's possibilities 1) to reflect critically upon its procedures, 2) to discuss what should be studied and how, and 3) to determine on what bases the processes and results should be evaluated. It is also expected to assist in developing doctoral education and to result in better supervision by providing a framework and vocabulary for philosophical and methodological discussion.

The cognitive interest in this study is practical, and the orientation hermeneutic. The process follows the general lines of qualitative research and applies the method of qualitative content analysis. As an empirical inquiry, this study belongs to the realm of science and technology studies. The phenomenon was studied in the context of Finland in the guise of a single-case study, with Tampere University of Technology as the case.

The final results support the view that engineering science certainly is a scientific discipline in and of its own, characterised by its own technical matrix. Most engineering science research can be classified as design science. Scientific inquiry in engineering science often requires building conceptual—but also material—constructs, as well as developing new methods for different purposes (analyses, design, implementation, evaluation). Consequently, the contributions recognised in research are of many types (artefacts, methods, declarative knowledge, proposals), but they are not always the kind of knowledge adhering to technical norms. Arriving at new theories or linking knowledge to existing theories seems to be even rarer than arriving at technical norms.

Engineering science is a discipline of considerable diversity. The objectives, methods, empirical processes and results pertaining to one type of inquiry can be very different from those found in other types of investigation. This study uncovered five distinct research profiles, but there may well be more to discover.

At the moment, the philosophy of engineering science has not raised significant interest, as it appears not to have many direct consequences; yet, there are challenges that engineering scientists face that may well be rooted in the lack of common understanding about the epistemic, ontological and methodological issues of the topic.

General information

Publication status: Published
MoE publication type: G4 Doctoral dissertation (monograph)
Organisations: Department of Information Management and Logistics
Contributors: Naukkarinen, J.
Number of pages: 205
Publication date: 20 Nov 2015

Publication information

Publisher: Tampere University of Technology
ISBN (Print): 978-952-15-3619-9
ISBN (Electronic): 978-952-15-3641-0
Original language: English

Publication series

Name: Tampere University of Technology. Publication
Publisher: Tampere University of Technology
Volume: 1344
ISSN (Print): 1459-2045
Electronic versions:
naukkarinen_1344
URLs:
<http://URN.fi/URN:ISBN:978-952-15-3641-0>

Bibliographical note

Awarding institution: Tampere University of Technology
Research output: Book/Report > Doctoral thesis > Monograph

Web-user-interface system utilizing rhmei and open data for a water quality analyzer

General information

Publication status: Published
MoE publication type: A4 Article in a conference publication
Organisations: Research group: Software Engineering and Intelligent Systems, Pervasive Computing, Keio University, Japan, Global Environmental System Leaders Program, Keio University, Japan
Contributors: Sillberg, P., Veksommai, C., Soini, J., Jaakkola, H.
Number of pages: 8
Pages: 444-451
Publication date: 2017

Host publication information

Title of host publication: The Proceedings of the 27th International Conference on Information Modelling and Knowledge Bases, EJC 2017 : June 5-9, 2017, Krabi, Thailand
Publisher: Sirindhorn International Institute of Technology, Thammasat University, Thailand
Editors: Sornlertlamvanich, V., Chawakitchareon, P., Hansuebsai, A., Koopipat, C., Kiyoki, Y., Kangassalo, H., Thalheim, B., Yoshida, N.
ISBN (Electronic): 978-616-407-165-0
Electronic versions:
water
URLs:
<http://urn.fi/URN:NBN:fi:tty-201712042302>
Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

Web User Interface Implementation Technologies: An Underview

General information

Publication status: Published
MoE publication type: A4 Article in a conference publication
Organisations: Pervasive Computing, Research area: Software engineering, University of Lugano (USI), Università della Svizzera Italiana, Nokia Technologies, University of Helsinki
Contributors: Taivalsaari, A., Mikkonen, T., Systä, K., Pautasso, C.
Number of pages: 10
Pages: 127-136
Publication date: 5 Sep 2018

Host publication information

Title of host publication: 14th International Conference on Web Information Systems and Technologies
Publisher: SCITEPRESS
ISBN (Print): 978-989-758-324-7
DOIs:
10.5220/0006885401270136

Bibliographical note

EXT="Taivalaari, Antero"

EXT="Mikkonen, Tommi"

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Water services heritage and institutional diversity

General information

Publication status: Published
MoE publication type: A3 Part of a book or another research book
Organisations: Department of Civil Engineering, Research group: Industrial Bioengineering and Applied Organic Chemistry
Contributors: Katko, T. S., Juuti, P., Pietilä, P., Rajala, R.
Publication date: 2015

Host publication information

Title of host publication: Water and Heritage: material, conceptual and spiritual connections
Publisher: Sidestone Press
Editors: Willems, W., van Schaik, H.
ISBN (Print): 9789088902789
Research output: Chapter in Book/Report/Conference proceeding › Chapter › Scientific › peer-review

Voimalaitosten reaaliaikainen ympäristövaikutusten monitorointi

General information

Publication status: Published
MoE publication type: A4 Article in a conference publication
Organisations: Department of Automation Science and Engineering, Research area: Measurement Technology and Process Control, Suomen ympäristökeskus SYKE - Finnish Environment Institute, IndMeas Oy, Helen Oy
Contributors: Majanne, Y., Korpela, T., Judl, J., Koskela, S., Laukkanen, V., Häyrynen, A., Salminen, O.
Number of pages: 6
Pages: 1-6
Publication date: 2015

Host publication information

Title of host publication: Automaatio XXI seminaari
Publisher: Suomen Automaatioseura
Editor: Jämsä-Jounela, S.
ISBN (Print): 978-952-5183-46-7

Publication series

Name: SAS julkaisusarja

No.: 44

ISSN (Print): 1455-6502

URLs:

<http://xxi.automaatioseura.fi/>

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Visual tools to support innovation development: User experiences from the Parisian ecosystem

Purpose – This paper reports an experimental application of network visualization to understand the value of visual expression for presenting complex knowledge assets to executive decision makers in order to develop culturally-relevant insights for program development.

Design/methodology/approach – In pairs, decision makers used interactive network visualizations to explore complex multi-layer data about relationships among key executives, companies, and financing organizations in the region served by their network facilitation programs. Their experiences were documented using pre- and post- questionnaires, as well as observations and interviews conducted by research team members.

Originality/value –The results provide novel evidence of the benefits of a relationship- based visual format to present knowledge assets for evidence-based decisions. Using interactive visualizations, the decision makers aligned views of the

data with their individual cognitive mindsets. Working in pairs to complete a joint task, team members made their cultural interpretation and working explicit.

Practical implications – The findings support the argument that the value of knowledge assets in problem-solving performance depends on both the format of the data and the nature of the task. Our results support the importance of continual involvement and interaction between data analysts and decision makers; they highlight the importance of considering knowledge assets as value drivers that can support knowledge-based innovation.

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Department of Mathematics, Research group: MAT Intelligent Information Systems Laboratory, MediaX, Stanford University, VTT Technical Research Centre of Finland

Contributors: Russell, M. G., Still, K., Huhtamäki, J. V.

Number of pages: 14

Publication date: 10 Jun 2015

Host publication information

Title of host publication: Proceedings of the International Forum on Knowledge Asset Dynamics, 10-12 June 2015, Bari, Italy : IKFAD 2015

Publisher: Institute of Knowledge Asset Management & Arts for Business Institute

ISBN (Electronic): 978-88-96687-07-9

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Visual narratives in the value chain of new management accounting knowledge

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Department of Industrial Management, Research group: Cost Management Center

Contributors: Nyuppieva, E., Laine, T., Lyly-Yrjänäinen, J.

Publication date: 2016

Host publication information

Title of host publication: 10th Conference On New Directions In Management Accounting : Brussels, Belgium, December 14-16, 2016

URLs:

http://www.eiasm.org/frontoffice/event_announcement.asp?event_id=1162#4483

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

VisualLabel: An Integrated Multimedia Content Management and Access Framework

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Signal Processing, Pervasive Computing, Research group: Software Engineering and Intelligent Systems, Arcada University of Applied Sciences, Aalto University, department of Computer Science, Lynx Technology Finland Oy, Aalto University

Contributors: Ahmad, I., Rantanen, P., Sillberg, P., Laaksonen, J., Liu, S., Forss, T., Malik, A., Nieminen, M., Shetty, R., Ishikawa, S., Kallio, J., Saarinen, J. P., Gabbouj, M., Soini, J.

Number of pages: 22

Pages: 332-353

Publication date: 2017

Host publication information

Title of host publication: The Proceedings of the 27th International Conference on Information Modelling and Knowledge Bases, EJC 2017 : June 5-9, 2017, Krabi, Thailand

ISBN (Electronic): 978-616-407-165-0

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Visual Data Mining in Software Repositories: A Survey

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Pervasive Computing
Contributors: Eteläaho, A., Soini, J., Jaakkola, H., Mattila, A.
Pages: 367-385
Publication date: Jun 2017

Host publication information

Title of host publication: The Proceedings of the 27th International Conference on Information Modelling and Knowledge Bases

Publisher: Sirindhorn International Institute of Technology, Thammasat University, Thailand

Editors: Sornlertlamvanich, V., Chawakitchareon, P., Hansuebsai, A., Koopipat, C., Kiyoki, Y., Jaakkola, H., Thalheim, B., Yoshida, N.

ISBN (Electronic): 978-616-407-165-0

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

Vision-based path coordination for multiple mobile robots with four steering wheels using an overhead camera

In this paper, we extend our previous work to introduce a vision-based path coordination method for multiple mobile robots with four steering wheels to avoid mutual collisions, so that the generated paths are always in the visibility range of the overhead camera. The proposed algorithm generates the synchronized trajectories for all wheels belonging to each mobile robot, with respect to its inertial-frame, relying on only one calibrated camera. These synchronized trajectories reduce the complexity of the robot kinematic model to plan maximum allowable bounded driving and steering velocities for each mobile robot. The main contribution of the proposed method is coordinating the trajectories for multiple mobile robots to avoid intersection boundaries that are obtained by generated geometrical traces in real world coordinates. Our experimental results are presented to illustrate the efficiency of the proposed method for the path coordination of multiple mobile robots with four steering wheels to avoid mutual collision.

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Department of Intelligent Hydraulics and Automation, Research group: Mobile manipulation

Contributors: Ziaei, Z., Oftadeh, R., Mattila, J.

Number of pages: 8

Pages: 261-268

Publication date: 1 Jul 2015

Host publication information

Title of host publication: IEEE International Conference on Advanced Intelligent Mechatronics (AIM), 2015

ISBN (Print): 978-1-4673-9107-8

Keywords: cameras, collision avoidance, mobile robots, robot kinematics, robot vision, steering systems, trajectory control , calibrated camera, multiple mobile robots, overhead camera, robot kinematic model, steering wheels, synchronized trajectories, vision-based path coordination, Cameras, Collision avoidance, Mobile robots, Robot kinematics, Trajectory, Wheels, Four steering wheels, Intersection region, Multiple mobile robots, Nonholonomic mobile robots, Path coordination , Steering and driving velocity, Vision-based method

DOIs:

10.1109/AIM.2015.7222542

Source: Bibtext

Source ID: urn:a1ad44c17a4d88dc0b2e6fb580e7e7f2

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

Visibility-Aware Part Coding for Vehicle Viewing Angle Estimation

A number of spatially-localised semantic parts of vehicles sensitive to pose changes are encoded their visible probabilities into a mid-level feature vector. Car pose estimation is then formulated into a regression on concatenated low-and mid-level features to continuously changing viewing angles. Each dimension of our visibility-Aware part codes separates all the training samples into two groups according to its visual existence in images, which provides additional part-specific range constraint of viewing angles. Moreover, the proposed codes can alleviate the suffering from sparse and imbalanced data distribution in the light of modelling latent dependency across angle targets. Experimental evaluation for car pose estimation on the EPFL Multi-View Car benchmark demonstrates significant improvement of our method over the state-of-The-Art regression methods, especially when only sparse and imbalanced data is available.

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Computing Sciences, Research group: Vision, South China University of Technology

Contributors: Yang, D., Qian, Y., Cai, D., Yan, S., Kämäräinen, J., Chen, K.

Number of pages: 6

Pages: 65-70

Publication date: 1 Aug 2019

Host publication information

Title of host publication: 9th International Conference on Information Science and Technology, ICIST 2019

Publisher: IEEE

ISBN (Electronic): 9781728121062

ASJC Scopus subject areas: Computer Science Applications, Computer Vision and Pattern Recognition, Information Systems, Computational Mathematics, Control and Optimization

Keywords: Car pose estimation, Coding, Pose-sensitive parts, Regression forests, Visibility-Aware

DOIs:

10.1109/ICIST.2019.8836907

Bibliographical note

EXT="Chen, Ke"

jufoid=79229

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Vibration analysis of the composite slim floor

Vibration design has been a significant challenge for Composite Slim Floors. An increase in demands for longer spans and uninterrupted floor areas has resulted in floor structures more sensitive to vibration problems caused by human excitation. This paper concentrates on vibration behavior of Composite Slim Floors consisting of pre-cast hollow core slabs and composite slim floor beams. Floor vibrations are studied numerically using finite element (FEM) analysis and Robot Structural Analysis software. An existing car park floor has been used as a case study and the calculated results have been compared with experimental measurements. Both simple and more advanced FEM models are used to investigate whether the Eigen modes are formed by the composite slim floor beams or pre-casted hollow core slabs. Calculated Eigen frequencies are used for evaluating Floor Response. The response is measured by either root-mean-square acceleration or Response Factor. From all of these results effects of vibration for Floor designing are evaluated. The resulted Eigen frequencies and Response Factor values are compared to limit values and guidelines given in design standards. The study gives valuable information about the floor performance and about the potential methods and details which lead to economical slim floor construction with acceptable vibration performance. The contribution of different floor and frame components to Eigen frequencies are also studied.

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: University of Oulu, Peikko Group Oy

Contributors: Yrjölä, J., Peltonen, S., Malaska, M.

Number of pages: 6

Publication date: 2014

Host publication information

Title of host publication: EUROSTEEL 2014 : 7th European Conference on Steel and Composite Structures, 10.-12.9.2014, Naples, Italy

Place of publication: Belgium

Publisher: ECCS - European Convention for Constructional Steelwork

Editors: Landolfo, R., Mazzolani, F.

Article number: 33-494

ISBN (Electronic): 978-92-9147-121-8

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Vesi, ongelma ennen ja nyt?

General information

Publication status: Published

MoE publication type: A2 Review article in a scientific journal

Organisations: Civil Engineering

Contributors: Juuti, P.

Pages: 54-65

Publication date: May 2017

Peer-reviewed: Yes

Publication information

Journal: Ympäristöhistoria: Finnish Journal of Environmental History

Volume: 2017

Issue number: 1

ISSN (Print): 1799-6953

Original language: Finnish

URLs:

http://www.uta.fi/yky/tutkimus/historia/projektit/iehg/Ymparistohistoria/2017_1.html

Research output: Contribution to journal › Review Article › Scientific › peer-review

Vesihuollon instituutiot vaativat taitavaa jalkapallopeiliä

General information

Publication status: Published

MoE publication type: D1 Article in a trade journal

Organisations: Civil Engineering

Contributors: Inha, L., Katko, T. S., Rajala, R.

Number of pages: 3

Pages: 38-40

Publication date: Jun 2019

Peer-reviewed: Unknown

Publication information

Journal: Rakennustekniikka

Volume: 75

Issue number: 3

ISSN (Print): 0033-913X

Original language: Finnish

URLs:

https://www.ril.fi/media/2019/rakennustekniikka/rt-2019-3_low_linkit.pdf

Research output: Contribution to journal › Article › Professional

Ventilation rates and CO₂-levels before and after energy retrofit in Finnish apartment buildings

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Research group: Concrete and Bridge Structures, Research area: Structural Engineering, Department of Civil Engineering, Research group: Building Physics, Natl Inst Hlth & Welf, Finland National Institute for Health & Welfare, Dept Environm Hlth

Contributors: Leivo, V., Aaltonen, A., Turunen, M., Du, L., Kiviste, M., Haverinen-Shaughnessy, U.

Publication date: 2016

Host publication information

Title of host publication: CLIMA 2016 - Proceedings of the 12th REHVA World Congress. Aalborg. Aalborg University.

Department of Civil Engineering. : Volume 1. Building Retrofit

Volume: 1

Place of publication: Aalborg

Publisher: Aalborg university, Department of Civil Engineering

Editor: Kvols Heiselberg, P.

Article number: 192 (in vol 1)

ISBN (Electronic): 87-91606-26-8

URLs:

<http://vbn.aau.dk/en/activities/clima-2016--12th-rehva-world-congress%2843019fd3-70a7-4c5c-9176-825add5913f%29.html>

URLs:

http://vbn.aau.dk/files/233707103/paper_192.pdf

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Vehicle Mass Estimation for Hydraulic Drive System using Longitudinal Motion Model

The real-time mass estimation of the vehicle is applied for the machine with the hydraulic drive system. The mass estimation is based on the longitudinal drive model comprising the model of hydraulic drive transmission. The resistance forces of the longitudinal motion such as the air drag, rolling resistance and friction of the drive system are modelled. The actual mass of the vehicle is deduced from the measured hydraulic torque and from the force causing the acceleration. As the aerodynamic drag, rolling resistance, road grade load and transmission losses have a significant share from the total drive torque, the effects of these forces are taken account. Further, the estimated mass data is classified by recognising operation conditions where the mass estimation is accurate. After a short acceleration-deceleration period, the measured signals provide enough data for estimating the mass of the

vehicle. The experimental tests are run with a middle-size wheel loader and with a typical work cycle resulting $\pm 5\%$ accuracy from the real mass. Furthermore, the proposed model and recognition of the operation conditions are applicable to estimate also other vehicle parameters such as friction force or road grade.

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Department of Intelligent Hydraulics and Automation, Research group: Fluid power automation in mobile machines

Contributors: Ahopelto, M., Krogerus, T., Huhtala, K.

Number of pages: 10

Pages: 433-442

Publication date: May 2015

Host publication information

Title of host publication: The Fourteenth Scandinavian International Conference on Fluid Power, SICFP15

Publisher: Tampere University of Technology. Department of Intelligent Hydraulics and Automation

ISBN (Electronic): 978-952-15-3530-7

Publication series

Name: The Fourteenth Scandinavian International Conference on Fluid Power, SICFP15

ISSN (Electronic): 2342-2726

Keywords: Longitudinal motion, mass estimation, hydraulic drive system, wheel loader

URLs:

<http://urn.fi/URN:ISBN:978-952-15-3530-7> (Link to conference publication)

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Varmuuden kohdentaminen geotekniikassa, miten Eurokoodeja voisi kehittää?

General information

Publication status: Published

MoE publication type: D3 Professional conference proceedings

Organisations: Department of Civil Engineering, Research group: Foundation Structures

Contributors: Lämsivaara, T.

Publication date: 2015

Host publication information

Title of host publication: Geotekniikan päivä 2015

Publisher: SGY

URLs:

<http://www.getunderground.fi/web/page.aspx?refid=38>

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Professional

Value Creation in Private Equity: A Case Study of Outperforming Buyouts in the Nordic Countries

A number of studies have reported that the returns from acquisitions made by private equity (PE) firms have exceeded those of the public markets, e.g. the S&P 500. The outperformance displayed in the buyouts made by private equity firms is perplexing, particularly given the underperformance and high failure rate typically reported in studies of traditional corporate mergers and acquisitions (M&A). This dissertation strives to shed a light on the dichotomy by examining the activities in a select sample of buyouts during the pre-buyout phase, holding period, and the exit transaction. The study makes a number of significant contributions. It contributes to the theoretical and conceptual understanding of private equity buyouts by materially extending previous models of value creation into a novel taxonomy and cohesive structure. It contributes empirically by filling an important research gap concerning the subset of buyouts that exhibited exceptional outperformance compared to peer firms in PE portfolios. The inductive multiple-case study approach in combination with access to proprietary interview data permitted an in-depth analysis of the factors conducive to buyout value creation. The analysis indicates the key factors resulting in the outperformance were timing the entry and exit transaction to the business and industry cycles, identifying and executing the apposite business strategy, utilizing alternative modes of debt financing, discerning the pre-buyout target firm characteristics, implementing a pervasive array of operational improvements, and lastly, achieving high-levels of employee motivation and commitment across the organization.

General information

Publication status: Published

MoE publication type: G4 Doctoral dissertation (monograph)

Organisations: Department of Industrial Management

Contributors: Hannus, S.

Number of pages: 180

Publication date: 24 Oct 2015

Publication information

Publisher: Tampere University of Technology
ISBN (Print): 978-952-15-3589-5
ISBN (Electronic): 978-952-15-3614-4
Original language: English

Publication series

Name: Tampere University of Technology. Publication
Publisher: Tampere University of Technology
Volume: 1328
ISSN (Print): 1459-2045
Electronic versions:
hannus_1328
URLs:
<http://URN.fi/URN:ISBN:978-952-15-3614-4>

Bibliographical note

Awarding institution: Tampere University of Technology
Versio ok 14.12.2015
Research output: Book/Report > Doctoral thesis > Monograph

Valtion tukemien homekorjaushankkeiden arviointi -jatkotutkimus (HKPro 3)

General information

Publication status: Published
MoE publication type: B3 Non-refereed article in conference proceedings
Organisations: Department of Civil Engineering, Research group: Service Life Engineering of Structures, Research area: Structural Engineering
Contributors: Annila, P., Marttila, T., Kero, P., Suonketo, J., Pentti, M.
Number of pages: 6
Pages: 107-112
Publication date: 11 Mar 2015

Host publication information

Title of host publication: Sisäilmastoseminaari 2015 SIY Raportti 33, Messukeskus, Helsinki 11.3.2015
Volume: Sisäilmayhdistys raportti 33
Place of publication: Juva
Editors: Säteri, J., Ahola, M.
ISBN (Print): 978-952-5236-43-9

Publication series

Name:
No.: 33
Name: Sisäilmayhdistys
Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific

Valtion tukemien homekorjaushankkeiden arviointi (HKPro 2)

General information

Publication status: Published
MoE publication type: B3 Non-refereed article in conference proceedings
Organisations: Department of Civil Engineering, Research group: Service Life Engineering of Structures, Research area: Structural Engineering
Contributors: Marttila, T., Suonketo, J., Kero, P., Annila, P., Pentti, M.
Number of pages: 6
Pages: 101-106
Publication date: 11 Mar 2015

Host publication information

Title of host publication: Sisäilmastoseminaari 2015 SIY Raportti 33, Messukeskus, Helsinki 11.3.2015 :
Sisäilmastoseminaari
Volume: Sisäilmayhdistys raportti 33
Place of publication: Juva

Editors: Säteri, J., Ahola, M.

ISBN (Print): 978-952-5236-43-9

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific

Valkea kaupunki, mustat vedet

General information

Publication status: Published

MoE publication type: A2 Review article in a scientific journal

Organisations: Civil Engineering

Contributors: Juuti, P., Rajala, R.

Number of pages: 3

Pages: 15-17

Publication date: 2017

Peer-reviewed: Yes

Publication information

Journal: Vesitalous

Volume: 2017

Issue number: 1

ISSN (Print): 0505-3838

Original language: English

URLs:

<http://www.vesitalous.fi/vesitalous-lehdet/vesien-historia/>

Research output: Contribution to journal › Review Article › Scientific › peer-review

Validation of the method to evaluate the corrosion propagation stage by hygrothermal simulation

Evaluating the propagation period for reinforcement corrosion in concrete facades is an important but complex task which contains a high level of uncertainty. Corrosion current intensity during the propagation period have been measured in a large number of studies and there is a general consensus in regard to factors affecting carbonation induced corrosion. Hence, a proper evaluation of hygrothermal conditions in concrete facade becomes crucial. In this study a method to calculate the corrosion propagation period was validated based upon a field survey of prefabricated concrete facades in large-panel apartment buildings. The method combines existing corrosion propagation models and the Delphin dynamic hygrothermal simulation tool, and takes into consideration material properties, carbonation depth, concrete cover depth, indoor and outdoor climate loads. With the proposed method, propagation consists of a time that is required for a concrete cover to begin cracking and a further expansion of the crack to open to 0.3 mm in width. As a result, the method is validated via the correlation between measured and calculated propagation periods across a range of twenty years. The sensitivity of the results are also studied. The method allows for an evaluation to be carried out on degradation, residual service life, and the need for the renovation of reinforced concrete facades.

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Department of Civil Engineering, Research group: Service Life Engineering of Structures, Tallinn University of Technology

Contributors: Ilomets, S., Kalamees, T., Lahdensivu, J.

Number of pages: 8

Pages: 1113-1120

Publication date: 2016

Host publication information

Title of host publication: CESB 2016 - Central Europe Towards Sustainable Building 2016: Innovations for Sustainable Future

Publisher: Czech Technical University in Prague

ISBN (Electronic): 9788027102488

ASJC Scopus subject areas: Civil and Structural Engineering, Building and Construction

Keywords: Concrete damage, Corrosion model, Corrosion propagation, Hygrothermal simulation, Service life

Bibliographical note

EXT="Kalamees, Targo"

Source: Scopus

Source ID: 84986883167

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Validating information security framework for offloading from LTE onto D2D links

D2D communications is one of the key technologies to enable aggressive spatial frequency reuse in future evolution of cellular systems. While the standardization efforts are far from their final stage there is clear understanding that security is one of the major concerns for proximity services. This is especially the case when one or more communicating stations in a logical cluster do not have an active connection to the serving base station. In this paper we propose a solution for secure throughput optimized communications in D2D-assisted cellular system. In order to provide additional throughput, a game-theoretic optimization approach is considered by taking into account social relationships and devices proximity. The proposed solution is agnostic to the chosen D2D communications technology (i.e., WiFi or LTE) and suitable for any possible cluster combination in full and partial cellular coverage. Performance evaluation of the proposed security framework show that social proximity information available at the D2D devices may substantially improves the system performance in term of throughput with respect to the standard security procedures. Finally, for sake of completeness, the effect of mobility for the reference scenario is evaluated.

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Department of Electronics and Communications Engineering, Universita degli Studi di Reggio Calabria

Contributors: Orsino, A., Ometov, A.

Number of pages: 7

Pages: 241-247

Publication date: 6 Sep 2016

Host publication information

Title of host publication: Proceedings of the 18th Conference of Open Innovations Association FRUCT and Seminar on Information Security and Protection of Information Technolog, FRUCT-ISPIT 2016

Publisher: IEEE COMPUTER SOCIETY PRESS

ISBN (Electronic): 9789526839721

ASJC Scopus subject areas: Computer Science(all), Electrical and Electronic Engineering

DOIs:

10.1109/FRUCT-ISPIT.2016.7561534

Source: Scopus

Source ID: 84989166036

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

Vaihdetta isommalle: Pyöräilyn potentiaalin hyödyntäminen

General information

Publication status: Published

MoE publication type: D4 Published development or research report or study

Organisations: Department of Information Management and Logistics

Contributors: Metsäpuro, P., Vaismaa, K., Karhula, K., Luukkonen, T., Mäntynen, J., Rantala, T.

Number of pages: 145

Publication date: 2014

Publication information

Place of publication: Tampere

Publisher: Tampereen teknillinen yliopisto. Liikenteen tutkimuskeskus Verne.

ISBN (Print): 978-952-15-3243-6

ISBN (Electronic): 978-952-15-3244-3

Original language: Finnish

URLs:

http://www.tut.fi/verne/wp-content/uploads/Vaihdetta_isommalle_-_Pyorailyn_potentiaalin_hyodyntaminen.pdf

Research output: Book/Report > Commissioned report > Professional

Uusi Rakennusfysiikan käsikirja - perustiedot rakennusfysikaalisesta suunnittelusta ja tutkimuksista

General information

Publication status: Published

MoE publication type: B3 Non-refereed article in conference proceedings

Organisations: Department of Civil Engineering, Research group: Building Physics

Contributors: Vinha, J.

Number of pages: 6

Pages: 115-120

Publication date: 20 Oct 2015

Host publication information

Title of host publication: Rakennusfysiikka 2015. Uusimmat tutkimustulokset ja hyvät käytännön ratkaisut. 20.-22.10.2015, Tampere

Place of publication: Tampere

Publisher: Tampereen teknillinen yliopisto, rakennustekniikan laitos, rakennetekniikka

Editors: Vinha, J., Ruuska, T.

ISBN (Print): 978-952-15-3580-2

Keywords: Double skin facade, Energy efficiency, New renovation concepts, Innovative HVAC, Earth to air heat exchanger

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific

Uusi Rakennusfysiikan käsikirja

General information

Publication status: Published

MoE publication type: B3 Non-refereed article in conference proceedings

Organisations: Department of Civil Engineering, Research group: Building Physics

Contributors: Vinha, J.

Number of pages: 6

Pages: 167-172

Publication date: 2015

Host publication information

Title of host publication: Sisäilmastoseminaari 2015

ISBN (Print): 9789525236439

Publication series

Name: Sisäilmastoyhdistys raportti

No.: 33

ISSN (Electronic): 1237-1866

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific

Uusia tuulia Euroopasta

General information

Publication status: Published

MoE publication type: D2 Article in professional manuals or guides or professional information systems or text book material

Organisations: School of Architecture, Research group: Built Environment in Transition, Research group: Urban Planning Theory

Contributors: Lehtovuori, P.

Number of pages: 18

Pages: 42-59

Publication date: 2015

Host publication information

Title of host publication: Asukkaan ehdoilla : moninaisuutta asumamuotoihin

Place of publication: Helsinki

Publisher: Rakennustieto Oy

ISBN (Print): 978-952-267-100-4

URLs:

<https://www.rakennustietokauppa.fi/asukkaan-ehdoilla-moninaisuutta-asumamuotoihin-/112609/dp?nosto=recommended>

Research output: Chapter in Book/Report/Conference proceeding › Chapter › Professional

Uudet arkkitehtoniset ratkaisumallit muuttavat kampuksien ilmettä

Uudet pedagogiset oivallukset sekä tekniset innovaatiot ovat radikaalisti muokanneet yliopisto-oppimista, mikä asettaa merkittäviä kehitystarpeita myös oppimistiloille. Uudenlaiset oppimistavat vaativat uudenlaisia tiloja ja paikkoja, jotka tukevat oppimista parhaalla mahdollisella tavalla. Artikkelissa pohditaan kuinka kampuksia voidaan elävöittää arkkitehtuurin keinoin? Miten eri mittakaavalliset ratkaisut tukevat oppimista, vuorovaikutusta sekä luovuutta?

Kampusten uudistamista voidaan tarkastella erilaisista tilallisista ja arkkitehtonisista näkökulmista. Tässä artikkelissa esitetään kolmen tarkastelutason ideoita kampus-, rakennus- ja tilamittakaavoissa. Kokonaisvaltaiset ratkaisut, joissa rakennuksen tilat ja toiminta uudistuvat täysin, omaavat valtavan potentiaalin muuttaa ihmisten välistä vuorovaikutusta sekä tilojen käyttöä. Tällaiset ratkaisut saattavat olla kuitenkin kalliita ja hitaita toteuttaa.

Pienemmän mittakaavan ratkaisut vaikuttavat pienemmällä alueella, mutta ovat toteutukseltaan edullisempia ja nopeampia. Esimerkiksi kampusten vajaakäyttöisten tilojen, kuten käytävien ja aulatilojen ottaminen hyötykäyttöön voisi tehostaa merkittävästi kampusten tilarakennetta. Täysin uusien toimintojen sijoittaminen näihin vajaakäyttöisiin tiloihin voisi lisäksi luoda kampuksista eläviä urbaaneja ympäristöjä, joissa on toimintaa vuorokauden ympäri. Olemassa olevat rakennukset voivat täten toimia alustoina uusille arkkitehtonisille ratkaisuille, jotka viestivät opetuksen ja tutkimuksen ajankohtaisuudesta. Tutkimuksen tuloksia voidaan soveltaa joustavasti erilaisten kampusympäristöjen muutosten suunnittelussa. Artikkelit toimii keskustelun avauksena suunnittelijoiden, kampuskehittäjien sekä käyttäjien välisessä vuoropuhelussa. Esitetyt ratkaisumallit paljastavat, että olemassa olevissa kampuksissa ja niiden tilarakenteissa on paljon kehityspotentiaalia. Artikkelissa esitetyt visiot herättelevät lukijoita katsomaan olemassa olevia kampuksia uudesta näkökulmasta uusien innovatiivisten esimerkkien ja tilaratkaisujen kautta.

General information

Publication status: Published

MoE publication type: D2 Article in professional manuals or guides or professional information systems or text book material

Organisations: School of Architecture, Research group: Public Buildings

Contributors: Poutanen, J., Peltoniemi, S., Pihlajarinne, N.

Number of pages: 22

Pages: 72-93

Publication date: Mar 2015

Host publication information

Title of host publication: Oppiva kampus : How to co-create campus?

Place of publication: Tampere

Publisher: Suomen Yliopistokiinteistöt Oy

Editors: Nenonen, S., Kärnä, S., Junnonen, J., Tähtinen, S., Sandström, N.

ISBN (Print): 978-952-15-3478-2

ISBN (Electronic): 978-952-15-3479-9

URLs:

http://sykoy.fi/wp-content/uploads/oppiva-kampus_valmis_pieni.pdf

Research output: Chapter in Book/Report/Conference proceeding › Chapter › Professional

Uudessa COMBI-hankkeessa tutkitaan energiatehokkaan palvelurakentamisen haasteita ja ratkaisuja

General information

Publication status: Published

MoE publication type: B3 Non-refereed article in conference proceedings

Organisations: Department of Civil Engineering, Research group: Building Physics, School of Architecture, Research group: ASUTUT, Research area: Structural Engineering, Research group: Capacity Development of Water and Environmental Services CADWES, Research group: Real estate development, Research group: Service Life Engineering of Structures, Aalto University, Tampere University of Applied Sciences TAMK

Contributors: Vinha, J., Hedman, M., Sirén, K., Harsia, P., Pentti, M., Teriö, O., Heljo, J., Laukkarinen, A., Annala, P., Kaasalainen, H., Jokisalo, J., Pihlajamaa, P.

Number of pages: 10

Pages: 487-496

Publication date: 20 Oct 2015

Host publication information

Title of host publication: Rakennusfysiikka 2015. Uusimmat tutkimustulokset ja hyvät käytännön ratkaisut. 20.-22.10.2015, Tampere.

Publisher: Tampereen teknillinen yliopisto, rakennustekniikan laitos, rakennetekniikka

Editors: Vinha, J., Ruuska, T.

ISBN (Print): 978-952-15-3580-2

Publication series

Name: Rakennustekniikan laitos. Rakennetekniikka. Seminaarijulkaisu

No.: 4

ASJC Scopus subject areas: Civil and Structural Engineering, Building and Construction

URLs:

<http://www.tut.fi/cs/groups/public/@I912/@web/@p/documents/liit/x124266.pdf>

Bibliographical note

ORG=rak,0.8

ORG=ark,0.2

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific

Utilizing knowledge networks in virtual or augmented reality solution creation

Contemporary digital transformation brings new opportunities for companies, lately especially in the form of virtual and augmented reality solutions (VR/AR). While the technologies are developing fast, knowledge about them and their possibilities is difficult to locate and reach. Cross-organizational knowledge networks that share knowledge about technology and its applications are needed. This paper analyzes cross-organizational knowledge sharing networks that operate behind the scenes of virtual and augmented reality. To understand the knowledge networking processes, this paper presents a case study of a regional VR/AR community. The aim of the paper is to understand how knowledge sharing networks naturally operate in the VR/AR context and what kind of processes and tools organizations harness. The paper presents a description on how the interviewed organizations and individuals utilize their knowledge network in VR/AR knowledge acquisition and creation. The distinct characteristics of the VR/AR field are discussed in light of existing literature on knowledge sharing and knowledge networks. In the findings, the need for a more systematic way of utilizing the network is identified. Knowledge networks provide the best value for their members when the network is actively harnessed, and there are network actors who focus on systematically spreading knowledge across the network. While the case study shows that the network members feel that they gain knowledge from the network, the use of the network varies between organizations and individuals. The network shows signs of movement toward more systematic knowledge sharing, and the knowledge network literature suggests that this development will improve the benefits of network participation for all actors in the network. Further studies on a larger scale in similar types of networks are suggested to allow better understanding of knowledge sharing in knowledge networks, and the challenges and benefits that are connected to it. VR/AR development as a rapidly evolving field lends itself to be an interesting context for studying knowledge networks.

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Industrial and Information Management, Research group: Knowledge and Learning Research Center, Pervasive Computing, Research area: User experience, Tampere University of Technology

Contributors: Vanhalakka, J., Ilvonen, I., Väättäjä, H.

Number of pages: 7

Pages: 1008-1014

Publication date: 2017

Host publication information

Title of host publication: Proceedings of the 18th European Conference on knowledge Management ECKM 2017 : 7-8 September 2017, Barcelona, Spain

Publisher: Academic Conferences and Publishing International

Editors: Marimon, F., Mas-Machuca, M., Berbegal-Mirabent, J., Bastida, R.

ISBN (Print): 978-1-911218-48-7

ISBN (Electronic): 978-1-911218-49-4

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Using context overlays to analyse the role of a priori information with Process Mining

Notwithstanding the significant advances in context-aware computing in pervasive computing and self-adaptive systems, there is still much more to be desired in providing better context services. The number of sensors deployed world-wide increases very rapidly. The Internet of Things, amongst others, generates vast amounts of data of many different data types. How data are used is essential to improve user experience and efficiencies of the systems in which they occur. We explain how familiar concepts of Process Mining strengthen generalised sensor context services. We present a laboratory case to explain the approach. By way of a real-world example, we confirm the viability of using Process Mining to strengthen context-aware computing.

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Department of Mathematics, Research group: MAT Intelligent Information Systems Laboratory

Contributors: Pileggi, P., Rivero Rodriguez, A., Nykänen, O.

Number of pages: 6

Pages: 639-644

Publication date: 2015

Host publication information

Title of host publication: 2015 IEEE International Systems Conference (SysCon 2015) Proceedings

Place of publication: Vancouver, BC, Canada

Publisher: IEEE

ISBN (Print): 978-1-4799-5927-3

Keywords: Context-aware computing, Process mining, Self- adaptive systems, Pervasive computing

DOIs:

10.1109/SYSCON.2015.7116823

URLs:

<http://ieeexplore.ieee.org/xpl/articleDetails.jsp?arnumber=7116823>

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Using a synthetic probe to study the robustness of the segregation process of protein aggregates in Escherichia coli

Even though the processes of protein production and folding are not immune to errors, Escherichia coli lineages are capable to maintain a stable cell lineage, provided viable environmental conditions. One of the internal processes that makes this possible consists of segregating unwanted protein aggregates to the cell poles by nucleoid exclusion, which, combined with cell divisions, generates asymmetries in the aging process of the population, with some individuals aging faster while others exhibit rejuvenation. A recent study showed that this process is not immune to sub-optimal temperature conditions due to increased cytoplasm viscosity, which weakens the anisotropy in aggregate displacements at the nucleoid borders. This was made possible by the usage of a synthetic fluorescent probe, consisting of a RNA sequence with multiple binding sites for the MS2-GFP synthetic protein, which can be tracked in time-lapse microscopy images. Here we provide a description of the findings from these measurements and investigate with an In Silico model the consequences in the context of cell lineages.

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Faculty of Biomedical Sciences and Engineering, Research group: Laboratory of Biosystem Dynamics-LBD

Contributors: Ribeiro, A., Oliveira, S.

Pages: 21-22

Publication date: 26 Jun 2016

Host publication information

Title of host publication: The 8th International Conference on Bioinformatics, Biocomputational Systems and Biotechnologies (BIOTECHNO2016)

Publisher: IARIA

ISBN (Electronic): 978-1-61208-488-6

URLs:

https://www.thinkmind.org/index.php?view=article&articleid=biotechno_2016_2_10_60012

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

User experience in technology investment decisions of industrial firms

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Department of Industrial Management, Research group: Center for Innovation and Technology Research, Pori Department, Research group: Business Ecosystems, Networks and Innovations

Contributors: Sundberg, H., Seppänen, M.

Publication date: 10 Jun 2015

Host publication information

Title of host publication: 22nd Innovation & Product Development Management Conference, IPDMC

Place of publication: Copenhagen

Publisher: EIASM

URLs:

http://www.eiasm.org/frontoffice/event_announcement.asp?event_id=1079

Bibliographical note

ORG=pla,0.5

ORG=tta,0.5

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

User-driven development with scientific applied research - RFID-controlled physiogame case study

The role of technology in health care is growing. One major challenge caused by the rapid evolvement of technologies, is the implementation and application of the latest technology advances into actual care practises. In this paper, we present how combination of scientific research and multidisciplinary applied research activities can boost the development of need-based solutions to real-life challenges. The paper concentrates on the ideation phase of the development process. This paper presents a case study, in which a body movement-controlled physiotherapy game is developed in close collaboration of technology developers and physiotherapy professionals. Textile-integrated passive UHF RFID tags are

used as game controllers to enable identification of certain movements. The results indicate the early stage prototype used in the study to enhance ideation and identification of application areas for the technology. In addition, the joint development process, in which the clients (rehabilitation professionals) are involved from the beginning, is also found to create commitment to continue collaboration, by helping the technology developers to meet the needs and to take user group-specific requirements into account in the development. This kind of process serves multidisciplinary projects well.

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: BioMediTech, Research group: Wireless Identification and Sensing Systems Research Group

Contributors: Merilampi, S., Ihanakangas, V., Virkki, J.

Number of pages: 4

Pages: 167-170

Publication date: 1 Sep 2019

Host publication information

Title of host publication: 2019 IEEE International Conference on RFID Technology and Applications (RFID-TA)

Publisher: IEEE

ISBN (Print): 978-1-7281-0590-1

ISBN (Electronic): 978-1-7281-0589-5

Keywords: passive UHF RFID technology, research collaboration, self-managed rehabilitation, serious games, wearable electronics, women in RFID

DOIs:

10.1109/RFID-TA.2019.8892150

Bibliographical note

EXT="Merilampi, Sari"

Source: Bibtex

Source ID: 8892150

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Use of high-order beams to calibrate spatial light modulators for microscopy

We present here a technique based on high-order laser beams to quickly calibrate phase-only SLMs for microscopy. This method uses the microscopy setup itself and therefore no extra setups or alignment are required.

General information

Publication status: Published

Organisations: Department of Physics, Research area: Optics, Research group: Nonlinear Optics

Contributors: Turquet, L., Kauranen, M., Bautista, G.

Number of pages: 1

Publication date: 2016

Peer-reviewed: Unknown

Event:

URLs:

<http://hbar.kapsi.fi/proceedings.pdf#section.10.5>

Research output: Other conference contribution › Paper, poster or abstract › Scientific

Use of equipment lifecycle data in industrial services

Manufacturing firms can use equipment lifecycle data to enable industrial services. With the increased centrality of information technology, they may need cooperation with software providers, and this cooperation is still poorly understood. This study pursues increased understanding on the use of equipment lifecycle data in industrial services. An exploratory study with four software providers and two manufacturing firms reveals unexploited opportunities for industrial services through intensified triadic cooperation and clarifies the task division between manufacturing firms and software providers. A framework is suggested, on the conditions enabling and promoting success in the services based on equipment lifecycle data.

General information

Publication status: Published

MoE publication type: B3 Non-refereed article in conference proceedings

Organisations: Department of Industrial Management, Research group: Center for Research on Operations Projects and Services, Tampere University of Technology

Contributors: Ocaña Flores, M., Martinsuo, M.

Number of pages: 20

Publication date: Sep 2015

Host publication information

Title of host publication: RESER 2015 : 25th Annual RESER Conference

Place of publication: Copenhagen

Publisher: RESER European Association for Research on Services

ISBN (Electronic): 978-87-7349-921-4

Keywords: equipment lifecycle, lifecycle data, industrial services

URLs:

<http://www.reser.net/conference/past-conferences/2015-copenhagen-denmark>

Bibliographical note

AUX=tta,"Ocaña Flores, Moramay"

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific

Upper bound and approximation of random access throughput over chase combining HARQ

Massive MTC (mMTC) scenarios featuring a tremendous number of devices challenge the conventional multiple access protocols, which are mostly based on classic ALOHA algorithms known for their instability at higher loads. While numerous modifications of ALOHA adopt the unrealistic assumption on the fixed number of contending users, we in this paper study a model where a random number of users activate within the slot. In particular, we explore a modification of ALOHA augmented with the Chase combining HARQ (HARQ-CC) and derive an approximation for and a simple upper bound on the system throughput. While the former perfectly matches the corresponding simulation results for the SNR of up to 10dB, the latter constitutes an increasingly tight limit as the SNR grows. Based on both analytical considerations, the resulting system throughput may be significantly improved with the optimal choice of the transmission probability and code spectral efficiency.

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Electronics and Communications Engineering

Contributors: Burkov, A., Matveev, N., Turlikov, A., Bulanov, A., Gahnina, O., Andreev, S.

Number of pages: 5

Pages: 143-147

Publication date: 1 Nov 2017

Host publication information

Title of host publication: 2017 9th International Congress on Ultra Modern Telecommunications and Control Systems and Workshops (ICUMT)

Publisher: IEEE

ISBN (Electronic): 978-1-5386-3435-6

Keywords: Decoding, Interference, Nickel, Random variables, Signal to noise ratio, Throughput, Upper bound, ALOHA, Chase combining, Hybrid-ARQ, Random multiple access, system throughput, upper bound

DOIs:

10.1109/ICUMT.2017.8255206

Bibliographical note

INT=elt,"Gahnina, O."

jufoid=72315

Source: Bibtex

Source ID: urn:d2e90d5f230392641b73d327cca99a8a

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

University Students' Perceptions of Academic Writing: An Academic Literacies Perspective

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Language Centre, Department of Information Management and Logistics, Research group: Novi, University of Tampere

Contributors: Tukiainen, M., Mäkinen, M., Helander, N.

Number of pages: 7

Pages: 7589-7595

Publication date: 16 Nov 2015

Host publication information

Title of host publication: ICERI2015 Proceedings : 8th annual International Conference of Education, Research and Innovation Seville (Spain). 16th - 18th of November, 2015.

ISBN (Electronic): 978-84-608-2657-6

URLs:

<https://iated.org/iceri/>

Bibliographical note

ORG=kie,0.5

ORG=tlo,0.5

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Underpinning Interrelated Factors of Physical, Virtual, and Social Learning Environments

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Electronics and Communications Engineering, Research group: Urban Planning and Design, Architecture

Contributors: Kangas, J., Poutanen, J.

Pages: 8087-8096

Publication date: 2018

Host publication information

Title of host publication: ICERI2018 Proceedings

ISBN (Electronic): 978-84-09-05948-5

Publication series

Name: ICERI proceedings

ISSN (Electronic): 2340-1095

Electronic versions:

[iceri18_kangas_poutanen_id459](#)

DOIs:

[10.21125/iceri.2018.0459](https://doi.org/10.21125/iceri.2018.0459)

URLs:

<http://urn.fi/URN:NBN:fi:tuni-201910013623>

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Uncertainties in Charge Measurements of ESD Risk Assessment

Charge measurement techniques are often considered too complicate to the process control of electronics manufacturing. In his study, we show that expensive instrumentation is not necessarily needed for characterizing ESD source parameters in a risk assessment. Measurement can be made accurately when uncertainties are properly taken into account.

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Department of Electronics and Communications Engineering, ABB Oy, Drives, Cascade Metrology, Nokia Corporation

Contributors: Viheriäkoski, T., Kohtamäki, J., Peltoniemi, T., Tamminen, P.

Number of pages: 8

Publication date: 27 Sep 2015

Host publication information

Title of host publication: Electrical Overstress / Electrostatic Discharge Symposium Proceedings 2015

Volume: 2015

Place of publication: USA

Publisher: IEEE COMPUTER SOC

Article number: 6B.3

ISBN (Print): 9781479988952

ASJC Scopus subject areas: Engineering(all)

Keywords: ESD, charge, measurement, Uncertainty estimation

Electronic versions:

[PID3768707](#)

DOIs:

[10.1109/EOSESD.2015.7314802](https://doi.org/10.1109/EOSESD.2015.7314802)

URLs:

<http://urn.fi/URN:NBN:fi:tty-201603013596>

Ultra-large mode area single frequency anisotropic MOPA with double clad Yb-doped tapered fiber

We demonstrate all-fiber master oscillator - power amplifier delivered 70W output power at 1033.33nm with 8 kHz FWHM linewidth without any problems with SBS. The anisotropic ytterbium doped tapered double clad amplifier with 50 μ m MFD and polarization extinction ratio about 30 dB is developed as a burst stage. The output radiation demonstrated perfect beam quality ($M^2=1.03/1.08$).

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Ampliconyx Ltd, Institute of Radio Engineering and Electronics of the Russian Academy of Sciences, St. Petersburg State Polytechnical University

Contributors: Noronen, T., Fedotov, A., Rissanen, J., Gumenyuk, R., Butov, O., Chamorovskii, Y., Golant, K., Odnoblyudov, M., Filippov, V.

Number of pages: 6

Publication date: 1 Jan 2018

Host publication information

Title of host publication: Fiber Lasers XV : Technology and Systems

Publisher: SPIE, IEEE

Article number: 105121T

ISBN (Electronic): 9781510615090

Publication series

Name: Proceedings of SPIE

Publisher: SPIE

Volume: 10512

ISSN (Print): 0277-786X

ISSN (Electronic): 1996-756X

ASJC Scopus subject areas: Electronic, Optical and Magnetic Materials, Condensed Matter Physics, Computer Science Applications, Applied Mathematics, Electrical and Electronic Engineering

Keywords: active fiber, fiber amplifier, Fiber laser

Electronic versions:

Noronen T. Ultra-large mode area single frequency anisotropic MOPA with double clad Yb-doped tapered fiber

DOIs:

10.1117/12.2288942

URLs:

<http://urn.fi/URN:NBN:fi:tty-201908211995>

Bibliographical note

EXT="Noronen, Teppo"

EXT="Fedotov, Andrei"

INT=fot, "Rissanen, Joona"

EXT="Gumenyuk, Regina"

EXT="Filippov, Valery"

Source: Scopus

Source ID: 85045656071

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Ulkoseinien rakennusfysikaaliset riskit ja pitkäaikaiskestävät ratkaisut

General information

Publication status: Published

MoE publication type: B2 Part of a book or another research book

Organisations: Department of Civil Engineering, Research group: Building Physics

Contributors: Salonen, J., Laukkarinen, A., Vinha, J.

Number of pages: 8

Pages: 74-81

Publication date: 2015

Host publication information

Title of host publication: Korjaa ja korota : Kerrostalojen korjaamisen ja lisäkerrosten rakentamisen ratkaisuja

Volume: 62

Place of publication: Oulu, Finland
Publisher: Oulun yliopisto
Editors: Soikkeli, A., Koiso-Kanttila, J., Sorri, L.
ISBN (Print): 978-952-62-0727-8

Publication series

Name: Oulun yliopisto, arkkitehtuurin osasto. A. Julkaisu
ISSN (Electronic): 0357-8704
ASJC Scopus subject areas: Building and Construction
Research output: Chapter in Book/Report/Conference proceeding › Chapter › Scientific

Two-turns antenna and magnetic materials for effective powering of mm-size implant in wireless brain-machine interface system

General information

Publication status: Published
MoE publication type: A4 Article in a conference publication
Organisations: Department of Electronics and Communications Engineering, Research group: Wireless Identification and Sensing Systems Research Group, Sensing Systems for Wireless Medicine (MediSense)
Contributors: Khan, W., Björminen, T., Ukkonen, L., Sydänheimo, L.
Number of pages: 2
Pages: 103-104
Publication date: Sep 2015

Host publication information

Title of host publication: 2015 IEEE MTT-S 2015 International Microwave Workshop Series on RF and Wireless Technologies for Biomedical and Healthcare Applications (IMWS-BIO)
Publisher: IEEE
ISBN (Print): 9781479985432
DOIs:
10.1109/IMWS-BIO.2015.7303798
Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Two patterns for minimizing human resources in a startup

In this paper, we describe two patterns that are part of a larger pattern language for software startup companies. These two particular patterns help startup companies to focus on the essential; the product itself and keeping their team intact and productive. In this way, the startup may operate with a sustainable team size.

General information

Publication status: Published
MoE publication type: A4 Article in a conference publication
Organisations: Department of Pervasive Computing, Research area: Software engineering
Contributors: Leppänen, M.
Publication date: 10 Apr 2014

Host publication information

Title of host publication: VikingPLoP 2014 Proceedings of the 8th Nordic Conference on Pattern Languages of Programs (VikingPLoP)
Publisher: ACM
Article number: 4
ISBN (Print): 9781450326605
ASJC Scopus subject areas: Human-Computer Interaction, Computer Networks and Communications, Computer Vision and Pattern Recognition, Software
Keywords: Lean startup, Organization, Organizational patterns, Patterns, Software engineering, Software product, Team
DOIs:
10.1145/2676680.2676686
Source: Scopus
Source ID: 84940021370
Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Two models for hydraulic cylinders in flexible multibody simulations

In modelling hydraulic cylinders interaction between the structural response and the hydraulic system needs to be taken into account. In this chapter two approaches for modelling flexible multibody systems coupled with hydraulic actuators i.e. cylinders are presented and compared. These models are the truss-elementlike cylinder and bending flexible cylinder models. The bending flexible cylinder element is a super-element combining the geometrically exact Reissner-beam

element, the C^1 -continuous slide-spring element needed for the telescopic movement and the hydraulic fluid field. Both models are embedded with a friction model based on a bristle approach. The models are implemented in a finite element environment. In time the coupled stiff differential equation system is integrated using the L-stable Rosenbrock method.

General information

Publication status: Published

MoE publication type: A3 Part of a book or another research book

Organisations: Department of Civil Engineering, Research group: Structural Mechanics, Department of Mechanical Engineering and Industrial Systems, Research area: Applied Mechanics, FS Dynamics Finland Oy Ab

Contributors: Ylinen, A., Mäkinen, J., Kouhia, R.

Number of pages: 31

Pages: 463-493

Publication date: 2016

Host publication information

Title of host publication: Computational Methods for Solids and Fluids : Multiscale Analysis, Probability Aspects and Model Reduction

Publisher: Springer

ISBN (Print): 978-3-319-27994-7

ISBN (Electronic): 978-3-319-27996-1

Publication series

Name: Computational Methods in Applied Sciences

Volume: 41

ISSN (Print): 1871-3033

ASJC Scopus subject areas: Computational Mathematics, Modelling and Simulation, Fluid Flow and Transfer Processes, Computer Science Applications, Civil and Structural Engineering, Electrical and Electronic Engineering, Biomedical Engineering

DOIs:

10.1007/978-3-319-27996-1_17

Bibliographical note

JUFOID=79940

EXT="Ylinen, Antti"

Source: Scopus

Source ID: 84964233721

Research output: Chapter in Book/Report/Conference proceeding › Chapter › Scientific › peer-review

Two models for hydraulic cylinder

General information

Publication status: Published

MoE publication type: D3 Professional conference proceedings

Organisations: Department of Mechanical Engineering and Industrial Systems, Research area: Applied Mechanics, Department of Civil Engineering, Research group: Structural Mechanics

Contributors: Ylinen, A., Kouhia, R., Mäkinen, J.

Number of pages: 2

Pages: 115-116

Publication date: 2015

Host publication information

Title of host publication: 2nd International Conference on Multi-Scale Computational Methods for Solids and Fluids : ECCOMAS MSF 2015

Place of publication: Sarajevo

Editors: Ibrahimbegović, A., Ademović, N., Ilić-Georgijević, E., Serdarević, A., Hrasnica, M., Dolarević, S.

Keywords: computational methods, Multi-Scale, Solid

URLs:

<http://www.gf.unsa.ba/eccomas-msf-2015/>

URLs:

<http://www.gf.unsa.ba/eccomas-msf-2015/proceedings.pdf>

Bibliographical note

Ei löydy isbn

ORG=mei,0.5

ORG=rak,0.5

Tutkimuskatsaus: Uusia menetelmiä haavan paranemisen arviointiin ja seurantaan

General information

Publication status: Published

MoE publication type: A1 Journal article-refereed

Organisations: Faculty of Biomedical Sciences and Engineering, Turku Univ Hosp, University of Turku, Åbo Akademi

Contributors: Kekonen, A., Bergelin, M., Viik, J.

Number of pages: 3

Pages: 30-32

Publication date: 20 Oct 2018

Peer-reviewed: Yes

Publication information

Journal: HAAVA

Volume: 20

Issue number: 3

ISSN (Print): 1456-3037

Original language: Finnish

ASJC Scopus subject areas: Biomedical Engineering, Dermatology

Research output: Contribution to journal › Article › Scientific › peer-review

Turvallisuuden johtajat - Esimiesten johtajuus, osaaminen ja sitoutuminen

General information

Publication status: Published

MoE publication type: D4 Published development or research report or study

Organisations: Department of Industrial Management, Research group: Safety Management and Engineering

Contributors: Tappura, S., Hyytinen, T., Kivistö-Rahnasto, J., Nenonen, N., Vasara, J.

Number of pages: 144

Publication date: 30 Dec 2015

Publication information

Place of publication: Tampere

Publisher: Tampereen teknillinen yliopisto; Tampereen yliopisto

ISBN (Electronic): 978-952-15-3662-5

Original language: Finnish

Electronic versions:

Loppuraportti_kaikki

URLs:

<http://URN.fi/URN:ISBN:978-952-15-3662-5>

Research output: Book/Report › Commissioned report › Professional

Tuning plasmon induced reflectance with hybrid metasurfaces

Electrically tunable metasurfaces with graphene offer design flexibility to efficiently manipulate and control light. These metasurfaces can be used to generate plasmon-induced reflectance (PIR), which can be tuned by electrostatic doping of the graphene layer. We numerically investigated two designs for tunable PIR devices using the finite difference time-domain (FDTD) method. The first design is based on two rectangular antennas of the same size and a disk; in the second design, two parallel rectangular antennas with different dimensions are used. The PIR-effect was achieved by weak hybridization of two bright modes in both devices and tuned by changing the Fermi level of graphene. A total shift of 362 nm was observed in the design with the modulation depth of 53% and a spectral contrast ratio of 76%. These tunable PIR devices can be used for tunable enhanced biosensing and switchable systems.

General information

Publication status: Published

MoE publication type: A1 Journal article-refereed

Organisations: Physics, Photonics Laboratory, Balochistan University of Information Technology, Bilkent University

Contributors: Habib, M., Ozbay, E., Caglayan, H.

Publication date: 2019

Peer-reviewed: Yes

Publication information

Journal: Photonics

Volume: 6
Issue number: 1
Article number: 29
ISSN (Print): 2304-6732
Ratings:

Scopus rating (2019): CiteScore 2.9 SJR 0.646 SNIP 1.182

Original language: English

ASJC Scopus subject areas: Atomic and Molecular Physics, and Optics, Instrumentation, Radiology Nuclear Medicine and imaging

Keywords: Plasmonics, Surface plasmon, Tunable metasurfaces

Electronic versions:

photonics-06-00029-v2

DOIs:

10.3390/photonics6010029

URLs:

<http://urn.fi/URN:NBN:fi:tuni-202004083140>

Source: Scopus

Source ID: 85063129342

Research output: Contribution to journal › Article › Scientific › peer-review

Tuning extrinsic noise effects on a small genetic circuit

Measurements at the single cell level showed that monoclonal Escherichia coli cells differ widely in the numbers of components affecting gene expression dynamics. Using a stochastic model of a 2-genes symmetric toggle switch with realistic multi-step promoter initiation kinetics and empirically validated parameter values, we investigate the role of transcription initiation kinetics on the degree with which cell-to-cell variability in cellular components generates cell-to-cell diversity in switch dynamics. We find that while the mean switching frequency is determined by the promoter kinetics, the cell to cell diversity of this frequency depends both on promoter kinetics and diversity in RNA polymerase numbers. At a microscale level, the main regulator of the cell to cell variability in protein numbers (of both genes in ON and OFF states) is the promoters kinetics, not the diversity in RNA polymerase numbers. We conclude that the promoters kinetics is a critical regulator of the toggle switch dynamics and that can be used as a regulatable filter of extrinsic noise.

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Faculty of Biomedical Sciences and Engineering, Research group: Laboratory of Biosystem Dynamics-LBD

Contributors: Mohamed Bahrudeen, M., S. Ribeiro, A.

Publication date: 4 Sep 2017

Host publication information

Title of host publication: Proceedings of ECAL 2017 : 14th European Conference on Artificial Life

Publisher: Massachusetts Institute of Technology

ISBN (Electronic): 978-0-262-34633-7

Electronic versions:

Tuning extrinsic noise effects on small genetic circuit

DOIs:

10.7551/ecal_a_075

URLs:

<http://urn.fi/URN:NBN:fi:tty-201711232256>

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Tunable second-harmonic generation in a single nanostructure

General information

Publication status: Published

MoE publication type: D3 Professional conference proceedings

Organisations: Department of Physics, Research area: Optics, Research group: Nonlinear Optics, Department of Micro- and Nanosciences, Aalto University, Aalto University, Department of Applied Physics and Nanomicroscopy Center

Contributors: Turquet, L., Bautista, G., Kakko, J., Karvonen, L., Dhaka, V., Chen, Y., Jiang, H., Huhtio, T., Lipsanen, H., Kauranen, M.

Number of pages: 2

Publication date: 2015

Host publication information

Title of host publication: The Eleventh Finland-Japan Joint Symposium on Optics in Engineering

URLs:

http://www2.uef.fi/documents/1812306/2637761/Program_File+OIE2015.pdf/2e71a273-2b87-414c-b4a1-fb77be93660e

Bibliographical note

ISBN kysytty, HO.

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Professional

Tunable nonlinear effects through focused spatially phase-shaped beams

General information

Publication status: Published

MoE publication type: B3 Non-refereed article in conference proceedings

Organisations: Department of Physics, Research area: Optics, Research group: Nonlinear Optics, Aalto University

Contributors: Turquet, L., Bautista, G., Karvonen, L., Dhaka, V., Chen, Y., Jiang, H., Huhtio, T., Lipsanen, H., Kauranen, M.

Publication date: 2015

Host publication information

Title of host publication: European Quantum Electronics Conference 2015

Publisher: Optical Society of America

Article number: EG_P_11

ISBN (Electronic): 978-1-4673-7475-0

Keywords: Nonlinear optics, SPATIAL LIGHT-MODULATOR, MICROSCOPY, beam shaping

URLs:

http://www.osapublishing.org/abstract.cfm?URI=EQEC-2015-EG_P_11

Bibliographical note

EXT="Dhaka, V."

EXT="Chen, Y."

Source: Bibtex

Source ID: urn:3623590cd14102e9789109aea5912da4

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific

Triboelectric charging of fungal spores during resuspension and rebound

General information

Publication status: Published

MoE publication type: D3 Professional conference proceedings

Organisations: Department of Physics, Research area: Aerosol Physics, Research group: The Instrumentation, Emissions, and Atmospheric Aerosols Group

Contributors: Kuuluvainen, H., Saari, S., Mensah-Attipoe, J., Pasanen, P., Reponen, T., Keskinen, J.

Publication date: 2015

Host publication information

Title of host publication: EAC 2015, European Aerosol Conference, 6-11 September, 2015, Milan, Italy

Bibliographical note

ISBN kysytty, HO.

Ei ole, HO.

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Professional

Transverse structure optimization of laterally-coupled ridge waveguide DFB lasers

A new figure of merit for single transverse mode operation and an accurate procedure for calculating the coupling coefficient in distributed feedback lasers with laterally-coupled ridge waveguide surface grating structures are introduced. Based on the difference in optical confinement between the pumped and un-pumped regions in the transverse plane, the single transverse mode figure of merit is effective and easy to calculate, while the improved coupling coefficient calculation procedure gives experimentally confirmed better results than the standard calculation approaches.

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Optoelectronics Research Centre, Research group: Semiconductor Technology and Applications

Contributors: Uusitalo, T., Virtanen, H., Dumitrescu, M.

Number of pages: 2
Pages: 79-80
Publication date: 17 Aug 2016

Host publication information

Title of host publication: 16th International Conference on Numerical Simulation of Optoelectronic Devices, NUSOD 2016
Publisher: IEEE
Article number: 7547038
ISBN (Electronic): 9781467386036
ASJC Scopus subject areas: Electrical and Electronic Engineering, Electronic, Optical and Magnetic Materials, Modelling and Simulation, Numerical Analysis
DOIs:
10.1109/NUSOD.2016.7547038
Source: Scopus
Source ID: 84987653468
Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Transpositions and duals high-order tensors. On theory and applications in mechanics

General information

Publication status: Published
MoE publication type: B3 Non-refereed article in conference proceedings
Organisations: Department of Mechanical Engineering and Industrial Systems, Research area: Applied Mechanics
Contributors: Holopainen, S.
Number of pages: 6
Pages: 188-193
Publication date: 4 Jun 2015

Host publication information

Title of host publication: Proceedings of the XII Finnish Mechanics Days : Suomen XII mekaniikkapäivien esitelmät
Publisher: Rakenteiden Mekaniikan Seura ry
Editor: Kouhia, R.
ISBN (Print): 978-952-93-5608-9
ISBN (Electronic): 978-952-93-5609-6

Publication series

Name: Journal of Structural Mechanics
Publisher: Rakenteiden mekaniikan seura r.y.
URLs:
http://rmseura.tkk.fi/smp_proceedings/SMP12_Proceedings.pdf
Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific

Traceability of essential climate variables through forest stand reconstruction with terrestrial laser scanning

General information

Publication status: Published
MoE publication type: D3 Professional conference proceedings
Organisations: Department of Mathematics, Research group: MAT Inverse Problems
Contributors: Calders, K., Disney, M., Nightingale, J., Origo, N., Barker, A., Raunonen, P. A., Lewis, P., Burt, A., Brennan, J., Fox, N.
Number of pages: 3
Pages: 122-124
Publication date: 2015

Host publication information

Title of host publication: Proceedings of SilviLaser 2015 : 14th conference on Lidar Applications for Assessing and Managing Forest Ecosystems
URLs:
https://silvilaser2015.teledetection.fr/files/Proceedings_Silvilaser_22_09_2015_2.pdf (Conference proceedings)
Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Professional

Townhouse-talotyypin rakennuskustannukset: kolmen suunnitteluratkaisun taloudellisuuden analysointi

General information

Publication status: Published
MoE publication type: A3 Part of a book or another research book
Organisations: Department of Civil Engineering
Contributors: Saari, A., Tauriainen, M.
Number of pages: 4
Pages: 94-97
Publication date: 2015

Host publication information

Title of host publication: Nollaa parempi – Townhouse energiatehokkaassa asuinrakentamisessa
Publisher: Aalto-yliopisto
ISBN (Print): 978-952-60-6409-3
ISBN (Electronic): 978-952-60-6410-9

Publication series

Name: Aalto University publication series Crossover
No.: 9/2015

ISSN (Print): 1799-4950

ISSN (Electronic): 1799-4969

Research output: Chapter in Book/Report/Conference proceeding › Chapter › Scientific › peer-review

Towards Traditional Simulation Models of Context Using Process Mining

Context (sensor) systems are hard to model: they require constant updating and insightful approaches, especially considering the increasing data volume, variety, and generation rate of contemporary networking paradigms, like the Internet of Things. In this paper, we argue that intelligent process models can be mined to look at the actual system activity from alternative context perspectives, i.e., perspectives observable from the sensor attributes themselves. We explain how the close relationship between the models derived using Process Mining, and Event-Driven Simulation can be exploited to help not only better understand what is happening in such systems but also provide alternative models for the intelligent solutions they support, such as context inference. We demonstrate this using a real-world example and discuss the feasibility of extending these alternative process models to be viewed as simulation. We envision automated steps that would result in traditional simulation models of context using Process Mining.

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Department of Mathematics, Research group: MAT Intelligent Information Systems Laboratory

Contributors: Pileggi, P., Rivero-Rodriguez, A., Nykänen, O.

Number of pages: 6

Pages: 70-75

Publication date: 2015

Host publication information

Title of host publication: Computational Intelligence, Communication Systems and Networks (CICSyN), 2015 7th International Conference on

Publisher: IEEE

ISBN (Print): 9781467370165

Electronic versions:

CICSyN2015-ProcessMining

DOIs:

10.1109/CICSyN.2015.23

URLs:

<http://urn.fi/URN:NBN:fi:ty-201605043939>

<http://www.mendeley.com/research/towards-traditional-simulation-models-context-using-process-mining>

Source: Mendeley

Source ID: 3b5a7052-83aa-3c38-ba30-f4290873ae25

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Towards the Structure of a Class of Permutation Matrices Associated With Bent Functions

Bent functions, that are useful in cryptographic applications, can be characterized in different ways. A recently formulated characterization is in terms of the Gibbs dyadic derivative. This characterization can be interpreted through permutation matrices associated with bent functions by this differential operator. We point out that these permutation matrices express some characteristic block structure and discuss a possible determination of it as a set of rules that should be satisfied by the corresponding submatrices. We believe that a further study of this structure can bring interesting results providing a deeper insight into features of bent functions.

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Computing Sciences, Mathematical Institute of SASA, Faculty of Electronic Engineering, Technical University of Dortmund

Contributors: Stankovic, R. S., Stankovic, M., Astola, J., Moraga, C.

Pages: 83-105

Publication date: 2018

Host publication information

Title of host publication: Proceedings of the 13 International Workshop on Boolean Problems

Publisher: Springer

ISBN (Print): 978-3-030-20322-1

ISBN (Electronic): 978-3-030-20323-8

DOIs:

10.1007/978-3-030-20323-8_4

Bibliographical note

EXT="Stankovic, Radomir S."

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Towards responsive workspaces - identification of service paths for time-and-place independent work

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Department of Civil Engineering

Contributors: Petrulaitiene, V., Rytönen, E., Nenonen, S.

Number of pages: 11

Pages: 1141-1151

Publication date: 2016

Host publication information

Title of host publication: Proceedings of the 20th CIB World Building Congress 2016 : May 30 – June 3, 2016 Tampere Finland

Volume: V

Publisher: Tampere University of Technology

Editor: Achour, N.

ISBN (Electronic): 978-952-15-3745-5

Keywords: workspace, services, framework, time-and-place independent work

URLs:

<http://urn.fi/URN:ISBN:978-952-15-3745-5>

Source: Bibtex

Source ID: urn:1d05ebdd695106100b0dcf2f1e35f399

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Towards low carbon economy - Green bond and asset development

Green Bonds are an instrument for driving the environmentally friendly and low-carbon economy. Green Bonds are bonds whose proceeds are earmarked for and transparently channelled to environmentally-friendly projects and activities. The real estate industry has a multi-decade track record of addressing environmental impacts through the use of rating systems certified by independent third parties. Green building certification systems address multiple environmental impacts and measure outcomes across all asset lifecycle phases. Using bonds for such investments is not new but in an effort to improve transparency and increase opportunities both for issuers and investors it can take a more active role in combating climate change. The goal of this paper is to describe how property developer can use Green Bond as one instrument in sustainable life cycle management and continuous development of properties. The method used is a case study of Finnish property owner company, which commits to invest the funds raised in certified, environmentally responsible and energy-efficient projects. The single case study method employed in this study captured the process of case organization towards Green Bond initiative. More precisely the data was gathered by qualitative document analysis (QDA). The results show that company begin the process with focusing on environmental sustainability especially putting the effort in the first phase to energy efficiency. The Green Bond initiative provided a new avenue towards economic sustainability. Additionally, issues like shared use of facilities was discussed from social sustainability perspective. The results are interesting for property owners who are interested in systematic development towards regenerative built environment.

General information

Publication status: Published
MoE publication type: A1 Journal article-refereed
Organisations: Civil Engineering, University Properties of Finland Ltd
Contributors: Nenonen, S., Koski, A., Lassila, A. P., Lehtikoinen, S.
Publication date: 2019
Peer-reviewed: Yes

Publication information

Journal: IOP Conference Series: Earth and Environmental Science
Volume: 352
Issue number: 1
Article number: 012028
ISSN (Print): 1755-1307
Ratings:
Scopus rating (2019): CiteScore 0.4 SJR 0.175 SNIP 0.514
Original language: English
ASJC Scopus subject areas: Environmental Science(all), Earth and Planetary Sciences(all)
Electronic versions:
Nenonen_2019_IOP_Conf._Ser._Earth_Environ._Sci._352_012028
DOIs:
10.1088/1755-1315/352/1/012028
URLs:
<http://urn.fi/URN:NBN:fi:tuni-201912126832>

Bibliographical note

EXT="Lassila, A. P."
Source: Scopus
Source ID: 85075015413
Research output: Contribution to journal > Conference article > Scientific > peer-review

Towards high power flip-chip long-wavelength semiconductor disk lasers

General information

Publication status: Published
MoE publication type: A4 Article in a conference publication
Organisations: Optoelectronics Research Centre, Research group: Ultrafast and intense lasers, Research group: Surface Science, Frontier Photonics
Contributors: Rantamäki, A., Saarinen, E., Lyytikäinen, J., Heikkinen, J., Lahtonen, K., Valden, M., Okhotnikov, O.
Publication date: 2015

Host publication information

Title of host publication: Proceedings of SPIE
Volume: 9349
Publisher: SPIE
ISBN (Electronic): 9781628414394
DOIs:
10.1117/12.2076795
Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

Towards digital campus – improving usability of learning environments

Purpose: Digital learning environments provide new possibilities for organizing education. Additionally, these developments are transforming the existing and future learning environments. This research is based on a national project called DigiCampus in Finland. The project develops e.g. physical-digital learning landscapes for campuses.
Design/methodology/approach: The approach is qualitative, more specifically descriptive and explorative. The approach was chosen to identify the functional and structural layers of retrofitted, digitally enriched learning environments. Three case studies are conducted in different universities. The first case study investigates the maturity level of the digital learning environments of existing buildings. The second case study introduces a multi-location classroom in two different campuses. The third case study presents a learning environment which is enriched by using different kind of smart tools which gather data for different purposes about the use of the learning environment. The chosen cases had similar intentions to use digitalization to update the existing spaces according to new ways of learning and teaching. The emphasis in each case was in the increase of collaboration and widening diversity in the campus environment. The data used in the analysis was comprised of the documentation of project plans for the retrofitting and other written material.
Findings: Cross-case analysis indicates that both the digital and the physical architecture can be understood as layers for different functions and different stakeholders. Such structure provides a framework for developing usable digital learning environments.

Practical implications: The outcome of the research is a checklist for usable digital learning environments, which points out the topics to be co-created among different stakeholders in developing the digital campus.

Originality/value: The research provides an evidence-based overview of usability of digital learning environments emphasizing especially the retrofitting challenges in the process of developing both physical and digital usability simultaneously.

Keywords: learning landscape, digital, physical, usability, campus

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Civil Engineering, Research group: Responsible Construction, Information and Knowledge Management, University of Helsinki, Helsinki University

Contributors: Nenonen, S., Sandström, N., Nevgi, A., Danivska, V., Jalo, H.

Number of pages: 11

Publication date: 2019

Host publication information

Title of host publication: CIB World Building Congress 2019 : 17-21, June, 2019, The Hong Kong Polytechnic University, Hong Kong, China

Place of publication: Hong Kong

Publisher: INTERNATIONAL COUNCIL FOR RESEARCH AND INNOVATION IN BUILDING AND CONSTRUCTION (CIB)

ISBN (Electronic): 978-962-367-821-6

URLs:

<http://urn.fi/URN:NBN:fi:tuni-202001211438>

<https://site.cibworld.nl/db/publication/browserecord.php?-action=browse&-recid=1651>

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Towards Capturing Interaction in the Interactive Use of Controls - The Role of Reflection

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Department of Industrial Management, Research group: Cost Management Center

Contributors: Suomala, P., Hilden, S.

Publication date: 2015

Host publication information

Title of host publication: 8th conference on performance measurement and management control, Nice, France, September 30 October 2, 2015

Publication series

Name: Conference on performance measurement and management control

Publisher: European Institute for Advanced Studies in Management

ISSN (Print): 2295-1660

URLs:

http://www.eiasm.org/frontoffice/event_announcement.asp?event_id=1035

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Towards Business Potential of Workplace Services in Finland

People no longer work as they worked 15 years ago. One of the major changes, as Laing (2013) stated, is that the employee no longer has to go to work, but information technology brings the work to the employee. Due to the independency of work from time and place, employees are working in a new way in multiple locations. For service providers, this offers a new business field. Thus, the paper focuses on this new business opportunity. The aim of the paper is to identify the business potential to build up and elaborate the workplace service business. Interviews with national workplace service providers and international workplace experts were conducted in order to get practical insight on the topic. Based on the interviews, two development steps are required to utilise the new business opportunity: (1) the transaction-oriented way to provide workplace services should be substituted by new business models, and (2) the workplace service should be re-thought and re-designed as a service that is not solely dependent on physical space. Based on the new business model and service, a new business opportunity could be harnessed.

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication
Organisations: Department of Information Management and Logistics, Research group: Novi, Aalto University
Contributors: Jylhä, T., Vuolle, M., Nenonen, S., Virtaneva, M.
Number of pages: 6
Pages: 518-523
Publication date: 2015

Host publication information

Title of host publication: 8th Nordic Conference on Construction Economics and Organization : May 28-29 2015, Tampere, Finland
Volume: 21
Publisher: Elsevier

Publication series

Name: Procedia Economics and Finance
ISSN (Print): 2212-5671
Keywords: Workplace services, multi-locational work, co-working, business model
DOIs:
10.1016/S2212-5671(15)00207-5
Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Towards better learning by increased student engagement

Three basic courses obligatory in the bachelor studies of civil engineering were redesigned to increase the student engagement and to support the continuous learning through increased interaction and feedback. Two new courses on geotechnical engineering and soil mechanics were created summing up to the same total credits as the three old courses on engineering geology, soil investigations and soil mechanics.

The analysis of the learning outcomes and the core content formed the base of the development work. Good components, such as soil laboratory and field exercises enabling learning by going and giving memorable experiences, as graduated students commented, were retained, but developed further to enable the self-directed group work and flipped learning. The calculation exercise groups in soil mechanics course were cut down into smaller groups to support collateral learning and to dissipate the gap between the teacher and student. Personal design calculation assignments were added with direct feedback. Weekly moodle quizzes were used to motivate the continuous learning and the lecture attendance.

The results after two and three implementations of the new courses were analysed based on the grades, passing percentage and student feedback, comparing the three old courses with the two new courses. Based on the both the grades and the passing percentage the learning results were improved. Especially the number and achieved grades of student passing with the interval exams on soil mechanics course were improved significantly. In the new basic course, where the final exam is no longer compulsory, the result is not as evident, since during the first two implementations the highest grade possible to achieve by assignments was three.

One important achievement was improving the reputation of these courses. Senior students pass on their attitudes to the young, and created prejudices effect on the student's performance. It takes several years to chance the image. Therefore, it's important to react to the student feedback and to make the development work and teacher's interest visible to the students.

General information

Publication status: Published
MoE publication type: A4 Article in a conference publication
Organisations: Department of Civil Engineering, Research group: Earth Constructions
Contributors: Kuula, P. H., Leppänen, M. M., Penttilä, M. E.
Number of pages: 10
Publication date: 12 Sep 2016

Host publication information

Title of host publication: Proceedings of the 44th SEFI Annual Conference 2016 : 12th-15th September 2016, Tampere, Finland
Place of publication: Tampere
Publisher: European Society for Engineering Education SEFI
Editors: Niemi, T., Järvinen, H.
ISBN (Print): 978-2-87352-014-4
Keywords: active learning, learning by doing, engineering education, blended learning, evaluation method
URLs:
<http://www.tut.fi/en/sefi-annual-conference-2016/welcome-to-tampere/index.htm>
http://www.sefi.be/conference-2016/papers/Open_and_Online_Engineering_Education__Engineering_Education_Research/kuula-towards-better-

Towards better knowledge work experiences with new Ambient workspace: Concept and prototype

This paper presents a conceptual design of a dynamic and personalizable knowledge workspace suitable for collaboration in academic contexts. The concept of such workspace is aimed to cater the needs of students-As knowledge workers-for flexibility in various types of group and individual knowledge tasks. The research is focused on revealing challenges and obstacles faced by students who perform their daily knowledge work in current workspaces at various premises of Finnish campus. We propose solution that utilizes information technology and interior design. Based on literature on Ambient Intelligence and knowledge work, as well as our empirical user research, we designed a concept of flexible, transformable and user-friendly campus workspace with various features and functionalities. The concept is presented through visualizations and a semi-functional three-dimensional cardboard prototype. The workspace design itself is the main contribution of the current research. Dynamism, flexibility, personalization as well as features of the physical and mental engagement are principal novelties of proposed workspace for university students.

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Pervasive Computing, Electronics and Communications Engineering

Contributors: Olshannikova, E., Ometov, A., Anagnostaki, T., Hasan, N., Kuketaeva, A., Ahtinen, A., Olsson, T., Koucheryavy, Y.

Number of pages: 9

Pages: 173-181

Publication date: 4 Apr 2017

Host publication information

Title of host publication: Proceedings of the 19th Conference of Open Innovations Association, FRUCT 2016

Publisher: IEEE COMPUTER SOCIETY PRESS

ISBN (Electronic): 9789526839752

ASJC Scopus subject areas: Computer Science(all), Electrical and Electronic Engineering

Electronic versions:

Towards better knowledge work experiences 2017

DOIs:

10.23919/FRUCT.2016.7892198

URLs:

<http://urn.fi/URN:NBN:fi:tuni-202002262387>

Source: Scopus

Source ID: 85018626230

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Towards automation security research and training environment

An automation system is a networked software product in hardware intensive environment and requires more than normal IT security skills. Building an automation security research and training environment for automation requires knowledge on the internal workings of an automation system as well as creative approach on how to keep the system secure where needed, and broken when required for development and teaching purposes. The main challenges are to combine the amount of automation specific hardware and to create good practices which keep the need for maintenance, versatility and pedagogical aspects in balance. This paper presents a project called TUTCyberLabs, the learned lessons and the design decisions. The main focus is on Department of Automation Science and Engineering environment ASECyberLab.

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Department of Automation Science and Engineering, Research area: Information Systems in Automation, Research area: Dynamic Systems, Department of Pervasive Computing, Research area: Information security, Department of Electrical Engineering, Research area: Power engineering, Ajeco Inc, VTT Technical Research Centre of Finland

Contributors: Seppälä, J., Salmenperä, M., Koivisto, H., Harju, J., Repo, S., Holmström, J., Ahonen, P.

Publication date: 18 Mar 2015

Host publication information

Title of host publication: Proceedings of Automaatio XXI, The Industrial Revolution of Internet – From Intelligent Devices to Networked Intelligence

Place of publication: Helsinki, Finland

Publisher: Suomen Automaatioseura ry

ISBN (Electronic): 978-952-5183-46-7

Publication series

Name: SAS Julkaisusarja
Publisher: Finnish Society of Automation
Volume: 44

Bibliographical note

ORG=ase,0.8
ORG=tie,0.1
ORG=dee,0.1

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Towards a sustainable Skanssi

Course publication. The publication contains course works submitted for the Sustainable Design Studio 2013 which concentrate on the future development of the Skanssi area in Turku. For the publication six student groups' analyses and structure & masterplan –proposals have been gathered. In addition to that, selected individual works by 12 students are shown in this publication. Furthermore this publication contains a green roof and storm water management analysis and an environmental and landscape management proposal for the new residential areas.

General information

Publication status: Published
MoE publication type: D4 Published development or research report or study
Organisations: School of Architecture
Contributors: Laak, M. (ed.), Del Barrio Batista, J. (ed.)
Number of pages: 87
Publication date: 2014

Publication information

Publisher: Tampere University of Technology, School of Architecture
ISBN (Electronic): 978-952-15-3260-3
Original language: English
Electronic versions:

towards_a_sustainable_skanssi

URLs:

<http://URN.fi/URN:ISBN:978-952-15-3260-3>

Bibliographical note

AUX=ark,"Del Barrio Batista, Juan"

Versio ok 14.12.2015

Research output: Book/Report › Commissioned report › Professional

Towards a Classification Schema for Development Technologies: an Empirical Study in the Avionic Domain

General information

Publication status: Published
MoE publication type: A1 Journal article-refereed
Organisations: University of Kaiserslautern, Free University of Bozen-Bolzano, Free University of Bolzano-Bozen, Liebherr-Aerospace
Contributors: Taibi, D., Lenarduzzi, V., Dieudonne, L., Plociennik, C.
Number of pages: 11
Pages: 125-135
Publication date: 1 Aug 2015
Peer-reviewed: Yes

Publication information

Journal: INTERNATIONAL JOURNAL ON ADVANCES IN SOFTWARE
Volume: 8
Issue number: 1&2
ISSN (Print): 1942-2628
Original language: English
Electronic versions:

TowardsaClassificationSchemaforDevelopmentTechnologiesanEmpiricalStudyintheAvionicDomain

URLs:

<http://urn.fi/URN:NBN:fi:tty-201802091204>

Research output: Contribution to journal › Article › Scientific › peer-review

Toward Manageable Data Sources

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Research group: Software Engineering and Intelligent Systems, Pervasive Computing

Contributors: Sillberg, P.

Pages: 485-494

Publication date: Jun 2018

Host publication information

Title of host publication: EJC 2018 : Proceedings of the 28th International Conference on Information Modelling and Knowledge Bases

Publisher: Transport and Telecommunication Institute

Editors: Endrjukaite, T., Kangassalo, H., Thalheim, B., Kiyoki, Y.

ISBN (Electronic): 978-9984-818-89-4

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Tools, pedagogical models, and best practices for digital storytelling

Sharing photos and short videos with others has become increasingly popular among youth. Although sharing videos is a common activity among youth, schools are not using digital videos for learning. There is a need to study the pedagogical models that could be used in designing classroom activities involving the use of digital videos. In this chapter, digital video storytelling will be discussed in the context of learning. In this chapter, pedagogical models, examples, best practices, and outcomes that illustrate how students become engaged and motivated when using digital storytelling in knowledge creation in cross-cultural settings will be presented. The pedagogical models discussed in this chapter are Global Sharing Pedagogy (GSP) and Video Inquiry Learning (VIL). A review of existing tools and practices for digital video storytelling will be presented. The results show that students can become highly engaged in learning through digital storytelling.

General information

Publication status: Published

MoE publication type: A3 Part of a book or another research book

Organisations: Research group: TUT Game Lab, Pervasive Computing, University of Helsinki

Contributors: Multisilta, J., Niemi, H.

Publication date: Jul 2017

Host publication information

Title of host publication: Encyclopedia of information science and technology

Publisher: IGI Global

Editor: Khosrow-Pour, M.

Edition: 4th

ISBN (Electronic): 9781591405535

Research output: Chapter in Book/Report/Conference proceeding › Chapter › Scientific › peer-review

Time-resolved characterization of primary and secondary particle emissions of a modern gasoline passenger car

Changes in traffic systems and vehicle emission reduction technologies significantly affect traffic-related emissions in urban areas. In many densely populated areas the amount of traffic is increasing, keeping the emission level high or even increasing. To understand the health effects of traffic related emissions, both primary and secondary particles that are formed in the atmosphere from gaseous exhaust emissions need to be characterized. In this study we used a comprehensive set of measurements to characterize both primary and secondary particulate emissions of a modern gasoline passenger car. Our aerosol particle study covers the whole process chain in emission formation, from the engine to the atmosphere, and takes into account also differences in driving patterns. We observed that in mass terms, the amount of secondary particles was 13 times higher than the amount of primary particles. The formation, composition, number, and mass of secondary particles was significantly affected by driving patterns and engine conditions. The highest gaseous and particulate emissions were observed at the beginning of the test cycle when the performance of the engine and the catalyst was below optimal. The key parameter for secondary particle formation was the amount of gaseous hydrocarbons in primary emissions; however, also the primary particle population had an influence. Thus, in order to enhance human health and wellbeing in urban areas, our study strongly indicates that in future legislation, special attention should be directed into the reduction of gaseous hydrocarbons.

General information

Publication status: Published

MoE publication type: A1 Journal article-refereed

Organisations: Department of Physics, Research area: Aerosol Physics, Finnish Meteorological Institute, Helsinki, VTT Technical Research Centre of Finland, Pennsylvania State University, Atmospheric Composition Research, Finnish Meteorological Institute

Contributors: Karjalainen, P., Timonen, H., Saukko, E., Kuuluvainen, H., Saarikoski, S., Aakko-Saksa, P., Murtonen, T., Dal Maso, M., Ahlberg, E., Svenningsson, B., Brune, W. H., Hillamo, R., Keskinen, J., Rönkkö, T.

Number of pages: 29

Pages: 33253-33282

Publication date: 25 Nov 2015

Peer-reviewed: Yes

Publication information

Journal: Atmospheric Chemistry and Physics Discussions

Volume: 15

Issue number: 22

ISSN (Print): 1680-7367

Ratings:

Scopus rating (2015): SNIP 0.101

Original language: English

DOIs:

10.5194/acpd-15-33253-2015

URLs:

<http://www.atmos-chem-phys-discuss.net/15/33253/2015/>

Research output: Contribution to journal > Article > Scientific > peer-review

Three-color vector nematicon

Light localization via reorientation in nematic liquid crystals supports multi-component optical spatial solitons, i.e., vector nematicons. By launching three optical beams of different wavelengths and the same input polarization in a bias-free planar cell, we demonstrate a three-color vector nematicon which is self-trapped thanks to its incoherent nature.

General information

Publication status: Published

MoE publication type: A1 Journal article-refereed

Organisations: Photonics, Politechnika Warszawska, Univ Roma Tre, Roma Tre University, Dept Elect Engn, NooEL, University "Roma Tre", Aerosol Physics Laboratory

Contributors: Laudyn, U. A., Kwaśny, M., Karpierz, M. A., Assanto, G.

Number of pages: 3

Pages: 36-38

Publication date: 2017

Peer-reviewed: Yes

Publication information

Journal: Photonics Letters of Poland

Volume: 9

Issue number: 2

ISSN (Print): 2080-2242

Ratings:

Scopus rating (2017): CiteScore 0.9 SJR 0.25 SNIP 0.446

Original language: English

ASJC Scopus subject areas: Electronic, Optical and Magnetic Materials

Electronic versions:

718-2839-1-PB

DOIs:

10.4302/plp.v9i2.718

URLs:

<http://urn.fi/URN:NBN:fi:tty-201708071660>

Source: Scopus

Source ID: 85021814168

Research output: Contribution to journal > Article > Scientific > peer-review

Third places and user preferences – affordances in the cities

General information

Publication status: Published
MoE publication type: A4 Article in a conference publication
Organisations: Department of Civil Engineering
Contributors: Nenonen, S., Rahtola, R., Kojo, I.
Number of pages: 9
Pages: 17-25
Publication date: 1 Aug 2016

Host publication information

Title of host publication: Proceedings of CFM's Second Nordic Conference: Facilities Management Research and Practice; : 29-30 AUGUST 2016, Denmark
Editor: Jensen, P. A.
ISBN (Print): 9788750211044
Keywords: workspace management, new ways of working, discourse, typologies, spatial transformation
URLs:
<http://www.cfm.dtu.dk/english/CFM-SECOND-NORDIC-CONFERENCE-2016>
Source: Bibtex
Source ID: urn:cdf1ee83af90706e85ce79e70d9e4a36
Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

The World Innovation Stock Exchange- shared value for individuals, business and society

General information

Publication status: Published
MoE publication type: A4 Article in a conference publication
Organisations: Pori Department, Research group: Business Ecosystems, Networks and Innovations
Contributors: Markopoulos, E., Vanharanta, H.
Number of pages: 8
Pages: 595-602
Publication date: 2015

Host publication information

Title of host publication: 6th International Conference on Applied Human Factors and Ergonomics (AHFE 2015) and the Affiliated Conferences, AHFE 2015
Publisher: Elsevier

Publication series

Name: Procedia Manufacturing
Volume: 3
ISSN (Print): 2351-9789
DOIs:
10.1016/j.promfg.2015.07.275
Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

The Workplace for Researchers – Enhancing Concentration and Face-to-face Interaction

General information

Publication status: Published
MoE publication type: A4 Article in a conference publication
Organisations: Department of Civil Engineering
Contributors: Huhtelin, M., Nenonen, S.
Pages: 753-764
Publication date: 2016

Host publication information

Title of host publication: Proceedings of the CIB World Building Congress 2016: Volume I - Creating built environments of new opportunities
Publisher: Tampere University of Technology. Department of Civil Engineering
ISBN (Electronic): 978-952-15-3741-7
URLs:
<http://urn.fi/URN:ISBN:978-952-15-3741-7>

Bibliographical note

INT=rak,"Huhtelin, Mervi"

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

The Web as a software platform: Ten years later

In the past ten years, the Web has become a dominant deployment environment for new software systems and applications. In view of its current popularity, it is easy to forget that only 10-15 years ago hardly any developer would write serious software applications for the Web. Today, the use of the web browser as a software platform is commonplace, and JavaScript has become one of the most popular programming languages in the world. In this paper we revisit some predictions that were made over ten years ago when the Lively Kernel project was started back in 2006. Ten years later, most of the elements of the original vision have been fulfilled, although not entirely in the fashion we originally envisioned. We look back at the Lively Kernel vision, reflecting our original goals to the state of the art in web programming today.

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Pervasive Computing, Nokia, University of Helsinki

Contributors: Taivalsaari, A., Mikkonen, T.

Number of pages: 10

Pages: 41-50

Publication date: 2017

Host publication information

Title of host publication: WEBIST 2017 - Proceedings of the 13th International Conference on Web Information Systems and Technologies

Publisher: SCITEPRESS

ISBN (Electronic): 9789897582462

ASJC Scopus subject areas: Computer Networks and Communications, Information Systems

Keywords: HTML5, JavaScript, Live object systems, Lively kernel, Web applications, Web programming

DOIs:

10.5220/0006234800410050

Source: Scopus

Source ID: 85024473230

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

The use of mathematical modeling for the development of a low cost fuzzy gain schedule neutralization control system

General information

Publication status: Published

MoE publication type: A3 Part of a book or another research book

Organisations: Automation and Hydraulic Engineering, Faculty of Biomedical Sciences and Engineering, Federal Institute of São Paulo, Universidade Estadual de Campinas, Federal University of Uberlândia

Contributors: Sisljan, R., da Silva, F. V., Gedraite, R., Jokinen, H., Rajan, D. K.

Number of pages: 15

Pages: 525-539

Publication date: 4 Feb 2017

Host publication information

Title of host publication: Transactions on Engineering Technologies : World Congress on Engineering and Computer Science 2015

Publisher: Springer Singapore

ISBN (Print): 9789811027161

ISBN (Electronic): 9789811027178

ASJC Scopus subject areas: Medicine(all), Biochemistry, Genetics and Molecular Biology(all), Immunology and Microbiology(all)

DOIs:

10.1007/978-981-10-2717-8_37

Research output: Chapter in Book/Report/Conference proceeding › Chapter › Scientific › peer-review

The target reliability of the eurocodes

The target reliability of the Eurocodes is given clearly: One-year reliability is 4.7 and 50-year reliability 3.8 correspondingly. However, the implementation of the direction is unclear in many ways: The reliability calculations for the Eurocodes are made sometimes by using one-year reliability 4.45 or 4.2. The Eurocodes does not instruct for which reference time the reliability is calculated. Normally, the reliability is calculated for the service time, 50 years, but sometimes for one year. The paper concludes that the reliability must be calculated for the service time. The independent versus the dependent load combination results in different reliability. The independent load combination results in higher reliability with fixed safety

factors and up to about 10 % less safety factors with fixed target reliability when two loads are combined and with three loads even less. The loads are combined in the Eurocodes sometimes independently and sometimes dependently. Arguments are given here that the loads must be combined dependently. The variable load distribution is generally assumed Gumbel. However, this distribution is excessively safe as it has a robust upper tail which unrealistically affects the reliability. Normal distribution is one possible alternative, however obviously somewhat unsafe. In the paper, the safety factors are given based on Gumbel and normal distribution. The combination of 20 % Gumbel and 80 % normal distribution is one feasible option. In the current reliability calculation 50-year return load, i.e. 0.98 fractile of the load distribution is usually set at the characteristic load with the target reliability of the service time. This means that one-year loads are only considered in the reliability calculation. For this reason the variable load safety factors are unrealistically low as the target reliability corresponds to the service time loads. Gumbel distribution partly counterbalances the unsafe error but the overall effect is unsafe. The material factors of the Eurocodes are given based on the current calculation and modified calculation. The paper concludes that the reliability should be calculated for the service time loads with the distributions set at the service time location and the reference reliability should be 3.8. The issue of partial factors and design values is shortly addressed and concluded that the design value code is simple with better reliability accuracy than the current partial factor code when the characteristic variable load is made variable.

General information

Publication status: Published
MoE publication type: A4 Article in a conference publication
Organisations: Department of Civil Engineering
Contributors: Poutanen, T.
Number of pages: 7
Pages: 202-208
Publication date: 2015

Host publication information

Title of host publication: Safety, Robustness and Condition Assessment of Structures
Publisher: International Association for Bridge and Structural Engineering (IABSE)

Publication series

Name: IABSE Symposium Report
ISSN (Print): 2221-3783
ASJC Scopus subject areas: Civil and Structural Engineering, Building and Construction, Safety, Risk, Reliability and Quality
Keywords: Code, Design value, Gumbel distribution, Normal distribution, Partial factor, Reliability
DOIs:
10.2749/222137815815622816
URLs:
<http://www.scopus.com/inward/record.url?scp=84929340776&partnerID=8YFLogxK> (Link to publication in Scopus)
Source: Scopus
Source ID: 84929340776
Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

The role of the purchasing function in non-financial value creation

Costs and transactions have been highlighted in the earlier research and practice around purchasing and supply management (PSM). This study investigates in-depth the role of the PSM function in creating non-financial value for the buying company and its customers. Interview study was used to examine four large organizations both in service and manufacturing industries. The findings indicate that relationship value gives a strong potential for developing successful buyer-seller relationships. Service support and personal interaction arise as important differentiators in building the relationships. Key differences across the different contexts existent in this study are also provided.

General information

Publication status: Published
MoE publication type: D3 Professional conference proceedings
Organisations: Department of Industrial Management, Research group: Center for Research on Operations Projects and Services
Contributors: Jääskeläinen, A., Thitz, O., Heikkilä, J.
Publication date: 2016

Host publication information

Title of host publication: 25th Proceedings of IPSERA 2016 conference, : 20-23.3.2016, Dortmund, Germany.
Electronic versions:
Non-financial value creation_full paper
URLs:
<http://urn.fi/URN:NBN:fi:tyy-201708211695>

URLs:

<http://www.ipsera2016.lfo.tu-dortmund.de/welcome-to-ipsera-2016/> (Conference web-site)

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Professional

The role of product retailers' service adoption in services introduction - A case of services supplementing consumer durables.

Retailers marketing manufacturers' services have a significant role in service success and therefore their adoption of the service and commitment to its sales needs to be ensured. However, this topic has gained only limited attention in the scientific literature while majority of the adoption literature has focused on products. This paper discusses retailer adoption of service meant for end customers by reviewing the antecedents of adoption and effect of retailer's background to service adoption. The focus is on a complementary product-related guarantee service. The data was collected by a survey among retailers of a consumer durables manufacturer in three countries. The results revealed that retailers had mainly positive attitudes towards the reviewed service indicating also service adoption. However, the adoption of the service did not ensure that the service was marketed for all the potential customers. Noteworthy is that retailers' attitudes were positively related with their own service deployment. Thus, manufacturers utilizing retailers in service distribution need to invest in retailers' service adoption but also ensure trialability and possibilities for fluent marketing of the service.

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Department of Industrial Management, Research group: Center for Research on Operations Projects and Services

Contributors: Nenonen, S., Vaittinen, E.

Number of pages: 10

Pages: 762-771

Publication date: 2015

Host publication information

Title of host publication: The 14th International Research Symposium on Service Excellence in Management : QUIS14

Place of publication: Shanghai

Editors: Zhao, X., Zhang, J. J., Han, H. J.

ISBN (Electronic): 978-0-692-46156-3

URLs:

<http://www.quis14.com/agenda/>

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

The role of performance measurement in supplier-buyer value-creation

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Industrial and Information Management, Research group: Center for Research on Operations Projects and Services

Contributors: Jääskeläinen, A., Thitz, O., Heikkilä, J.

Publication date: 2017

Host publication information

Title of host publication: Proceedings of 9th Conference on Performance Measurement and Management Control : 13-15 September 2017, Nice, France

Publisher: EIASM

Publication series

Name: Conference on Performance Measurement and Management Control

Publisher: EIASM

ISSN (Electronic): 2295-1660

URLs:

http://www.eiasm.org/frontoffice/event_announcement.asp?event_id=1187#4844

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

The role of inorganics in modelling of biomass gasification

In this work, a summary of the research carried out about the role of inorganic elements in biomass gasification is presented. The research work has focused on the catalytic effects of alkali and alkaline earth metals in char gasification. The work has included gasification experiments using thermogravimetric analysis (TGA) and fluidized beds as well as modeling techniques. The results of the research presented in this paper indicate that the laboratory measured TGA reactivity numbers and correlations (including the effect of fuel ash inorganics) are possible to be converted to numbers predicting carbon conversion in a large scale fluidized bed gasification reactor. The model, called Carbon Conversion Predictor, is a relatively simple and transparent tool for the comparison of the gasification reactivity of different fuels in fluidized bed gasification.

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Chemistry and Bioengineering, Research group: Bio- and Circular Economy, Univ Seville, University of Sevilla, Chem & Environm Engrn Dept, Bioenergy Grp, Escuela Super Ingenieros, Åbo Akademi University, Process Chemistry Center

Contributors: Konttinen, J., Kramb, J., DeMartini, N., Gomez-Barea, A.

Number of pages: 5

Pages: 443-447

Publication date: 13 Jun 2017

Host publication information

Title of host publication: EUBCE 2017 Online Conference Proceedings

Publisher: ETA-Florence Renewable Energies

Editors: Ek, L., Ernrooth, H., Scarlat, N., Grassi, A., Helm, P.

ISBN (Electronic): 978-88-89407-17-2

Publication series

Name: European biomass conference and exhibition proceedings

Publisher: ETA Florence renewable energies

ISSN (Electronic): 2282-5819

DOIs:

10.5071/25thEUBCE2017-2BO.6.4

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

The role of film processing in the large-area dielectric breakdown performance of nano-silica-BOPP films

This paper summarizes the effects of various compositional, structural and film processing factors on the breakdown behavior of laboratory- and pilot-scale melt-compounded bi-axially oriented polypropylene (BOPP) nanocomposite films with silica fillers. A self-healing multi-breakdown measurement approach has been extensively utilized for large-area breakdown characterization of a large number of material variants from different processing trials. The results suggest that although the optimum level of silica presumably resides at the low fill-fraction range (~1 wt-%), the silica content itself is not the only determining factor, as compounds with equal silica content were found to exhibit large differences in the breakdown properties depending on the compounding and film processing steps. Dispersion quality and filler agglomeration (in both the nm- and μm -scale) appear to be of great importance. Indications of possible interaction between nano-silica and co-stabilizer Irgafos 168 are also presented. Overall, the laboratory- and pilot-scale film processing trials suggest that up-scaling of the polymer nanocomposite production is sensible with traditional melt-blending technology, although further development and optimization of nanocomposite formulations and processing is necessary.

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Department of Electrical Engineering, Research area: Power engineering, VTT Technical Research Centre of Finland

Contributors: Rytöluoto, I., Lahti, K., Ritämäki, M., Karttunen, M.

Number of pages: 6

Publication date: 2015

Host publication information

Title of host publication: 24th Nordic Insulation Symposium on Materials, Components and Diagnostics (NORD-IS), Proceedings

Place of publication: Copenhagen, Denmark

ISBN (Print): 978-82-321-0274-7

Publication series

Name: Proceedings of the Nordic Insulation Symposium

No.: 24

ISSN (Electronic): 2535-3969

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

The Role of Customer Experience in Value Creation in Business-to-Business Context

The Role of Customer Experience in Value Creation in Business-to-Business Context

General information

Publication status: Unpublished

MoE publication type: D3 Professional conference proceedings

Organisations: Department of Information Management and Logistics, Research group: Novi, Tampere University of Technology, Tampere University of Applied Science

Contributors: Väyrynen, H., Vasell, T., Helander, N., Boedeker, M., Andersson, T.

Number of pages: 1

Pages: 146

Publication date: 12 Aug 2015

Host publication information

Title of host publication: 23rd Nordic Academy of Management Conference : NFF 2015

Publisher: Nordic Academy of Management

Article number: 24.02

URLs:

<https://conference.cbs.dk/index.php/NFF2015/NFF2015/schedConf/presentations> (Abstracts in conference publication)

Bibliographical note

AUX=tlo,"Vasell, Tytti"

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Professional

The role of base substrate on barrier and convertability properties of Water based barrier coated (WBBC) paper and paperboard

Water based barrier coatings (WBBC) have been studied intensively during the past years in order to replace the traditional barrier materials such as polyethylene (PE), fluorochemicals and waxes. One of the largest challenges for these WBBC's has been a high risk for pinholes originating from the base substrate leading into discontinuity in the dispersion layer and poorer barrier properties. By increasing the coat weight, the amount of pinholes can be reduced but this may lead into economical and quality issues, thus optimization is needed. In this study, the role of base material in dispersion coverage and resulting barrier properties was investigated by characterizing different base materials. The barrier properties analyzed were grease and oil resistance and water and water vapour barrier, also convertability properties were examined. The results showed that base substrate plays a key role when WBBC's are used. If the structure of the base paper is very open or very rough, gaining good barrier properties is difficult and the amount of pinholes increases which affects most significantly grease resistance. With very porous and rough base material best possible barrier properties at certain total coat weight were reached by double coating and by using pigments with high aspect ratio.

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Materials Science, Research group: Paper Converting and Packaging, CH-Polymers Oy

Contributors: Miettinen, P., Ahokas, M., Engström, T., Heinonen, J., Auvinen, S.

Number of pages: 13

Pages: 220-232

Publication date: 2017

Host publication information

Title of host publication: Paper Conference and Trade Show, PaperCon 2017 : Renew, Rethink, Redefine the Future, Minneapolis, Minnesota, USA, 23-26 April 2017

Volume: 1

Publisher: TAPPI Press

ISBN (Electronic): 9781510847286

ASJC Scopus subject areas: Forestry, Plant Science, Industrial and Manufacturing Engineering

URLs:

<http://toc.proceedings.com/36006webtoc.pdf>

Source: Scopus

Source ID: 85041534325

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Thermomechanical properties of overmold epoxies in MEMS packaging

General information

Publication status: Published

MoE publication type: B3 Non-refereed article in conference proceedings

Organisations: Department of Electrical Engineering, Research area: Reliability

Contributors: Fard Sanei, M. A., Kiilunen, J., Pippola, J., Lahokallio, S., Frisk, L.

Number of pages: 5

Pages: 175-179

Publication date: 2015

Host publication information

Title of host publication: Proceedings of the IMAPS Nordic Annual Conference , June 8-9, 2015, Helsingør, Denmark

Publisher: IMAPS Nordic

ISBN (Print): 9781510808133

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific

Thermal and moisture properties of calcium silicate insulation boards

The purpose of this research was to determine thermal and moisture properties of calcium silicate insulation boards available on the Finnish market. Ruggedness testing and test arrangement development were done related to the pressure plate test, which was used to measure desorption isotherms in capillary range. Four calcium silicate and one calcium hydroxide board were examined. The determined material properties are water vapour permeability, water absorption coefficient, capillary saturation water content, moisture sorption isotherm in hygroscopic and capillary range, thermal conductivity and specific heat capacity. Ruggedness tests and development were done to the pressure plate measurement method. Capacitance needles were tested as a method to evaluate the state of equilibrium and different vacuum saturation methods were tested.

General information

Publication status: Published

MoE publication type: A1 Journal article-refereed

Organisations: Civil Engineering, Research group: Building Physics

Contributors: Tuominen, E., Tuominen, O., Vainio, M., Ruuska, T., Vinha, J.

Number of pages: 7

Publication date: 2019

Peer-reviewed: Yes

Publication information

Journal: MATEC Web of Conferences

Volume: 282

Article number: 02065

ISSN (Print): 2274-7214

Ratings:

Scopus rating (2019): CiteScore 0.8 SJR 0.166 SNIP 0.714

Original language: English

ASJC Scopus subject areas: Civil and Structural Engineering

Electronic versions:

[mateconf_cesbp2019_02065](#)

DOIs:

[10.1051/mateconf/201928202065](https://doi.org/10.1051/mateconf/201928202065)

URLs:

<http://urn.fi/URN:NBN:fi:tuni-202001091153>

Bibliographical note

INT=ceng,"Tuominen, Olli"

INT=ceng,"Vainio, Maarit"

Research output: Contribution to journal › Conference article › Scientific › peer-review

The Parallel Diode and Trap Behaviour of Ternary Polymer Solar Cells

This paper investigates the use of ternary blends (two donor polymers and fullerene acceptor) in bulk-heterojunction (BHJ) photovoltaic devices to compare the parallel diode and trap model. Our initial study involved the blending of equivalent quantities of two of the three chosen complimentary donor polymers (red, green, blue) with [60]PCBM. Through EQE measurements, it was shown that even devices with blends exhibiting poor efficiencies, caused by traps, both polymers contributed to the PV effect. However, traps were avoided to create a parallel-like BHJ when two polymers were chosen

with the appropriate HOMO-HOMO energy band alignment. Ternary blend device performance is explained in terms of transport properties issued from photogenerated current vs. light intensity and bias polarization studies, as well as a dark conductivity vs. temperature investigation. Additionally, the parallel diode circuit model is implemented to calculate the blend combination which exhibits the highest power conversion efficiency. Device optimization issued from both models is compared.

General information

Publication status: Published

MoE publication type: B3 Non-refereed article in conference proceedings

Organisations: Univ Limoges, University of Limoges, XLIM CNRS 7252, Former organisation of the author, Queens Univ, Queens University - Canada, Dept Chem, Univ Limoges, Centre National de la Recherche Scientifique (CNRS), University of Limoges, XLIM, CNRS, UMR 6172

Contributors: Kraft, T., Cristoferi, C., Trigaud, T., Nunzi, J., Ratier, B.

Publication date: Sep 2014

Host publication information

Title of host publication: EU PVSEC Proceedings

Volume: EU PVSEC 2014

Publisher: EU PVSEC

Article number: 3BV.5.23

ISBN (Electronic): 3-936338-34-5

URLs:

<https://www.eupvsec-proceedings.com/proceedings?eventId=17&topicId=116&subtopicId=359&paper=31499>

Bibliographical note

ISBN: 3-936338-34-5

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific

Theory driven design and real prototyping of biomass pyrolytic stove

This article introduces a design approach integrating early design phase and model based engineering in order to develop innovative biomass gasifier system for rural communities in Africa. The need for such a systemic perspective is imposed by the imbrication of technical, ecological and cultural issues that cannot be ignored while designing new technology. The article proposes an integrated generic design theory approaches to discover and rank by order of importance system's variables and to single out most desired design parameters. A pre-design user requirement assessment was carried out to identify detailed stove's functions. Causal-ordering diagrams sketched for system's modelling. System functions were described graphically and synthesized through simple linear algebraic matrices. Contradictions in system functions were solved using Theory of Inventive Thinking (TRIZ 40). And system's optimization was done through simple Taguchi experimentation method. A two level L8 degree of freedom Taguchi table was used in the experimentation and optimization of the pyrolytic stove. The design approach was exemplified using the case of the "AKIBA" biomass stove.

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Kenya Ind Res & Dev Inst, Aalto Univ, Aalto University, Aalto Univ Finland, Dept Engn Design & Prod, Sch Engn, Aalto Univ, Aalto University, Sch Sci & Technol, Dept Chem

Contributors: Ogeya, M. C., Coatanea, E., Medyna, G.

Number of pages: 10

Pages: 69-78

Publication date: 2013

Host publication information

Title of host publication: Design for Harmonies, Vol.9: Design Methods and Tools

Publisher: DESIGN SOC

Editors: Lindemann, U., Srinivasan, Kim, Y., Lee, S., Papalambros, P., Chen, W.

Publication series

Name: International Conference on Engineering Design

Publisher: DESIGN SOC

ISSN (Print): 2220-4334

Keywords: design theory, innovation, optimisation, early design phase, systems engineering

Source: WOS

Source ID: 000361026600008

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Theory driven design and real proto typing of biomass pyrolytic stove

This article introduces a design approach integrating early design phase and model based engineering in order to develop innovative biomass gasifier system for rural communities in Africa. The need for such a systemic perspective is imposed by the imbrication of technical, ecological and cultural issues that cannot be ignored while designing new technology. The article proposes an integrated generic design theory approaches to discover and rank by order of importance system's variables and to single out most desired design parameters. A pre-design user requirement assessment was carried out to identify detailed stove's functions. Causal-ordering diagrams sketched for system's modelling. System functions were described graphically and synthesized through simple linear algebraic matrices. Contradictions in system functions were solved using Theory of Inventive Thinking (TRIZ 40). And system's optimization was done through simple Taguchi experimentation method. A two level L8 degree of freedom Taguchi table was used in the experimentation and optimization of the pyrolytic stove. The design approach was exemplified using the case of the "AKIBA" biomass stove.

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Kenya Industrial Research and Development Institute (KIRDI), Aalto University School of Engineering, Department of Engineering Design and Production, Aalto University

Contributors: Ogeya, M. C., Coatanéa, E., Medyna, G.

Number of pages: 10

Pages: 69-78

Publication date: 2013

Host publication information

Title of host publication: Proceedings of the International Conference on Engineering Design, ICED

Volume: 9 DS75-09

ISBN (Print): 9781904670520

ASJC Scopus subject areas: Engineering (miscellaneous), Industrial and Manufacturing Engineering, Modelling and Simulation

Keywords: Design theory, Early design phase, Innovation, Optimisation, Systems engineering

URLs:

<http://www.scopus.com/inward/record.url?scp=84897650359&partnerID=8YFLogxK> (Link to publication in Scopus)

Source: Scopus

Source ID: 84897650359

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

Theoretical 71-Concept Platform for Advancing Construction-related Business Management

Abstract The aim is to advance business management (BM) in construction via the independent literature review. 71 construction-related BM concepts have been published between 1990 and 2013. Focal firms are based in the OECD countries. 34 (48%) concepts are related to construction management (CM), 14 (20%) concepts to industrial management and international marketing, 12 (17%) concepts to project management (PM) and 11 (15%) concepts to corporate real estate. The combined share of 16 Porterian, 16 dynamism-based, 15 organisation-based, and 10 knowledge-based concepts is 81%. The 71-concept platform is neither highly theoretically advanced, nor highly applicable. The propositions are defined for advancement.

General information

Publication status: Published

MoE publication type: A1 Journal article-refereed

Organisations: Department of Civil Engineering, Research group: Digitalization in the real estate and construction sector

Contributors: Huovinen, P.

Number of pages: 8

Pages: 80-87

Publication date: 2015

Peer-reviewed: Yes

Publication information

Journal: Procedia Economics and Finance

Volume: 21

ISSN (Print): 2212-5671

Original language: English

ASJC Scopus subject areas: Business, Management and Accounting(all)

Keywords: Applied research, business management, conceptualisation, construction, literature review, real estate, school of thought

Electronic versions:

CEO2015 Pekka Huovinen Theoretical 71-concept platform Procedia Economics and Finance 21 (2015) 80-87

DOIs:

10.1016/S2212-5671(15)00153-7

URLs:

<http://urn.fi/URN:NBN:fi:tty-201701031010>

<http://www.sciencedirect.com/science/article/pii/S2212567115001537>

Source: RIS

Source ID: urn:2259E842B1A87C3870EDBE85F572BB11

Research output: Contribution to journal › Article › Scientific › peer-review

The New Era of Crowdsourcing — Industrial Crowdsourcing

General information

Publication status: Published

MoE publication type: A3 Part of a book or another research book

Organisations: Department of Information Management and Logistics, Research group: Novi, Managing digital industrial transformation (mDIT), DIGILE – Finnish Center for Science and Innovation in the Internet Economy

Contributors: Kärkkäinen, H., Jussila, J., Erkinheimo, P.

Number of pages: 7

Pages: 25-31

Publication date: 2015

Host publication information

Title of host publication: Open Innovation Yearbook 2015

Place of publication: Brussel

Publisher: European Commission

Editor: Salmelin, B.

ISBN (Electronic): 978-92-79-43962-9

Keywords: crowdsourcing, industrial crowdsourcing

DOIs:

10.2759/92658

URLs:

http://ec.europa.eu/newsroom/dae/document.cfm?doc_id=9637

Research output: Chapter in Book/Report/Conference proceeding › Chapter › Scientific › peer-review

The logics taught and used at high schools are not the same

Typical treatises on propositional and predicate logic do not tell how to deal with undefined expressions, such as division by zero. However, there seems to be a sound (albeit inexplicit) reasoning system that addresses undefined expressions, because equations and inequations involving them are routinely solved in schools and universities without running into fundamental inconsistencies. In this study we discover this school logic and formalize its semantics. The need to do so arose when developing software that gives students feedback on every reasoning step of their solution, instead of just telling whether the roots that they finally report are the correct roots. The problem of undefined expressions has been addressed in computer science. However, school logic proves different from those approaches. School logic is based on a Kleene-style third “undefined” truth value and the treatment of “ \Rightarrow ” and “ \Leftrightarrow ” not as propositional operators but as reasoning operators.

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Pervasive Computing, University of Tampere

Contributors: Valmari, A., Hella, L.

Number of pages: 15

Pages: 172-186

Publication date: May 2017

Host publication information

Title of host publication: Proceedings of the Fourth Russian Finnish Symposium on Discrete Mathematics

Place of publication: Turku

Publisher: TURKU CENTRE FOR COMPUTER SCIENCE

Editors: Karhumäki, J., Matiyasevich, Y., Saarela, A.

ISBN (Print): 978-952-12-3547-4

Publication series

Name: TUCS Lecture Notes

Publisher: Turku Centre for Computer Science

No.: 26

ISSN (Print): 1797-8823

ASJC Scopus subject areas: Mathematics(all)

Keywords: logic

URLs:

<http://www.doria.fi/handle/10024/143322>

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

The Fourteenth Scandinavian International Conference on Fluid Power, SICFP15: Proceedings

At this time the conference includes various themes like hybrids, drives, digital hydraulics and pneumatics. Special attention in the program is given for energy efficiency, renewable energy production and energy recovery. They are reflecting well the situation, where environmental issues and energy saving are increasingly important issues.

General information

Publication status: Published

MoE publication type: C2 Edited books

Organisations: Department of Intelligent Hydraulics and Automation, Research group: Fluid power automation in mobile machines

Contributors: Laamanen, A. (ed.), Huhtala, K. (ed.)

Number of pages: 835

Publication date: 2015

Publication information

Publisher: Tampere University of Technology. Department of Intelligent Hydraulics and Automation

ISBN (Electronic): 978-952-15-3530-7, 978-952-15-3658-8

Original language: English

Publication series

Name: Scandinavian International Conference on Fluid Power (SICFP)

Publisher: Tampere University of Technology

ISSN (Print): 2342-2726

Electronic versions:

SICFP15_proceedings

URLs:

<http://URN.fi/URN:ISBN:978-952-15-3530-7>

Bibliographical note

Versio ok 16.12.2015

Research output: Book/Report > Anthology > Scientific > peer-review

The Fourteenth Scandinavian International Conference on Fluid Power, SICFP15: Abstracts

At this time the conference includes various themes like hybrids, drives, digital hydraulics and pneumatics. Special attention in the program is given for energy efficiency, renewable energy production and energy recovery. They are reflecting well the situation, where environmental issues and energy saving are increasingly important issues.

General information

Publication status: Published

MoE publication type: C2 Edited books

Organisations: Department of Intelligent Hydraulics and Automation, Research group: Fluid power automation in mobile machines

Contributors: Laamanen, A. (ed.), Huhtala, K. (ed.)

Number of pages: 100

Publication date: 2015

Publication information

Publisher: Tampere University of Technology, Department of Intelligent Hydraulics and Automation

ISBN (Print): 978-952-15-3529-1

ISBN (Electronic): 978-952-15-3548-2

Original language: English

Electronic versions:

sicfp15_abstract_book

URLs:

<http://URN.fi/URN:ISBN:978-952-15-3548-2>

Bibliographical note

sicfp15_abstract_book ok 8.1.2016 KK
Varsinainen proceedings-julkaisu hyväksytty tiedonkeruuseen
Research output: Book/Report > Anthology > Scientific > peer-review

The Extended 1-D (One-Dimensional) Discrete Phase Retrieval Problem

In this work we discuss some difficulties that can be encountered when one uses iterative methods for finding a solution of a onedimensional discrete phase retrieval problem. Iterative methods are widely used but, unfortunately, they often stagnate. We shall show that by using an extended form of the one-dimensional discrete phase retrieval problem, we can find a solution to the problem.

General information

Publication status: Published
MoE publication type: A4 Article in a conference publication
Organisations: Department of Signal Processing, Research group: Algebraic and Algorithmic Methods in Signal Processing AAMSP, Signal Processing Research Community (SPRC), Technical University of Cluj-NapocaUniversitatea Tehnica din Cluj-Napoca
Contributors: Rusu, C., Astola, J.
Number of pages: 8
Pages: 640-647
Publication date: 2015

Host publication information

Title of host publication: Computer Aided Systems Theory – EUROCAST 2015 : 15th International Conference, Las Palmas de Gran Canaria, Spain, February 8-13, 2015, Revised Selected Papers
Publisher: Springer
ISBN (Print): 978-3-319-27339-6
ISBN (Electronic): 978-3-319-27340-2

Publication series

Name: Lecture Notes in Computer Science
Volume: 9520
ISSN (Print): 0302-9743
ISSN (Electronic): 1611-3349
ASJC Scopus subject areas: Computer Science(all), Theoretical Computer Science
Keywords: Phase retrieval, Signal reconstruction
DOIs:
10.1007/978-3-319-27340-2_79

Bibliographical note

EXT="Rusu, Corneliu"
Source: Scopus
Source ID: 84952332786
Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

The Effects of Product Line Length on Firm Performance

What products to offer represents one of the most important strategic choices a firm has to make in order to survive in competitive environments. Decisions about the length and breadth of a firm's product line are difficult but vital to its success. Despite this, the performance effects of product line length are a topic of continuing discussion in the academia. There are also multiple ways to define both product line length and breadth, further hindering the analysis and comparison of the results. This study defines both product line length and breadth, and distinguishes them as separate dimensions of a firm's product portfolio. Additionally, the relationship between product line length and firm performance is analyzed through customer evaluations. The study is set in the digital camera industry, focusing on the new product introductions into the compact product category during 2000–2014. Our results offer indication that there exists an inverted U-shaped relationship between product line length and firm performance.

General information

Publication status: Published
MoE publication type: A4 Article in a conference publication
Organisations: Industrial and Information Management, Research group: Center for Innovation and Technology Research
Contributors: Kirjavainen, J., Mäkinen, S., Sommarberg, M.
Number of pages: 5
Publication date: 8 Oct 2018

Host publication information

Title of host publication: 2018 Portland International Conference on Management of Engineering and Technology (PICMET)

Publisher: IEEE

ISBN (Electronic): 978-1-890843-37-3

Keywords: Digital cameras , Industries , Length measurement , Lenses , Time measurement , Mirrors

DOIs:

10.23919/PICMET.2018.8481780

Bibliographical note

jufoid=9093

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

The effects of neuron morphology on graph theoretic measures of network connectivity: The analysis of a two-level statistical model

We developed a two-level statistical model that addresses the question of how properties of neurite morphology shape the large-scale network connectivity. We adopted a low-dimensional statistical description of neurites. From the neurite model description we derived the expected number of synapses, node degree, and the effective radius, the maximal distance between two neurons expected to form at least one synapse. We related these quantities to the network connectivity described using standard measures from graph theory, such as motif counts, clustering coefficient, minimal path length, and small-world coefficient. These measures are used in a neuroscience context to study phenomena from synaptic connectivity in the small neuronal networks to large scale functional connectivity in the cortex. For these measures we provide analytical solutions that clearly relate different model properties. Neurites that sparsely cover space lead to a small effective radius. If the effective radius is small compared to the overall neuron size the obtained networks share similarities with the uniform random networks as each neuron connects to a small number of distant neurons. Large neurites with densely packed branches lead to a large effective radius. If this effective radius is large compared to the neuron size, the obtained networks have many local connections. In between these extremes, the networks maximize the variability of connection repertoires. The presented approach connects the properties of neuron morphology with large scale network properties without requiring heavy simulations with many model parameters. The two-steps procedure provides an easier interpretation of the role of each modeled parameter. The model is flexible and each of its components can be further expanded. We identified a range of model parameters that maximizes variability in network connectivity, the property that might affect network capacity to exhibit different dynamical regimes.

General information

Publication status: Published

MoE publication type: A1 Journal article-refereed

Organisations: Research group: Computational Neuro Science-CNS, Department of Signal Processing, University of Oslo

Contributors: Acimovic, J., Mäki-Marttunen, T., Linne, M.

Publication date: 10 Jun 2015

Peer-reviewed: Yes

Publication information

Journal: Frontiers in Neuroanatomy

Volume: 9

Issue number: June

Article number: 76

ISSN (Print): 1662-5129

Ratings:

Scopus rating (2015): CiteScore 3.7 SJR 1.852 SNIP 0.782

Original language: English

ASJC Scopus subject areas: Anatomy, Neuroscience (miscellaneous), Cellular and Molecular Neuroscience

Keywords: Graph theory, Motifs, Network connectivity, Neurite density field, Neuron morphology, Theoretical model

DOIs:

10.3389/fnana.2015.00076

Source: Scopus

Source ID: 84935865748

Research output: Contribution to journal › Article › Scientific › peer-review

The Effects of Initial Moisture on Damp Problems of a Timber Framed Wall Construction - a Numerical Approach

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: University of Oulu

Contributors: Fedorik, F., Malaska, M.

Pages: 18-23

Publication date: 2015

Host publication information

Title of host publication: Proceedings of the XII Finnish Mechanics Days : Finnish mechanics days

Place of publication: Espoo, Finland

Publisher: Finnish Association for Structural Mechanics

Editors: Kouhia, R., Mäkinen, J., Pajunen, S., Saksala, T.

ISBN (Print): 978-952-93-5608-9 ISBN-E 978-952-93-5609-6

URLs:

http://rmseura.tkk.fi/smp_proceedings/SMP12_Proceedings.pdf

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

The effect of USB ground cable and product dynamic capacitance on IEC61000-4-2 qualification

EC61000-4-2 discharge stress levels are studied with varying product capacitance and ground connections. Stress levels are evaluated based on the measured and simulated peak current, peak power, pulse rise time, and energy transfer along to the USB cable. These stress parameters can be significantly affected by adjusting the test setup.

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Sensing Systems for Wireless Medicine (MediSense), Department of Electronics and Communications Engineering, Research group: Wireless Identification and Sensing Systems Research Group

Contributors: Tamminen, P., Ukkonen, L., Sydänheimo, L.

Number of pages: 10

Publication date: 27 Sep 2015

Host publication information

Title of host publication: Electrical Overstress / Electrostatic Discharge Symposium Proceedings 2015

Volume: 2015

Place of publication: USA

Publisher: IEEE COMPUTER SOC

Article number: 7B.2

ISBN (Print): 9781479988952

ASJC Scopus subject areas: Engineering(all)

Keywords: USB, IEC61000-4-2, ESD, EMC, cable

Electronic versions:

7B2_Tamminen

DOIs:

10.1109/EOSESD.2015.7314766

URLs:

<http://urn.fi/URN:NBN:fi:tyy-201603013600>

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

The effect of tungsten carbide particles content in a weld deposit on its abrasion resistance

This paper describes the study of a weld deposit which contains tungsten carbide particles. For testing the process of gas metal arc welding in a protective atmosphere of a mixed gas with two types of cored wires were used. The selected cored electrode of a "F-Durit G" type already contains the tungsten carbide particles. The second used option was a cored electrode of a "Megafil A 864M" type with an increased boron content. For the second variant tungsten carbide particles with a 1-2 mm size were added to the weld pool, and a composite material layer was thus created. For the mentioned test two different levels of welding parameters were selected and the final weld deposit properties, particularly their abrasion resistance, were examined.

General information

Publication status: Published

MoE publication type: A1 Journal article-refereed

Organisations: Materials Science, VSB-Technical University Ostrava, Czech Republic, University of Osijek

Contributors: Hlavatý, I., Kozák, J., Krejci, L., Samardzic, I., Tuominen, J.

Number of pages: 5

Pages: 1345-1349

Publication date: Oct 2017

Peer-reviewed: Yes

Publication information

Journal: Technical Gazette - Technicki vjesnik

Volume: 24

Issue number: 5

ISSN (Print): 1848-6339

Original language: English

Keywords: Hardfacing, Metal matrix composite, Gas metal arc welding, Abrasive wear

Electronic versions:

tv_24_2017_5_1345_1349-1

DOIs:

10.17559/TV-20160503085356

URLs:

<http://urn.fi/URN:NBN:fi:tty-201710312093>

Research output: Contribution to journal › Article › Scientific › peer-review

The effect of physical adhesion promotion treatments on interfacial adhesion in cellulose-epoxy composite

General information

Publication status: Published

MoE publication type: D3 Professional conference proceedings

Organisations: Department of Materials Science, Research group: Plastics and Elastomer Technology, Research group:

Paper Converting and Packaging

Contributors: Siljander, S., Lehmonen, J., Tanaka, A., Ketoja, J., Heikkilä, P., Lahti, J., Sarlin, E., Vuorinen, J.

Number of pages: 10

Publication date: 2015

Host publication information

Title of host publication: Proceedings of the 20th International Conference on Composite Materials

URLs:

<http://iccm20.org/fullpapers/file?f=WM39KAy5r2>

Bibliographical note

ISBN- tai ISSN-numeroa kysytty, ei löydy

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Professional

The effect of climate change on the amount of wind driven rain on concrete facades

Private and public buildings built of concrete make up 34% of the whole building stock in Finland, of which almost 40% is now 30-50 years old. The financial and functional impact on Finnish society of this aged building stock is critical because one third of the country's population lives in these apartment blocks. There is a rising national concern on increasing maintenance needs of Finnish building stock. It has been concluded that new conceptual approaches to tackle the problem are acutely needed. The main reasons for facade degradation in the Finnish climate are freeze-thaw weathering of concrete and corrosion of reinforcement induced by carbonation of the surrounding concrete. A common denominator in every mechanism is water in varying forms. It can either work as a passage for harmful substances, e.g. chlorides, cause damage by its phase changes (freeze-thaw) or cause dissolution of substances in concrete. Two recent projects conducted by Finnish Meteorological Institute and Tampere University of Technology, have shown that future climate conditions in Finland are likely to get worse in terms of durability of structures exposed to climate. Precipitation during the winter season is going to increase while the form of precipitation is going to be increasingly water and sleet. At the same time, the conditions for drying are going to get worse. Thus, the deterioration rate of structures will accelerate in the most of Finland if maintenance and protection actions are neglected. To simulate the effect of changing climate conditions, it has been studied how the amount of wind-driven rain (WDR) on facades may change in future climate based on a greenhouse gas scenario. The study was conducted by comparing typical Finnish suburban concrete block build in 1970's in two different locations (coastal area and inland) at current climate and in 2050 and 2100. Based on the study the amount of WDR will increase more in coastal areas than in inland and will be more focused on south and south-west directions. The total increase in WDR will be approx. 15%, while the greatest increase (50%) will be faced by the westward facades in coastal area.

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Department of Civil Engineering, Research group: Service Life Engineering of Structures, Tampere University of Technology

Contributors: Pakkala, T., Lemberg, A., Lahdensivu, J.

Number of pages: 13

Pages: 153-165

Publication date: May 2016

Host publication information

Title of host publication: Proceedings of the CIB World Building Congress 2016 : Vol 2 : Environmental opportunities and challenges, Constructing commitment and acknowledging human experiences

Volume: 2

Place of publication: Tampere

Publisher: Tampere University of Technology. Department of Civil Engineering

Editors: Prins, M., Wamelink, H., Giddings, B., Ku, K., Feenstra, M.

ISBN (Print): 978-952-15-3742-4

ASJC Scopus subject areas: Civil and Structural Engineering

Keywords: Climate change, Wind-driven rain, Concrete, Modelling

URLs:

https://tutcris.tut.fi/portal/files/6186797/WBC16_Vol_2.pdf

URLs:

<http://www.wbc16.com/wbc16.html>

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

The development curve of knowledge management practices: a ten year perspective from top50 Finnish enterprises

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Department of Information Management and Logistics, Research group: Novi, Department of Information Management and Logistics

Contributors: Helander, N., Väyrynen, H., Zhao, X., Kukko, M.

Publication date: 31 Jan 2015

Host publication information

Title of host publication: 15th Eurasia business and economics society conference : Lisbon, Portugal, January 8-10, 2015

Publisher: Springer

ISBN (Electronic): 978-3-319-27573-4

URLs:

<https://www.ebesweb.org/Conferences/Recent/15th-EBES-Conference-Lisbon.aspx>

Bibliographical note

INT=tlo,"Zhao, Xuepin"

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

The Company Democracy Model for the Development of Intellectual Human Capitalism for Shared Value

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Pori Department, Research group: Business Ecosystems, Networks and Innovations

Contributors: Markopoulos, E., Vanharanta, H.

Number of pages: 8

Pages: 603-610

Publication date: 2015

Host publication information

Title of host publication: 6th International Conference on Applied Human Factors and Ergonomics (AHFE 2015) and the Affiliated Conferences, AHFE 2015

Publisher: Elsevier

Publication series

Name: Procedia Manufacturing

Volume: 3

ISSN (Print): 2351-9789

DOIs:

[10.1016/j.promfg.2015.07.277](https://doi.org/10.1016/j.promfg.2015.07.277)

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

The circular economy of projects

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Industrial Engineering and Management, Research group: Center for Research on Project and Service Business (CROPS)
Contributors: Ahola, T., Martinsuo, M.
Publication date: Jun 2019

Host publication information

Title of host publication: European Academy of Management Conference EURAM 2019 : 26-28 June 2019, Lisbon, Portugal
Publisher: EURAM
ISBN (Electronic): 978-2-9602195-1-7

Publication series

Name: European academy of management annual conference
ISSN (Print): 2466-7498
URLs:

<http://www.euramonline.org/annual-conference-2019.html>

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

The behaviour of transverse bar reinforcement of slim floor beams in precast floors

Typical slim floor construction consists of precast hollow core slabs supported on shallow steel beams. The steel beams are contained within the depth of the floor slab and the floor beams can be detailed as either composite or bare steel beams. The joints between precast elements are reinforced with transverse steel rebars and are then filled with concrete. The transverse bars are installed through holes in the web of a special perforated steel beam profile. In this research the behaviour of the transverse rebars is studied numerically using Abaqus/CAE FEM-modelling software. The aim of this study is to investigate the effects of the transverse reinforcement on the composite beam behaviour and on the crack formation at the longitudinal interface between steel beam web and concrete. The numerical modelling of the transverse rebars and the local behaviour of rebar within the cracked area is of special interest. The numerical analysis results are compared with and validated by experimental test results carried out with similar floor beam structures. Based on the analysis results, the load paths within the slim floor construction and the effect of transverse reinforcement on floor beam behaviour are discussed.

General information

Publication status: Published
MoE publication type: A4 Article in a conference publication
Organisations: University of Oulu
Contributors: Vinberg, M., Malaska, M., Peltonen, S.
Number of pages: 6
Publication date: 2014

Host publication information

Title of host publication: Eurosteel 2014 : 7th European Conference on Steel and Composite Structures, 10.-12.9.2014, Naples, Italy
Place of publication: Belgium
Publisher: ECCS - European Convention for Constructional Steelwork
Editors: Landolfo, R., Mazzolani, F.
Article number: 33-493
ISBN (Electronic): 978-92-9147-121-8
Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

The 13th Nordic Steel Construction Conference (NSCC.2015)

General information

Publication status: Published
MoE publication type: C2 Edited books
Organisations: Department of Civil Engineering, Research group: Structural Mechanics, Research group: Metal and Lightweight structures
Contributors: Heinisuo, M. (ed.), Mäkinen, J. (ed.)
Publication date: 23 Sep 2015

Publication information

Place of publication: Tampere
Publisher: Tampere University of Technology
ISBN (Print): 978-952-15-3578-9
ISBN (Electronic): 978-952-15-3579-6
Original language: English

Testing the near field/far field model performance for prediction of particulate matter emissions in a paint factory

A Near Field/Far Field (NF/FF) model is a well-accepted tool for precautionary exposure assessment but its capability to estimate particulate matter (PM) concentrations is not well studied. The main concern is related to emission source characterization which is not as well defined for PM emitters compared to e.g. for solvents. One way to characterize PM emission source strength is by using the material dustiness index which is scaled to correspond to industrial use by using modifying factors, such as handling energy factors. In this study we investigate how well the NF/FF model predicts PM concentration levels in a paint factory. PM concentration levels were measured during big bag and small bag powder pouring. Rotating drum dustiness indices were determined for the specific powders used and applied in the NF/FF model to predict mass concentrations. Modeled process specific concentration levels were adjusted to be similar to the measured concentration levels by adjusting the handling energy factor. The handling energy factors were found to vary considerably depending on the material and process even-though they have the same values as modifying factors in the exposure models. This suggests that the PM source characteristics and process-specific handling energies should be studied in more detail to improve the model-based exposure assessment.

General information

Publication status: Published

MoE publication type: A1 Journal article-refereed

Organisations: Department of Physics, Danmarks Tekniske Universitet, DTU Informatik, Denmark Technical University DTU, National Research Centre for the Working Environment, Department of Micro and Nanotechnology

Contributors: Koivisto, A. J., Jensen, A. C. Ø., Levin, M., Kling, K. I., Maso, M. D., Nielsen, S. H., Jensen, K. A., Koponen, I. K.

Number of pages: 12

Pages: 62-73

Publication date: 1 Jan 2015

Peer-reviewed: Yes

Publication information

Journal: Environmental Sciences: Processes and Impacts

Volume: 17

Issue number: 1

ISSN (Print): 2050-7887

Ratings:

Scopus rating (2015): CiteScore 4.3 SJR 0.998 SNIP 0.923

Original language: English

ASJC Scopus subject areas: Environmental Chemistry, Public Health, Environmental and Occupational Health, Management, Monitoring, Policy and Law, Medicine(all)

DOIs:

10.1039/c4em00532e

URLs:

<http://www.scopus.com/inward/record.url?scp=84920000979&partnerID=8YFLogxK> (Link to publication in Scopus)

Bibliographical note

EXT="Koivisto, A. J."

Source: Scopus

Source ID: 84920000979

Research output: Contribution to journal › Article › Scientific › peer-review

Terrestrial LiDAR and 3D tree Quantitative Structure Model for quantification of aboveground biomass loss from selective logging in a tropical rainforest of Peru

General information

Publication status: Published

MoE publication type: D3 Professional conference proceedings

Organisations: Department of Mathematics, Research group: MAT Inverse Problems, Wageningen Univ, Wageningen University & Research Center, Wageningen University and the UNESCO-IHE Institute for Water Education, Delft, The Netherlands, 18.10.2013, Center for International Forestry Research

Contributors: Gonzalez de Tanago, J., Bartholomeus, H., Joseph, S., Herold, M., Avitabile, V., Goodman, R., Raumonon, P., Burt, A.

Number of pages: 3

Pages: 119-121

Publication date: 2015

Host publication information

Title of host publication: Proceedings of SilviLaser 2015 : 14th conference on Lidar Applications for Assessing and Managing Forest Ecosystems

URLs:

https://silvilaser2015.teledetection.fr/files/Proceedings_Silvilaser_22_09_2015_2.pdf (Conference proceedings)

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Professional

Teräsristikon paarteiden liitoksen vapaan välin leikkausvoiman arviointi

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Department of Civil Engineering, Research group: Metal and Light-wight structures

Contributors: Tiainen, T., Heinisuo, M.

Number of pages: 6

Pages: 30-35

Publication date: 2015

Host publication information

Title of host publication: Proceedings of the XII Finnish Mechanics Days. Suomen XII Mekaniikkapäivien esitelmät

Publisher: Rakenteiden Mekaniikan Seura ry

ISBN (Print): 978-952-93-5608-9

ISBN (Electronic): 978-952-93-5609-6

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Terahertz band communications: Applications, research challenges, and standardization activities

Terahertz frequency band, 0.1–10THz, is envisioned as one of the possible resources to be utilized for wireless communications in networks beyond 5G. Communications over this band will be feature a number of attractive properties, including potentially terabit-per-second link capacities, miniature transceivers and, potentially, high energy efficiency. Meanwhile, a number of specific research challenges have to be addressed to convert the theoretical estimations into commercially attractive solutions. Due to the diversity of the challenges, the research on THz communications at its early stages was mostly performed by independent communities from different areas. Therefore, the existing knowledge in the field is substantially fragmented. In this paper, an attempt to address this issue and provide a clear and easy to follow introduction to the THz communications is performed. A review on the state-of-the-art in THz communications research is given by identifying the target applications and major open research challenges as well as the recent achievements by industry, academia, and the standardization bodies. The potential of the THz communications is presented by illustrating the basic tradeoffs in typical use cases. Based on the given summary, certain prospective research directions in the field are identified.

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Department of Electronics and Communications Engineering, Research group: Emerging Technologies for Nano-Bio-Info-Cogno

Contributors: Petrov, V., Pyattaev, A., Moltchanov, D., Koucheryavy, Y.

Number of pages: 8

Pages: 1-8

Publication date: 20 Oct 2016

Host publication information

Title of host publication: 2016 8th International Congress on Ultra Modern Telecommunications and Control Systems and Workshops (ICUMT)

Publisher: IEEE

ISBN (Electronic): 978-1-4673-8818-4

ASJC Scopus subject areas: Electrical and Electronic Engineering

Electronic versions:

Terahertz band communications

DOIs:

10.1109/ICUMT.2016.7765354

URLs:

<http://urn.fi/URN:NBN:fi:tty-201612294926>

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Teoriaa ja kokemuksia arvioinnista MOOCien aikakaudella

General information

Publication status: Published

MoE publication type: A1 Journal article-refereed

Organisations: Department of Information Management and Logistics, Research group: Novi, Tampere University of Applied Sciences

Contributors: Helander, N., Myllylä, M.

Number of pages: 7

Pages: 70-77

Publication date: 11 Jul 2016

Peer-reviewed: Yes

Publication information

Journal: TAMPEREEN AMMATTIKORKEAKOULUN JULKAISUJA. SARJA B, RAPORTEJA

ISSN (Print): 1456-002X

Original language: Finnish

URLs:

<http://julkaisut.tamk.fi/PDF-tiedostot-web/B/88-Floworks.pdf>

Research output: Contribution to journal › Article › Scientific › peer-review

Temporal Ghost Imaging

General information

Publication status: Published

MoE publication type: B3 Non-refereed article in conference proceedings

Organisations: Department of Physics, Research area: Optics, Research group: Nonlinear Fiber Optics

Contributors: Ryczkowski, P., Barbier, M., Friberg, A. T., Dudley, J. M., Genty, G.

Publication date: 2015

Host publication information

Title of host publication: Frontiers in Optics 2015

Publisher: OSA

Article number: FTh4D.4

ISBN (Electronic): 978-1-943580-03-3

DOIs:

10.1364/FIO.2015.FTh4D.4

Source: Bibtex

Source ID: urn:f90eacbc513a12c9e9c76f77e403df8d

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific

Temperature Effect on Breakdown Performance of Insulating Polymer Thin Films

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Department of Electrical Engineering, Research area: Power engineering

Contributors: Ritamäki, M., Rytöluoto, I., Lahti, K.

Number of pages: 4

Pages: 75-79

Publication date: 2015

Host publication information

Title of host publication: 24th Nordic Insulation Symposium on Materials, Components and Diagnostics, Proceedings

ISBN (Print): 978-82-321-0274-7

Publication series

Name: Proceedings of the Nordic Insulation Symposium

No.: 24

ISSN (Electronic): 2525-3969

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Temperature distribution of trapezoidal sheeting in fire

Trapezoidal sheeting has been used for stabilizing steel members for a long time. In recent years several documents which include the comprehensive theoretical background and design guidelines for practice have been published. ECCS

published the design recommendations including an example of considerable cost savings in steel constructions when sheeting is used for stabilization. However, these documents did not cover the fire limit state. The study presented in this paper is aimed at stabilization of steel members through the trapezoidal sheeting in fire. The papers describes four full-scale fire tests carried out on a horizontal furnace for fire resistance testing. The test specimens were assembled from a fire protected steel beam and trapezoidal sheeting. The profile of the steel beam was a HEA 160 (S355) in two of the tests, and a RHS 150x150x8 (S420) in the remaining tests. Two different profiles of the trapezoidal sheeting were used during the tests. Experimental testing was conducted to determine the temperature fields in trapezoidal sheeting and in the supporting structural steel sections as well as in the connectors with special attention given to the temperatures at the joint above the steel beam section. The results of the tests show that at the failure of the specimens the screw temperatures were between 720°C and 780°C. The screw temperatures were lower than the temperature of trapezoidal sheets but higher than the temperatures of the top flanges of fire protected steel beam. The results of the tests provided experimental data for the critical variables related to building stabilization in fire through the cladding systems which is under investigation of RFCS project STABFI.

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Civil Engineering, Research group: Metal and Light-wight structures, Czech Technical University in Prague

Contributors: Cabova, K., Liskova, N., Arha, T., Malaska, M., Alanen, M., Mela, K., Pajunen, S., Wald, F.

Number of pages: 6

Pages: 665-670

Publication date: 16 Sep 2019

Host publication information

Title of host publication: Proceedings of Nordic Steel 2019 : CE/papers Special Issue

Volume: 3

Publisher: Wilhelm Ernst und Sohn

Article number: 11.04

Publication series

Name: CE/papers

ISSN (Electronic): 2509-7075

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

Technopreneurial Characteristics Rising from the Ashes of Creative Destruction

This paper uses the grounded theory building method to investigate the differences and similarities in the evolutionary paths of three entrepreneurial ventures. Theory-based reasoning was used to select cases representing different technopreneurial business models, namely product, expert service, and integrated product-service business models. Our cases emerged from a disrupted global technology corporation and they represent the economic activity emerging from classical creative destruction. We investigate the evolutionary paths of these ventures from their start-up by employing the resource-based view (RBV) approach to determine the critical change points and watershed events that guide the path of the cases. With these analyses, we are able to differentiate the performance differentials and evolutionary trajectories of the cases. The cases suggest that while the strength of the original path is strong it is possible to change the course despite path dependencies. We outline the mechanisms that facilitated these transitions (e.g., finding a suitable equity fund as a catalyst to make the change). Hence, we find that entrepreneurial ventures are not as path dependent as previous studies suggest; rather, there is managerial discretion to change the evolutionary trajectories. Our study suggests that the capabilities acquired over a long period of time in a global technology corporation contribute to the ability to change the path. We discuss the theoretical and practical implications of the critical decision points during the evolutionary trajectories of ventures.

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Industrial and Information Management, Research group: Center for Innovation and Technology Research

Contributors: Sommarberg, M., Mäkinen, S.

Number of pages: 10

Pages: 1-10

Publication date: 1 Oct 2018

Host publication information

Title of host publication: Proceedings in 2018 Portland International Conference in Management and Engineering (PICMET) : (PICMET) 19-23 August 2018

Publisher: IEEE

ISBN (Electronic): 978-1-890843-37-3

DOIs:

10.23919/PICMET.2018.8481846

Bibliographical note

jufoid=9093

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Technical suitability of the fine fraction of municipal solid waste incineration bottom ash to the landfill capping liner

To protect the natural aggregates and promote the circular economy the suitable secondary aggregates have been studied intensively in last decades in Finland. One promising secondary aggregate is bottom ash from the municipal solid waste incineration (MSWI) process.

The municipal incinerator bottom ash (MIBA, also called MSWI BA) contains heavy metals and other contaminants limiting its environmental acceptability. The fines contain typically the highest concentrations of contaminants. The portion of inert particles such as rock, glass and mineral waste is higher in coarser fractions.

The aim of the study was to assess the suitability of the fines of MIBA to the mineral liner in landfill capping. Based on the environmental permit, the target permeability value for capping liner is $k \leq 1 \cdot 10^{-9}$ m/s. The permeability of the fines of MIBA is typically around $1 \cdot 10^{-7}$ m/s when well compacted. In order to achieve the required permeability, bentonite or other additives are needed. The grains are porous and the pH is high, typically 10-12, which effect on the amount of bentonite required. In addition, the MIBA contain high concentrations of diluting chlorides, sulfides and calcium, which decrease the swelling properties of the bentonite. The swelling capacity of bentonite decreases when permeating aggressive leakages with high cation concentration. Therefore a special polymer treated bentonite were chosen for the tests. The addition of superabsorbent polymers, which have much higher resistance to aggressive leakages, greatly improve the performance and self-healing capacity of bentonite.

First, laboratory tests were performed to estimate the proper amount and quality of the bentonite needed to achieve the permeability required. Two bentonite types were tested, the common natural bentonite and a special polymer modified bentonite produced by Cetco. The swelling index of both types of bentonite were tested by a eluate of MIBA. Several permeability tests were performed to evaluate the effect of dry density, bentonite quality and dose, and portion of coarser grains (2-5 mm).

After laboratory testing, a test area was constructed on an old waste fill to the Ämmässuo. During the construction, it was noticed that the water content effects significantly on the compaction result. The mineral liner was covered by a 1,5 mm thick LLDPE geomembrane and protective geotextile. The liner structure is covered only by a 0,5 m thick drainage layer from crushed rock. No surface layer were constructed.

After one year, the liner was exposed and studied. The quality of the structures, especially the mineral liner were visually evaluated and gas emissions were measured from the surface. The density of the layer was measured by volymeter and troxler and the water content and permeability were measured in laboratory. Based on the visual inspection the surface of the mineral liner was smooth, and the layer homogenous and hardened

General information

Publication status: Published

MoE publication type: A3 Part of a book or another research book

Organisations: Civil Engineering, Research group: Earth Constructions

Contributors: Leppänen, M., Sarkkila, J., Hämäläinen, H., Rinkinen, J.

Pages: 168-175

Publication date: 6 Jun 2018

Host publication information

Title of host publication: Proceedings of the 10th International Conference on the Environmental and Technical Implications of Construction with Alternative Materials WASCON 2018 : No Gradle, No Grave - Circular Economy into Practice

Publisher: RIL - Finnish Association of Civil Engineers

Editors: Raasakka, V., Lahtinen, P.

ISBN (Electronic): 978-951-758-631-3

Keywords: municipal solid waste bottom slag, Landfill cover, bentonite, chemical incompatibility

Research output: Chapter in Book/Report/Conference proceeding › Chapter › Scientific › peer-review

Teacher's Perceptions and Readiness to Teach Coding Skills: A Comparative Study Between Finland, Mainland China, Singapore, Taiwan, and South Korea

Many education systems have recognized the importance of computational thinking and coding skills and are implementing curricular changes to introduce coding into formal school education. A necessary and critical success factor involves the preparation of and support for teachers to teach coding. Thus, understanding the perceptions of teachers towards coding is most important, together with knowing the kinds of support they received, and their readiness and challenges to teach. The purpose of the current study is to compare teachers' attitudes towards the importance of information and communications technologies (ICT) skills and coding skills in Finland, Mainland China, Singapore, Taiwan, and South Korea. The findings indicate that teachers in Finland, Singapore, Taiwan, and South Korea believe that coding is useful even if students will not work in ICT jobs while Mainland Chinese teachers are undecided. Mainland China, Singapore, Taiwan, and South Korea have more positive views towards how to prepare for future-ready learners.

General information

Publication status: E-pub ahead of print
MoE publication type: A1 Journal article-refereed
Organisations: Computing Sciences, National Institute of Education, Satakunta University of Applied Sciences, Chuncheon National University of Education, Taiwan Normal University
Contributors: Wu, L., Looi, C. K., Multisilta, J., How, M. L., Choi, H., Hsu, T. C., Tuomi, P.
Number of pages: 14
Publication date: 30 Sep 2019
Peer-reviewed: Yes

Publication information

Journal: Asia-Pacific Education Researcher
ISSN (Print): 0119-5646
Ratings:
Scopus rating (2019): CiteScore 2.3 SJR 0.449 SNIP 1.017
Original language: English
ASJC Scopus subject areas: Education
Keywords: Attitudes, Coding skills, Comparative research, Computational thinking, Primary school, Twenty first century skills
DOIs:
10.1007/s40299-019-00485-x

Bibliographical note

EXT="Multisilta, Jari"
Source: Scopus
Source ID: 85074064375
Research output: Contribution to journal > Article > Scientific > peer-review

Task-setting strategies for hackathon goal achievement in industrial intra-organizational innovation

This paper addresses the hackathon as an innovation contest method in the IT industry, beyond the coding context. Specifically, it focuses on hackathon task-setting strategies, i.e. drawing boundaries to specify the problem to be solved. Although task setting plays an integral part in hackathon goal achievement, i.e. whether the hackathon is perceived as successful or not, task setting has not yet been the focus of hackathon research. Therefore, this paper presents a case study of an IT company with four subsidiaries operating in four countries in the Baltic region, carrying out 17 intra- or intra-inter-organizational hackathons in six iterations. As a result, the paper reveals hackathon task-setting strategies in terms of the employee maturity level regarding the corporate context of the subsidiaries. Presenting conclusions for both academics and industry, the paper contributes to the literature on hackathon task-setting strategies particularly in organizations in the IT sector, with varying maturity levels.

General information

Publication status: Published
MoE publication type: A4 Article in a conference publication
Organisations: Information and Knowledge Management, Research group: Business Ecosystems, Networks and Innovations, curlabs ab, Häme University of Applied Sciences
Contributors: Suominen, A., Jonsson, V., Bäckman, J., Halvari, S.
Number of pages: 14
Publication date: 19 Jun 2019

Host publication information

Title of host publication: The ISPIM Innovation Conference – Celebrating Innovation: 500 Years Since daVinci : 16-19 June 2019, Florence, Italy
Volume: 93
Place of publication: Florence, Italy
Publisher: International Society for Professional Innovation Management ISPIM
Editor: Bitran, I.
ISBN (Print): 978-952-335-351-0
Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

Taskinen yksissä kansissa

General information

Publication status: Published
MoE publication type: D1 Article in a trade journal
Organisations: School of Architecture, Research group: History of Architecture
Contributors: Passinmäki, P.

Number of pages: 2
Pages: 89-90
Publication date: 2015
Peer-reviewed: Unknown

Publication information

Journal: Arkkitehti
Issue number: 2
ISSN (Print): 0783-3660
Original language: Finnish
Research output: Contribution to journal › Article › Professional

Target tracking via combination of particle filter and optimisation techniques

Particle filters (PFs) have been used for the nonlinear estimation for a number of years. However, they suffer from the impoverishment phenomenon. It is brought by resampling which intends to prevent particle degradation, and therefore becomes the inherent weakness of this technique. To solve the problem of sample impoverishment and to improve the performance of the standard particle filter we propose a modification to this method by adding a sampling mechanism inspired by optimisation techniques, namely, the pattern search, particle swarm optimisation, differential evolution and Nelder-Mead algorithms. In the proposed methods, the true state of the target can be better expressed by the optimised particle set and the number of meaningful particles can be grown significantly. The efficiency of the proposed particle filters is supported by a truck-trailer problem. Simulations show that the hybridised particle filter with Nelder-Mead search is better than other optimisation approaches in terms of particle diversity.

General information

Publication status: Published
MoE publication type: A1 Journal article-refereed
Organisations: Department of Signal Processing, University of Toledo, Bowling Green State University
Contributors: Hosseini, S. S. S., Jamali, M. M., Astola, J., Gorsevski, P. V.
Number of pages: 18
Pages: 212-229
Publication date: 2016
Peer-reviewed: Yes

Publication information

Journal: International Journal of Mathematical Modelling and Numerical Optimization
Volume: 7
Issue number: 2
ISSN (Print): 2040-3607
Ratings:
Scopus rating (2016): CiteScore 2.6 SJR 0.351 SNIP 0.935
Original language: English
ASJC Scopus subject areas: Numerical Analysis, Modelling and Simulation, Applied Mathematics
Keywords: Differential evolution, Nelder-Mead, Particle filter, Particle swarm optimisation, Pattern search, PSO, Target tracking
DOIs:
10.1504/IJMMNO.2016.077068
Source: Scopus
Source ID: 84990239582
Research output: Contribution to journal › Article › Scientific › peer-review

Tampere University of Technology, laboratory of materials science, paper converting and packaging technology Tampere, Finland

General information

Publication status: Published
MoE publication type: A4 Article in a conference publication
Organisations: Materials Science, Research group: Paper Converting and Packaging
Contributors: Kuusipalo, J., Lahti, J.
Number of pages: 1
Publication date: 1 Jan 2017

Host publication information

Title of host publication: 16th TAPPI European PLACE Conference 2017 : Basel; Switzerland; 22 May 2017 through 24 May 2017
Volume: May-2017

Publisher: TAPPI Press

ISBN (Electronic): 9781510850880

ASJC Scopus subject areas: Media Technology, Chemical Engineering(all), Chemistry(all), Mechanical Engineering, Materials Science(all)

URLs:

<http://www.scopus.com/inward/record.url?scp=85044476202&partnerID=8YFLogxK> (Link to publication in Scopus)

Source: Scopus

Source ID: 85044476202

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

Tampereen matemaattisten aineiden aineenopettajakoulutus

We present how the education of subject teachers is organized in mathematics, science and computer science in Tampere. It is based on the idea that both engineering students and students from mathematics and science may choose to become a subject teacher. Students are accepted either to the master's degree program in Science and Engineering of Tampere University of Technology or the master's program of Mathematics and Statistics of University of Tampere. Students from different universities are giving opportunities to learn from each other. They study physics and chemistry in Tampere University of Technology and do pedagogical studies in University of Tampere. Both universities have also developed special motivating courses based on the didactical research to their students. In mathematics, there is a joined course for the second or third year students motivating towards teaching carrier. In both universities there are possibilities to do the master or bachelor thesis in didactics of mathematics or science. Both universities have an important role in education of subject teachers in Finland. Tampere University of Technology is providing opportunities during studies to cooperate between schools and industry. It gives ideas how science and mathematics are applied in the modern society. University of Tampere also trains primary school teachers with specialization in mathematics.

General information

Publication status: Published

MoE publication type: D1 Article in a trade journal

Organisations: Department of Mathematics, Research group: MAT Clifford analysis, Department of Chemistry and Bioengineering, Research group: Supramolecular photochemistry

Contributors: Eriksson, S., Haukkanen, P., Hukka, T. I., Lemmetyinen, H.

Number of pages: 8

Pages: 800-807

Publication date: 11 Mar 2015

Peer-reviewed: Unknown

Publication information

Journal: LUMAT: International Journal on Math, Science and Technology Education

Volume: 3

Issue number: 6

ISSN (Print): 2323-7112

Original language: Finnish

URLs:

<http://www.luma.fi/lumat/4105>

Bibliographical note

ORG=mat,0.7

ORG=keb,0.3

Research output: Contribution to journal > Article > Professional

Tampereelta valmistuneiden vesihuoltoalan diplomi-insinöörien sijoittuminen ja odotukset yliopisto-opetukselle

General information

Publication status: Published

MoE publication type: D1 Article in a trade journal

Organisations: Department of Chemistry and Bioengineering, Department of Civil Engineering, Tampere University of Technology, University of Tampere

Contributors: Katko, T. S., Lukka, A., Rajala, R.

Number of pages: 3

Pages: 45-47

Publication date: 2015

Peer-reviewed: Unknown

Publication information

Journal: Vesitalous

Issue number: 2

ISSN (Print): 0505-3838
Original language: Finnish

Bibliographical note

ORG=keb,1
ORG=rak,0
AUX=orc,"Lukka, Anna"
Research output: Contribution to journal › Article › Professional

Tammerkoski ja Hämeenkatu Tampereen arkkitehtonisen identiteetin ankkureina

General information

Publication status: Published
MoE publication type: D2 Article in professional manuals or guides or professional information systems or text book material
Organisations: School of Architecture
Contributors: Koponen, O.
Number of pages: 8
Pages: 35-42
Publication date: 2015

Host publication information

Title of host publication: Tampereen tarina : Teollisuuden synnyttämä kaupunki harjujen ja järvien solmukohdassa
Volume: Julkaisuja 5/2015
Place of publication: Kaupunkiympäristön kehittäminen
Publisher: Tampereen kaupunki
Editor: Hautamäki, R.
ISBN (Print): 978-951-609-783-4

Publication series

Name: Tampereen kaupunki/Kaupunkiympäristön kehittäminen
Publisher: Tampereen kaupunki
Volume: 5/2015
ISSN (Print): 1797-321X
URLs:
http://www.tampere.fi/liitteet/t/bV6J59ALc/Tampereen_tarina.pdf
Research output: Chapter in Book/Report/Conference proceeding › Chapter › Professional

Tailoring directional scattering of second-harmonic generation from (111)-GaAs nanoantennas

The group of zincblende III-V compound semiconductors, especially (100)-grown AlGaAs and GaAs, have recently been presented as promising materials for second harmonic generation (SHG) at the nanoscale. However, major obstacles to push the technology towards practical applications are the limited control over directionality of the SH emission and especially zero forward/backward radiation. In this work we provide both theoretically and experimentally a solution to these problems by presenting the first SHG nanoantennas made from (111)-GaAs embedded in a low index material. These nanoantennas show superior forward directionality compared to their (100)-counterparts. Most importantly, it is possible to manipulate the SHG radiation pattern of the nanoantennas by changing the pump polarization without affecting the linear properties and the total nonlinear conversion efficiency.

General information

Publication status: Published
MoE publication type: A4 Article in a conference publication
Organisations: Research group: Nonlinear Optics, Physics, Australian National University, Friedrich-Schiller-University Jena, School of Engineering and Information Technology, University of New South Wales (UNSW) Australia, Institute of Applied Physics of the Russian Academy of Sciences
Contributors: Sautter, J., Xu, L., Miroshnichenko, A., Lysevych, M., Volkovskaya, I., Smirnova, D., Camacho Morales, M., Zangeneh Kamali, K., Karouta, F., Vora, K., Tan, H. H., Kauranen, M., Staude, I., Jagadish, C., Neshev, D. N., Rahmani, M.
Publication date: 2019

Host publication information

Title of host publication: AOS Australian Conference on Optical Fibre Technology, ACOFT 2019 and Australian Conference on Optics, Lasers, and Spectroscopy, ACOLS 2019
Publisher: SPIE
Editors: Mitchell, A., Rubinsztein-Dunlop, H.
Article number: 112000H

ISBN (Electronic): 9781510631403

Publication series

Name: Proceedings of SPIE - The International Society for Optical Engineering

Volume: 11200

ISSN (Print): 0277-786X

ISSN (Electronic): 1996-756X

ASJC Scopus subject areas: Electronic, Optical and Magnetic Materials, Condensed Matter Physics, Computer Science Applications, Applied Mathematics, Electrical and Electronic Engineering

Keywords: Dielectric nanoantennas, Directional emission, Multipolar interference, Second harmonic generation

DOIs:

10.1117/12.2539086

Bibliographical note

jufoid=71479

Source: Scopus

Source ID: 85079653740

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Tag suggestions from social media profiles

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Pori Department, Research group: Software Engineering and Intelligent Systems

Contributors: Rantanen, P., Sillberg, P., Soini, J., Jaakkola, H.

Number of pages: 8

Pages: 387-394

Publication date: 2016

Host publication information

Title of host publication: Proceedings of the 26th International Conference on Information Modelling and Knowledge Bases - EJC 2016. : June 6-10, 2016, Tampere, Finland.

Volume: 18

Place of publication: Tampere

Publisher: Tampere University of Technology

Editors: Jaakkola, H., Thalheim, B., Kiyoki, Y., Yoshida, N.

ISBN (Electronic): 978-952-15-3747-9

Publication series

Name: Tampere University of Technology Pori Department Publications

Publisher: Tampere University of Technology

ISSN (Electronic): 2323-8976

Electronic versions:

25_p606_Rantanen

URLs:

<http://urn.fi/URN:NBN:fi:tty-201712012298>

URLs:

<http://www.tut.fi/en/ejc/ejc-2016/>

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Systemic Sustainability and Emerging Diversity of Shopping Concepts in Urban Multi-Agent Networks

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Institute of Society and Space (SOCIS), School of Architecture, Research group: EDGE

Contributors: Rantanen, A., Iltanen, S., Joutsiniemi, A.

Pages: 510-517

Publication date: 2014

Host publication information

Title of host publication: New Urban Configurations

Publisher: Delft University Press

Editors: Cavallo, R., Komossa, S., Marzot, N., Berghauser Pont, M., Kuijper, J.
ISBN (Print): 978-1-61499-365-0
ISBN (Electronic): 978-1-61499-366-7
DOIs:
10.3233/978-1-61499-365-0-517

Bibliographical note

Contribution: organisation=ark,FACT1=1
Portfolio EDEND: 2015-03-20
Source: researchoutputwizard
Source ID: 1352

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

Systematic Search and Ranking of Physical Contradictions Using Graph Theory Principles: Toward a Systematic Analysis of Design Strategies and their Impacts: TRIZ and Knowledge-Based Innovation in Science and Industry

Abstract This paper presents three interconnected developments made during the course of a recent collective research work, the development of a systematic graph-based search tool for physical contradictions, a ranking approach for defining the order of criticality of the design contradictions and the associated analysis of the different design strategies that can be used to solve those contradictions or to enhance performance indicators. The systematic graph-based search for physical contradictions is using the set of elementary variables necessary to describe the system as basic input. The initial set is extracted based on taxonomy of variables combining classification work from NIST and classification of variables derived from the Bond Graph theory. The contradiction search method is in a second step classifying the set of variables into three categories: the constraint variables imposed to the designers by the context and the environment, the design variables on which the designer as the possibility to act and the performance variables that are used to evaluate the performance of the designed system. In a third step, interactions between variables are searched using two possibilities: a causal ordering algorithm developed during the course of the research or via a collective work of experts. The result of this step is a directed graph starting from the constraints variables and ending with the performance variables. In the fourth step objectives have to be assigned to the performance variables (minimal value, maximal value or target value). Those objectives are propagated back into the graph by analyzing the impact of the variables interacting with the performance variables. A physical contradiction is detected each time it is discovered that a design variable is associated with two contradictory objectives. Following this approach, a contradiction is represented as a node in the directed graph. It is possible to systematically map the different design strategies that can be used and to rank the possible impact of those design strategies. The article presents a concrete application of the approach on the case study of an air bearing and demonstrates the novelty of the approach to generate new viewpoints and insight in the analysis of the early stages of the development process. The potential impact of such type of design support is potentially very important. A future step will consist of developing a computer aided tool implementing the method.

General information

Publication status: Published
MoE publication type: A1 Journal article-refereed
Organisations: Department of Mechanical Engineering and Industrial Systems, Aalto University, Aalto Univ, Aalto University, Aalto Univ Finland, Dept Engr Design & Prod, Sch Engr
Contributors: Coatanéa, E., Rynnänen, L., Calonius, O., Mokammel, F., Riitahuhta, A.
Number of pages: 18
Pages: 1165-1182
Publication date: 2015
Peer-reviewed: Yes

Publication information

Journal: Procedia Engineering
Volume: 131
ISSN (Print): 1877-7058
Ratings:
Scopus rating (2015): CiteScore 0.9 SJR 0.239 SNIP 0.566
Original language: English
Keywords: graph theory, TRIZ, physical contradiction, innovative principles, air bearing
DOIs:
10.1016/j.proeng.2015.12.441

Bibliographical note

EXT="Coatanéa, Eric"
EXT="Riitahuhta, Asko"
Source: RIS
Source ID: urn:4AB62BAC3A0A0D77B9BD9FDFF1D977D4
Research output: Contribution to journal > Article > Scientific > peer-review

Systematic Literature Review on Enterprise Architecture in the Public Sector

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Department of Information Management and Logistics, Research group: Novi

Contributors: Dang, D., Pekkola, S.

Publication date: 2015

Host publication information

Title of host publication: The 38th Information Systems Research Conference in Scandinavia (IRIS38)

Editors: Öörni, A., Iivari, N., Kuutti, K., Oinas-Kukkonen, H., Rajanen, M.

ISBN (Electronic): 978-952-62-0917-3

URLs:

<http://iris2015.org/proceedings/>

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Systematic literature review on customer emotions in social media

Customers are human beings who express their emotions openly on social media platforms. There is a wealth of social media data that companies can make use of to improve their business decision making and tailor their marketing strategies. In order to benefit from this, organizations need to apply computational methods, which can save time and effort rather than applying traditional consumer research approaches, such as surveys or interviews. The purpose of this study is to investigate existing computational studies on detecting consumer emotions from social media data. We conducted a systematic literature review on articles published in ScienceDirect, IEEE Explore, ACM Digital Library, and Emerald Insight from the period 2009-2017. The aim was to discover how social media data was extracted, how large datasets were used in detecting emotions, the type of computational methods used, and the accuracy of the results obtained from the existing studies. Most of the studies were focused on sentiment analysis and different machine learning algorithms. The computational methods were applied in business decision making and marketing functions. Practical scenarios included emotion detection in customer reviews and sentiment analysis of retail brands. Based on these studies, we have uncovered situations where the results of the analysis are either sufficiently accurate or supportive for decision making. We provide recommendations for organizations and managers on developing their resources to make use of different computational methods for emotion and sentiment detection. Finally, we present the limitations of these methods and provide recommendations for aligning future research studies toward big social data analytics on customer emotions.

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Industrial and Information Management, Research group: Business Ecosystems, Networks and Innovations , Tampere University of Technology, University of Örebro Business School, University of Jyväskylä

Contributors: Madhala, P., Jussila, J., Aramo-Immonen, H., Suominen, A.

Number of pages: 10

Publication date: 21 Jun 2018

Host publication information

Title of host publication: ECSM - Proceedings of the 5th European Conference on Social Media

Place of publication: Limerick, Ireland

Editors: Cunnane, V., Corcoran, N.

ISBN (Print): 978-1-911218-83-8

ISBN (Electronic): 978-1-911218-84-5

Keywords: social media, big data, emotions, consumer behaviour, sentiment analysis

Electronic versions:

ECSM_2018_Paper_Final_Revised

URLs:

<http://urn.fi/URN:NBN:fi:jyu-201807053476>

<http://urn.fi/URN:NBN:fi:tty-201901091039>

Bibliographical note

INT=tjt,"Madhala, Prashanth"

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Systematic approach to secure automation – coordinated voltage control use-case

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Department of Automation Science and Engineering, Research area: Information Systems in Automation, Research area: Dynamic Systems, Department of Electrical Engineering, Research area: Power engineering

Contributors: Salmenperä, M., Seppälä, J., Koivisto, H., Lu, S., Repo, S.

Publication date: 18 Mar 2015

Host publication information

Title of host publication: Proceedings of AutomaatioXXI, The Industrial Revolution of Internet – From Intelligent Devices to Networked Intelligence

Place of publication: Helsinki, Finland

Publisher: Suomen Automaatioseura ry

ISBN (Electronic): 978-952-5183-46-7

Publication series

Name: SAS Julkaisusarja

Publisher: Finnish Society of Automation

Volume: 44

Bibliographical note

ORG=ase,0.8

ORG=dee,0.2

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

Switchable unidirectional second-harmonic emission through GaAs nanoantennas

Switching the scattering direction of high-index dielectric nanoantennas between forward and backward, via Mie resonances in the linear regime, has been widely studied, recently. However, switching the harmonic emission of nanoantennas without applying any physical change to the antennas, such as geometry, or environment, is a challenging task that has not been demonstrated yet. Here, we investigate multipolar second-harmonic switch from GaAs nanoantennas. Based on the peculiar nonlinearities of zinc-blende semiconductors, we demonstrate both theoretically and experimentally unidirectional nonlinear emission routing and switching via pump polarization control. Our results offer exciting opportunities for nonlinear nanophotonics technologies, such as nanoscale light routing elements, nonlinear light sources, nonlinear imaging, multifunctional flat optical elements.

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Research group: Nonlinear Optics, Physics, School of Engineering and Information Technology, University of New South Wales (UNSW) Australia, HCI e 486.1, Australian National University, Institute of Applied Physics of the Russian Academy of Sciences

Contributors: Xu, L., Saerens, G., Timofeeva, M., Miroshnichenko, A. E., Camacho-Morales, R., Volkovskaya, I., Smirnova, D. A., Lysevych, M., Huang, L., Cai, M., Karouta, F., Hoe Tan, H., Kauranen, M., Jagadish, C., Grange, R., Neshev, D. N., Rahmani, M.

Publication date: 2019

Host publication information

Title of host publication: AOS Australian Conference on Optical Fibre Technology, ACOFT 2019 and Australian Conference on Optics, Lasers, and Spectroscopy, ACOLS 2019

Publisher: SPIE

Editors: Mitchell, A., Rubinsztein-Dunlop, H.

Article number: 112000J

ISBN (Electronic): 9781510631403

Publication series

Name: Proceedings of SPIE - The International Society for Optical Engineering

Volume: 11200

ISSN (Print): 0277-786X

ISSN (Electronic): 1996-756X

ASJC Scopus subject areas: Electronic, Optical and Magnetic Materials, Condensed Matter Physics, Computer Science Applications, Applied Mathematics, Electrical and Electronic Engineering

Keywords: Dielectric nanoresonators, Mie resonance, Second harmonic generation, Unidirectional emission

DOIs:

10.1117/12.2539887

Bibliographical note

jufoid=71479

Source: Scopus

Source ID: 85079683447

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Suuren lämmöneristämättömän maanvastaisen alapohjan vaikutus rakennuksen energiankulutukseen

General information

Publication status: Published

MoE publication type: B3 Non-refereed article in conference proceedings

Organisations: Civil Engineering, Research group: Building Physics, Tampere University of Technology, Laboratory of Civil Engineering

Contributors: Huttunen, P., Rantala, J., Vinha, J.

Number of pages: 8

Pages: 335-342

Publication date: 24 Oct 2017

Host publication information

Title of host publication: Rakennusfysiikka 2017. Uusimmat tutkimustulokset ja hyvät käytännön ratkaisut : 24-26.10.2017, Tampere

Volume: 1

Place of publication: Tampere

Publisher: Tampereen teknillinen yliopisto, Rakennustekniikka, Rakennusfysiikka

Editors: Vinha, J., Kivioja, H.

ISBN (Print): 978-952-15-4022-6

Publication series

Name: Tampereen teknillinen yliopisto. Rakennustekniikka. Rakennusfysiikka.

Publisher: Tampereen teknillinen yliopisto

URLs:

http://www.tut.fi/cs/groups/public_news/@l102/@web/@p/documents/liit/x229155.pdf

Bibliographical note

INT=rak,"Rantala, Juha"

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific

Suunnittelutyökalu putkiristikoiden mitoitukseen ja optimointiin

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Department of Civil Engineering, Research group: Metal and Light-wight structures, SUBNIC Oy, Ruukki Construction Oy

Contributors: Mela, K., Alinikula, M., Tiainen, T., Heinisuo, M., Sorsa, I.

Number of pages: 6

Pages: 136-141

Publication date: 2015

Host publication information

Title of host publication: Proceedings of the XII Finnish Mechanics Days. Suomen XII Mekaniikkapäivien esitelmät

Publisher: Rakenteiden Mekaniikan Seura ry

ISBN (Print): 978-952-93-5608-9

ISBN (Electronic): 978-952-93-5609-6

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Sustainable Design Studio 2014

The City of Tampere is experiencing a great regeneration boom. Several central areas are under redevelopment. The Hakametsä area is one of them. The ice hockey hall of Hakametsä and the surrounding commercial areas will be redeveloped in the near future. The identity and integrated sustainable urban solutions unifying the entire Hakametsä area is becoming a key issue.

The Sustainable Design Studio 2014 looked at the opportunities related to sustainable redevelopment of the new city district. In particular, the focus was in the intersection of Hervannan valtavyälyä and Sammon valtatie. Currently this intersection divides the area in separate and isolated sections with very scattered street scape and difficult accessibility for light-traffic. The restructuring of the entire city structure could offer several opportunities for more sustainable city district in

connection to the new tram line.

The task for the students had to two parts with different objectives and urban scales. The first part included a group work analysis on the Hakametsä area and designing a new urban strategy for a sustainable city district. The lack of overall scheme for the area motivated the students to look at the intersection area as the point for connecting the four sectors divided by Hervannan valtaväylä and Sammon valtatie.

The second individual part of the assignment consisted of designing additional floors to an existing residential building next to the Hakametsä ice hockey rink. The work aimed at creating appealing typological solutions for attractive in-fill architecture thus increasing the opportunities for densification of the 70s residential areas at large. The starting point for the design was the structural system developed in KORKO research project of the Tampere University of Technology. The research project delivered a concept for a prefabricated steel structure allowing fast and affordable assembly of prefabricated wooden housing modules. The objective of the course was to connect university education and research in a mutually benefiting way that is motivating for the students.

The results of the studio provided a comprehensive overview of different approaches to reshape the urban plan for more sustainable city structure. The need for the new character of Hervannan valtaväylä became evident. Should the road be a main artery focusing on delivering the traffic flows, or, is it part of integrated city structure potentially lowering the speeds of vehicles and calling for improved lighttraffic conditions? The students' works opened up a number of alternative perspectives – including engineering studies on sustainability issues. The Hakametsä area is a great potential for sustainable urban densification within the proximity of the city center, yet with a unique character making it a distinct and identifiable place.

General information

Publication status: Published

MoE publication type: D4 Published development or research report or study

Organisations: Department of Civil Engineering, School of Architecture

Contributors: Edelman, H. (ed.), Härkönen, K. (ed.)

Number of pages: 79

Publication date: 2015

Publication information

Publisher: Tampere University of Technology. School of Architecture

ISBN (Print): 978-952-15-3473-7

ISBN (Electronic): 978-952-15-3474-4

Original language: English

Electronic versions:

sustainable_design_studio_2014

URLs:

<http://URN.fi/URN:ISBN:978-952-15-3474-4>

Bibliographical note

ORG=rak,0.25

ORG=ark,0.75

Research output: Book/Report › Commissioned report › Professional

Sustainable and responsible freight transport through public-private collaboration: Finnish road freight responsibility model

Purpose

In aviation, maritime and rail transport safety management systems are well adapted and they are fixed part of daily practices and the minimum requirements for systems are set in European regulations. However, this does not apply a road freight sector. In 2013, Finnish Transport Safety Agency (Trafi) started to develop a road freight responsibility model, which was intended to enhance safety, quality and environmental management in the Finnish road freight transport sector. The aim of this paper is to introduce the Finnish model and to summarize the main findings from the responsibility model.

Approach

This paper includes data and knowledge from two separate but related projects which studied responsibility and sustainability in the Finnish road freight sector. The paper combines information from several methods, but the main research method was a case study with transport companies. Complementary methods used in this paper are workshop and online survey.

Findings

Transport companies have different practises and attitudes related to the responsible business and the size of the company or the main service sector of the company do not always explain the differences. According to the results, this kind of new voluntary basis approach has a demand in the road freight sector and it will provide help for transport

companies to develop their business.

Value

The paper represents a new approach of the national transport agency to develop the road freight sector. With the responsibility model Trafi aims to promote sustainable and responsible business of all sizes of transport companies with a voluntary basis approach.

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Department of Information Management and Logistics

Contributors: Nykänen, L., Rantala, J., Liimatainen, H.

Number of pages: 15

Pages: 238-252

Publication date: 2015

Host publication information

Title of host publication: NOFOMA 2015 : Post Conference Proceedings, Molde, 3-5 June 2015, Nordic Logistics Research Network

Publisher: Nordic Logistics Research Network Publisher

ISBN (Electronic): 978-82-7962-207-9

ASJC Scopus subject areas: Engineering(all)

Keywords: Heavy road freight, sustainability, transport management, transport agency, Finland, Safety, quality, environment, responsibility

URLs:

<http://brage.bibsys.no/xmlui/bitstream/handle/11250/2359479/1/NOFOMA%202015%20PCP.pdf> (pp. 238-252)

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Sustainability and our professional environment - design validation and collaboration to create relevant architecture

General information

Publication status: Published

MoE publication type: D2 Article in professional manuals or guides or professional information systems or text book material

Organisations: Architecture, University of Sheffield

Contributors: Pelsmakers, S., Hoggard, A.

Number of pages: 2

Publication date: 2019

Host publication information

Title of host publication: in Jones, A., Hyde, R., "Defining Contemporary Professionalism - for architects in practice and education"

Publisher: RIBA Publishing

ISBN (Print): 9781859468470

Research output: Chapter in Book/Report/Conference proceeding › Chapter › Professional

Surrogate modeling for initial rotational stiffness of welded tubular joints

Recently, buildings and structures erected in Russia and abroad have to comply with stringent economic requirements. Buildings should not only be reliable and safe, have a beautiful architectural design, but also meet the criteria of rationality and energy efficiency. In practice, this usually means the need for additional comparative analysis in order to determine the optimal solution to the engineering task. Usually such an analysis is time-consuming and requires huge computational efforts. In this regard, surrogate modeling can be an effective tool for solving such problems. This article provides a brief description of surrogate models and the basic techniques of their construction, describes the construction process of a surrogate model to calculate initial rotational stiffness of welded RHS joints made of high strength steel (HSS).

General information

Publication status: Published

MoE publication type: A1 Journal article-refereed

Organisations: Department of Civil Engineering, Research group: Metal and Light-wight structures, Peter the Great St. Petersburg Polytechnic University, Peter Great St Petersburg Polytech Univ

Contributors: Garifullin, M. R., Barabash, A. V., Naumova, E. A., Zhuvak, O. V., Jokinen, T., Heinisuo, M.

Number of pages: 24

Pages: 53-76

Publication date: 2016

Peer-reviewed: Yes

Publication information

Journal: Magazine of Civil Engineering

Volume: 63

Issue number: 3

ISSN (Print): 2071-4726

Ratings:

Scopus rating (2016): CiteScore 1 SJR 0.236 SNIP 0.772

Original language: English

ASJC Scopus subject areas: Civil and Structural Engineering

Keywords: Finite element analysis, Kriging, Plane bending, Square hollow section, Surrogate modeling

Electronic versions:

Surrogate modeling for initial rotational stiffness of welded tubular joints

DOIs:

10.5862/MCE.63.4

URLs:

<http://urn.fi/URN:NBN:fi:ty-201611284820>

URLs:

<http://www.scopus.com/inward/record.url?scp=84994045052&partnerID=8YFLogxK> (Link to publication in Scopus)

Bibliographical note

EXT="Garifullin, M. R."

Source: Scopus

Source ID: 84994045052

Research output: Contribution to journal > Article > Scientific > peer-review

Surrogate model for rotational stiffness of welded tubular Y-joints

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Department of Civil Engineering, Research group: Metal and Light-wight structures, Poznan University of Technology, Peter Great St Petersburg Polytech Univ

Contributors: Heinisuo, M., Mela, K., Tiainen, T., Jokinen, T., Baczkiewicz, J., Garifullin, M.

Number of pages: 22

Pages: 18-39

Publication date: 2015

Host publication information

Title of host publication: METNET Tenth International Seminar in Budapest 13.-14.10.2015

ISBN (Print): 978-951-784-762-9

ISBN (Electronic): 978-951-784-763-6

Publication series

Name: HAMKin julkaisu

No.: 15

ISSN (Print): 1795-4231

ISSN (Electronic): 1795-424X

URLs:

<http://urn.fi/URN:ISBN:978-951-784-763-6>

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

Suomessa markkinoilla olevien kalsiumsilikaattilevyjen rakennusfysikaaliset materiaaliominaisuudet

General information

Publication status: Published

MoE publication type: D3 Professional conference proceedings

Organisations: Civil Engineering, Research group: Building Physics, Laboratory of Civil Engineering

Contributors: Tuominen, E., Vainio, M., Vinha, J.

Number of pages: 6

Pages: 455-460

Publication date: 24 Oct 2017

Host publication information

Title of host publication: Rakennusfysiikka 2017. Uusimmat tutkimustulokset ja hyvät käytännön ratkaisut : 24.-26.10.2017, Tampere

Volume: 2

Place of publication: Tampere

Publisher: Tampereen teknillinen yliopisto, Rakennustekniikka, Rakennusfysiikka

Editors: Vinha, J., Kivioja, H.

ISBN (Print): 978-952-15-4023-3

Publication series

Name: Tampereen teknillinen yliopisto. Rakennustekniikka. Rakennusfysiikka.

ASJC Scopus subject areas: Engineering(all)

URLs:

http://www.tut.fi/cs/groups/public_news/@l102/@web/@p/documents/liit/x229244.pdf

Bibliographical note

INT=rak,"Vainio, Maarit"

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Professional

Suomen vesihuollon kehitys ja opit kansainvälisessä kontekstissa

General information

Publication status: Published

MoE publication type: A1 Journal article-refereed

Organisations: Civil Engineering

Contributors: Katko, T. S.

Number of pages: 4

Pages: 8-11

Publication date: 2017

Peer-reviewed: Yes

Publication information

Journal: Vesitalous

Volume: 58

Issue number: 1

ISSN (Print): 0505-3838

Original language: Finnish

URLs:

<http://www.vesitalous.fi/vesitalous-lehdet/vesien-historia/>

Research output: Contribution to journal › Article › Scientific › peer-review

Suomen keraaminen seura - Keramiska sällskapet i Finland

An Article about the history and present state of the Finnish ceramic society

General information

Publication status: Published

MoE publication type: D1 Article in a trade journal

Organisations: Department of Materials Science, Research group: Ceramic materials

Contributors: Frankberg, E. J.

Number of pages: 1

Pages: 58-58

Publication date: Oct 2015

Peer-reviewed: Unknown

Publication information

Journal: Materia

Volume: 5

ISSN (Print): 1459-9694

Original language: Finnish

Keywords: Ceramic, society, Finland

URLs:

<http://www.vuorimiesyhdistys.fi/julkaisut/materia>

Research output: Contribution to journal › Article › Professional

Sub-parts-per-trillion sensitivity in trace gas detection by cantilever-enhanced photo-acoustic spectroscopy

We report a simple cantilever-enhanced photoacoustic detector, which reaches exceptionally good sensitivity in trace gas detection of hydrogen fluoride by using a highly stable narrow-linewidth optical parametric oscillator at 2.476 μm .

General information

Publication status: Published
MoE publication type: A4 Article in a conference publication
Organisations: Photonics, University of Helsinki, Gasera Ltd.
Contributors: Tomberg, T., Vainio, M., Hieta, T., Halonen, L.
Publication date: 2018

Host publication information

Title of host publication: CLEO : Applications and Technology, CLEO_AT 2018
Publisher: OSA - The Optical Society
ISBN (Electronic): 9781557528209
ASJC Scopus subject areas: Electronic, Optical and Magnetic Materials, Mechanics of Materials
DOIs:
10.1364/CLEO_AT.2018.ATh1O.8
Source: Scopus
Source ID: 85049146097
Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

Sub-100 fs pulse generation from a Tm,Ho: CALYO laser mode-locked by a GaSb-based SESAM at ~2043 nm

We report on the first sub-100-fs mode-locked Ho^{3+} -laser in the 2- μm spectral range. The disordered co-doped Tm,Ho:CaYAlO₄ (Tm,Ho:CALYO) crystal produced pulses as short as 87 fs with 27-mW average output power at 80.45-MHz repetition rate.

General information

Publication status: Published
MoE publication type: A4 Article in a conference publication
Organisations: Photonics, Max Born Institute, Jiangsu Normal University, Universitat Rovira i Virgili, China Academy of Engineering Physics, ITMO University, Tongji University
Contributors: Zhao, Y., Wang, Y., Zhang, X., Mateos, X., Pan, Z., Loiko, P., Zhou, W., Xu, X., Xu, J., Shen, D., Suomalainen, S., Härkönen, A., Guina, M., Griebner, U., Petrov, V.
Publication date: 1 Jan 2018

Host publication information

Title of host publication: CLEO : Science and Innovations, CLEO_SI 2018
Publisher: OSA - The Optical Society
ISBN (Electronic): 9781557528209
ASJC Scopus subject areas: Electronic, Optical and Magnetic Materials, Mechanics of Materials
DOIs:
10.1364/CLEO_SI.2018.SF2N.1
Source: Scopus
Source ID: 85048984709
Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

Study on the capability to measure stakeholders' brand experiences with a consumer-centric measurement framework

The target of this paper is to introduce a general brand experience measurement scale that can be used to measure brand experiences of the stakeholders of a company. It is proposed that also stakeholders' brand experiences can be measured with a measurement scale developed for consumer marketing research.

In literature, there are various different kinds of individual brand constructs and measurement frameworks that have been developed for tracking consumers' brand perceptions; however, these models have not been frequently used to measure brand-related aspects outside consumer-centric situations. The tracking of stakeholders' brand experiences can help companies to position their brands better in the tightening global competition where also stakeholders have a critical role and can influence the performance of the company (Hult, Mena, Ferrell, & Ferrell, 2011).

Brands are experienced via stimuli that can be either controlled by the company, including, for example, advertisements, logos, sales environments, sales packages, and services, or then they are out of their control, for example, brand related information can spread freely on the social media or by word-of-mouth (Brakus, Schmitt, & Zarantonello, 2009; Keller, 2013). Thus, it can be said that the measurement of brand experiences can give valuable information to the company on what is the status and reputation of the brand. However, it is not only the customers or consumers that have brand experiences, also stakeholders encounter brands and the way they experience them on the personal level can have a major impact on how they interact and promote the brand in other contexts. Some B2B marketing theories have brought up the importance of understanding long-term relationships between buyers and sellers, including experiences associated

with the relationship (Hadjikhani & LaPlaca, 2013) as well as purchase risks (Brown, Zablah, Bellenger, & Johnston, 2011).

Brand experiences can be measured, for example, with a measurement scale (Brakus et al., 2009) that has been extended with an eco-friendliness dimension (Saari, 2016). This model has been tested with consumers, and this paper argues that the same scale can be useful for monitoring the brand experiences of other stakeholders as well. The extended brand experience scale can be used to monitor whether consumers and stakeholders experience a certain brand to be ecofriendly, and how positively or negatively they are inclined towards the eco-friendliness of the brand experiences.

With the raising focus on stakeholders' important role in solving environmental problems, the role of stakeholder marketing becomes more critical for a company (Homburg, Stierl, & Bornemann, 2013). And in this situation it becomes also more crucial to follow up what are the brand experiences of stakeholders. The stakeholders' brand experiences can give a strong indication is the company implementing its strategy correctly and are all the essential elements transparently and authentically communicated to the stakeholders, especially with regard to the environmental development activities that are reflected in the eco-friendliness dimension of brand experiences. Keywords: brand experience; brand measurement scales; stakeholders' brand experiences; stakeholder marketing

References:

- Brakus, J. J., Schmitt, B. H., & Zarantonello, L. (2009). Brand Experience: What Is It? How Is It Measured? Does It Affect Loyalty? *Journal of Marketing*, 73(3), 52-68.
- Brown, B., Zablah, A., Bellenger, D., & Johnston, W. (2011). When do B2B brands influence the decision making of organizational buyers? An examination of the relationship between purchase risk and brand sensitivity. *International Journal of Research in Marketing*, 28 (3), 194-204.
- Hadjikhani, A., & LaPlaca, P. (2013). Development of B2B marketing theory. *Industrial Marketing Management*, 42(3), 294-305.
- Homburg, C., Stierl, M., & Bornemann, T. (2013). Corporate Social Responsibility in Business-to-Business Markets: How Organizational Customers Account for Supplier Corporate Social Responsibility Engagement. *Journal of Marketing*, 77(6), 54-72.
- Hult, G. T. M., Mena, J. A., Ferrell, O. C., & Ferrell, L. (2011). Stakeholder marketing: a definition and conceptual framework. *AMS Rev*, 1, 44-65.
- Keller, K. L. (2013). *Strategic Brand Management. Building, Measuring, and Managing Brand Equity*. (4 ed.). Essex, England: Pearson Education Limited.
- Saari, U. (2016). *Eco-Friendliness in the Brand Experience of High-Tech Products*. Tampere University of Technology, Tampere, Finland.

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Department of Industrial Management, Research group: Center for Innovation and Technology Research

Contributors: Saari, U., Mäkinen, S.

Number of pages: 2

Pages: 1034-1035

Publication date: 20 Jul 2016

Host publication information

Title of host publication: Global Marketing Conference Proceedings 2016 Hong Kong, July 21 - 24 : Track: Stakeholders-brand Relationships

Publication series

Name: Proceedings of the Global Marketing Conference

ISSN (Print): 1976-8699

Keywords: brand experience, brand experience measurement, brand measurement scale, stakeholders' brand experiences, stakeholder marketing

URLs:

<http://gammaconference.org/2016/?ckattempt=1>

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

Studies of Physical Phase State of Aerosol Nanoparticles

Aerosol particles produced in the atmosphere have major effects on the life on Earth: cloud formation starts on seed particles, often formed by photochemical oxidation of biogenic volatile organic compounds; visibility, corrosion, and health problems are caused by anthropogenic hydrocarbon and sulfur emission processed into particles by the atmosphere and the sun.

Naturally occurring secondary organic aerosol (SOA) particles can produce up to a half of the non-refractory mass of aerosol particles of less than micrometer in size. This makes SOA a large contributing factor to the climate system of the Earth. The actual effect that these particles have is, however, not well known, compared to the other effects affecting the climate. The research effort to increase the understanding and reduce the uncertainties around the climate effects of SOA encompasses an interdisciplinary research community.

The recent advance made by the observation of a solid phase of SOA by Virtanen et al. (2010) was the starting point for this thesis. The solid phase of SOA particles means that a long-held assumption of a partition equilibrium between the condensed phase and the gas phase of the semivolatile species may be wrong and produce too low a timescale for the particle chemical reaction rates and uptake coefficients.

This work consists of new developments in the instrumentation of particle properties as well as new observations of laboratory-generated secondary organic aerosol. The method development has two branches, one concentrates on finding more information from the measurement signal of an electrical low pressure impactor (ELPI) used in a somewhat unconventional way, whereas the other consists of a new detection method for particle bounce and response to different humidity and phase hysteresis induced by a carefully controlled humidity history.

The methods and observations made during this work are by no means the final word on the subject, but they are being used and further developed by the scientific community. Study of the particle phase and bounce as well as SOA mechanical properties and kinetics is well underway, and its results will be used to further refine the understanding of both aerosol fundamentals as well as the climate system.

General information

Publication status: Published

MoE publication type: G5 Doctoral dissertation (article)

Organisations: Department of Physics, Research area: Aerosol Physics

Contributors: Saukko, E.

Number of pages: 51

Publication date: 26 Jun 2015

Publication information

Publisher: Tampere University of Technology

ISBN (Print): 978-952-15-3544-4

ISBN (Electronic): 978-952-15-3608-3

Original language: English

Publication series

Name: Tampere University of Technology. Publication

Publisher: Tampere University of Technology

Volume: 1308

ISSN (Print): 1459-2045

Electronic versions:

saukko_1308

URLs:

<http://URN.fi/URN:ISBN:978-952-15-3608-3>

Bibliographical note

Awarding institution: Tampere University of Technology

Versio ok 16.12.2015

Research output: Book/Report › Doctoral thesis › Collection of Articles

Students' Use of Learning Tools and Tool Types: Solving Self-Study Assignments on an Online Platform

Since 2002, a test titled Mathematics Basic Skills Test (BST) has been organized annually at Tampere University of Technology. In order to pass the Basic Skills Test, a student should be able to complete a set amount out of the 16 assignments within 45 minutes (in fall of 2015, the passing limit was 6 for engineering students, 8 for science and mathematics students). Students who failed the test were directed to the Remedial Instruction (RI). The Remedial Instruction is a set of 71 high school mathematics problems designed to brush up the skills of engineering students.

TUT students have, since 2006, been divided into different learner profile groups. This paper is the summary of studies on the behaviour of these different learner profile groups in the Remedial Instruction regarding their use of time and learning tools when solving their assignments.

Different types of learners indicate that their self-study habits on an online platform are very different. Students that are surface oriented in their studies use a lot of different learning tools, but do not produce good examination results. Skillful students seem to do well even without using a lot of tools. Thus, the current way at TUT, where students work on their remedial mathematics problems on their own could be developed further. Some change is needed, and one suggestion is using testing to ensure that the remedial training has had the desired effect.

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Department of Mathematics, Research group: MAT Intelligent Information Systems Laboratory, Research group: MAT Positioning
Contributors: Myllykoski, T., Pohjolainen, S., Ali-Löytty, S.
Publication date: 16 Sep 2016

Host publication information

Title of host publication: SEFI 2016 Annual Conference Proceedings : Engineering Education on Top of the World: Industry University Cooperation

Publisher: European Society for Engineering Education SEFI

ISBN (Electronic): 9782873520144

Keywords: math-bridge, mathematics teaching, e-learning

Electronic versions:

Students' Use of Learning Tools 2016

URLs:

http://sefibenvwh.cluster023.hosting.ovh.net/wp-content/uploads/2017/09/myllykoski-students-use-of-learning-tools-and-tool-types-in-solving-self-study-assignments-93_a.pdf

<http://urn.fi/URN:NBN:fi:tuni-202005225575>

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Students as mystery shoppers: lowering knowledge sharing barriers in higher education

This empirical research paper focuses on discussing potential knowledge sharing barriers volunteering students as mystery shoppers perceived in the context of higher education. More specifically, the focus is on students' ideas on finding solutions to lowering individual knowledge sharing barriers, i.e. improving the quality of their instruction.

Mystery shopping is a method of observing service performance from the user, or customer, perspective and it has been widely used to evaluate the overall service quality within service businesses. Using empirical data from students volunteering as mystery shoppers appears not as a widely used research and development tool.

Moreover, there is little context-specific research on learning and teaching in such a knowledge intensive community like a university from the perspective of knowledge management (KM). KM offers thus a useful approach for analysing learning and teaching, as well as improving the processes of knowledge creation.

A Finnish technical university and its student union organised a mystery shopping project with 45 student participants.

They observed their learning experiences for six weeks in order to complement data from other sources. The students kept a casual theme-based diary on four larger topics: teaching staff and teaching (including pedagogical competence and teaching culture, instruction and guidance, course arrangements), students and the learning culture, student services and learning environment. The initial goal of the project was to add a student voice on the processes of developing learning and teaching in higher education.

The research approach represents qualitative content analysis in which knowledge-sharing barriers were first recognised from the qualitative mystery shopper data. Next those instances where the students offered their solution to lowering that barrier were selected for further analysis. The results identify learner suggestions that may contribute to lowering knowledge sharing barriers. Result also indicate that individual knowledge sharing barriers as described in the literature appear to be valid in a higher education setting.

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Language Centre

Contributors: Tukiainen, M. O.

Publication date: 13 Sep 2016

Host publication information

Title of host publication: 44th Annual Conference Of The European Society For Engineering Education : 12-15 September 2016, Tampere, Finland

Place of publication: Tampere

ISBN (Electronic): 978-2-87352-012-0

ASJC Scopus subject areas: Education

URLs:

<http://www.sefi.be/conference->

[2016/papers/Continuing_Engineering_Education_and_Lifelong_Learning__Engineering_Education_Research/tukiainen-students-as-mystery-shoppers-168_a.pdf](http://www.sefi.be/conference-2016/papers/Continuing_Engineering_Education_and_Lifelong_Learning__Engineering_Education_Research/tukiainen-students-as-mystery-shoppers-168_a.pdf)

URLs:

<http://www.tut.fi/tietoa-yliopistosta/uutiset-ja-tapahtumat/tapahtumat/sefi2016-44th-annual-conference-of-the-european-society-for-engineering-education-x111754>

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Strength increase below an old test embankment in Finland

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Department of Civil Engineering, Research group: Foundation Structures

Contributors: D'Ignazio, M., Lämsivaara, T.

Pages: 357-366

Publication date: May 2016

Host publication information

Title of host publication: The 17th Nordic Geotechnical Meeting : Conference proceedings

Place of publication: Reykjavik

Publisher: Icelandic Geotechnical Society

ISBN (Electronic): 978-9935-24-002-6

URLs:

<http://britishgeotech.org/the-17th-nordic-geotechnical-meeting/>

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Strengthening student engagement by integrating the contents of a flipped course around a well-confined real life theme

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Department of Electronics and Communications Engineering, Research group: RF Integrated Circuits

Contributors: Kangas, J., Lunden, O.

Number of pages: 9

Publication date: Sep 2016

Host publication information

Title of host publication: SEFI 2016 Annual Conference Proceedings : Engineering Education on Top of the World: Industry University Cooperation

ISBN (Print): 9782873520144

URLs:

http://www.sefi.be/conference-2016/papers/University-Business_Cooperation__Curriculum_Development/kangas-strengthening-student-engagement-by-integrating-the-contents-161.pdf

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Strategic planning and epistemology of change: Probing the fitness of urban and planning systems with resilient spatial strategies

The aim of this paper is to question the fitness of our state-of-the-art urban planning and urban systems to adapt to continuous changes and disturbances in operating environment. We argue that in an attempt to help cities adapt to uncertain futures, strategic planning should be better informed by the epistemology of complex adaptive systems and better recognise recursive emergent processes between urban metabolism and morphology.

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: School of Architecture, Research group: EDGE

Contributors: Rantanen, A., Joutsiniemi, A.

Number of pages: 12

Pages: 336-347

Publication date: 2015

Host publication information

Title of host publication: Sustainable Futures in a Changing Climate : Proceedings of the Conference "Sustainable Futures in a Changing Climate", 11–12 June 2014, Helsinki, Finland

Volume: 2/2015

Place of publication: Turku

Publisher: Finland Futures Research Centre, University of Turku

Editors: Hatakka, A., Vehmas, J.

ISBN (Print): 978-952-249-303-3

Publication series

Name: FFRC eBook 2/2015

Publisher: Finland Futures Research Centre, University of Turku

ISSN (Electronic): 1797-1322

Keywords: Strategic planning, Resilience, Complex adaptive system

URLs:

[http://www.researchgate.net/profile/Jari_Kaivo-](http://www.researchgate.net/profile/Jari_Kaivo-oja/publication/280941248_Assessing_Sustainability_of_Economic_Growth_with_Sustainability_Window/links/55cd87ae08aeeaab209b543e.pdf)

[oja/publication/280941248_Assessing_Sustainability_of_Economic_Growth_with_Sustainability_Window/links/55cd87ae08aeeaab209b543e.pdf](http://www.researchgate.net/profile/Jari_Kaivo-oja/publication/280941248_Assessing_Sustainability_of_Economic_Growth_with_Sustainability_Window/links/55cd87ae08aeeaab209b543e.pdf)

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

Stirring the Construction Project Management with Co-creation and Continuous Improvement

Abstract Gathering information that is capable to explain customers' needs is usually seen as a quite straightforward part of the traditional construction process: a customer should be able to tell all relevant needs in the first stage so that a building could be designed and built according to the gained information. But the process is lacking of service abilities if a customer wants to modify the given information due to a change in circumstances, albeit such a change is easily caused due turbulent economic situations and long spans in real-estate development projects. Hence the customer perspective regarding the construction management (CM) process should be accommodated better. In this paper, the case studies of the four premises improvement projects are reported upon, where the CM process was altered to include and apply the concepts of continuous improvement and co-creation. The process documentation covered the impacts of the case project on the usability of the premises, the indoor climate conditions (carbon dioxide and temperature) metering, the time lapse cameras and the on-line user feedback system. The documentation consists of the minutes of the meetings, the financial reporting and the time tables. Both the processes and the results of the projects are analysed. Based on the key findings, some suggestions are put forth upon how to improve the CM process to better serve customer interests and quality improvement in the future.

General information

Publication status: Published

MoE publication type: A1 Journal article-refereed

Organisations: Department of Civil Engineering, Research group: Digitalization in the real estate and construction sector, School of Architecture

Contributors: Savolainen, J., Kähkönen, K., Niemi, O., Poutanen, J., Varis, E.

Number of pages: 8

Pages: 64-71

Publication date: 2015

Peer-reviewed: Yes

Publication information

Journal: Procedia Economics and Finance

Volume: 21

ISSN (Print): 2212-5671

Original language: English

Keywords: Co-creation, construction management, continuous improvement, customer relations management, quality management

DOIs:

10.1016/S2212-5671(15)00151-3

Bibliographical note

ORG=rak,1

ORG=ark,0

Source: RIS

Source ID: urn:76EF98A938A43DE456AFD5111BF4116C

Research output: Contribution to journal > Article > Scientific > peer-review

Standardizing the service delivery system for repetitive industrial services

Manufacturers need to develop efficient service deliveries that can be used for multiple customers with different equipment. The service delivery system can support service repetitiveness through standardization. The objective is to increase understanding on features and requirements of standardization in the service delivery system and identify means for efficient service delivery in triadic settings. The qualitative multiple-case study with three manufacturing firms reveals different relevant factors for standardization for reactive and proactive services and highlights certain practices in triadic customer participation. Equipment and remote technologies both challenge and enable standardization and require new competences.

General information

Publication status: Published

MoE publication type: B3 Non-refereed article in conference proceedings

Organisations: Department of Industrial Management, Research group: Center for Research on Operations Projects and Services, Tampere University of Technology

Contributors: Poikonen, E., Martinsuo, M., Nenonen, S.

Number of pages: 20

Publication date: Sep 2015

Host publication information

Title of host publication: RESER 2015 : 25th Annual RESER Conference

Publisher: RESER European Association for Research on Services

ISBN (Electronic): 978-87-7349-921-4

Keywords: service delivery, industrial services

URLs:

<http://www.reser.net/conference/past-conferences/2015-copenhagen-denmark>

Bibliographical note

AUX=tta,"Poikonen, Elina"

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific

STACK assignments in university mathematics education

Students' learning process can be assisted and diversified with the help of e-learning tools and virtual environments. In Tampere University of Technology, the aim is to utilize software that delivers assignments, checks students' answers and gives feedback to the students, in the mathematics courses. The software that has been used is called STACK, which can be integrated into Moodle. STACK assignments have been created as a part of the STEM education material bank Abacus.

Written feedback can be generated in STACK assignments as necessary. Feedback guides the students to identify their errors and revise them. It can also motivate the students to try again after giving a wrong answer.

This study concerns the use of STACK in TUT mathematics courses. Especially we are interested in

- how do the points gathered and the time of the last submission in STACK exercises correlate with the exam grades?
- when and for how long do the students solve the STACK assignments?
- how does the activity in STACK differ between honours and engineering mathematics students?

In STACK assignments, the students were able to give their answers in Moodle. For each lecture week, they had one week to solve and return the answers. All the student activity related to the STACK assignments was saved in the Moodle logs. Data was analysed with Matlab by the means of educational data mining.

We observed that the activity in STACK was the greatest near the deadline. We also found that, on average, the better the grade, the earlier the students gave their final answers in STACK. Additionally, the honours mathematics students made their submissions earlier: many of them considered STACK exercises as a good way to revise the subjects considered in the lectures, while engineering mathematics students mostly rehearsed with STACK near the deadline.

According to the survey polls, students found the STACK exercises as a nice and efficient way to rehearse and learn mathematics. Especially, the instant feedback was mostly appreciated. However, some of the students felt writing the answers with a computer unappealing, but generally this aspect was not considered a problem.

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Department of Mathematics, Research group: MAT Positioning

Contributors: Mäkelä, A., Ali-Löytty, S., Humaloja, J., Joutsenlahti, J., Kauhanen, J., Kaarakka, T.

Number of pages: 14

Publication date: 2016

Host publication information

Title of host publication: Proceedings of the 44th SEFI Conference, 12 - 15 September 2016, Tampere, Finland

Publisher: European Society for Engineering Education SEFI

ISBN (Print): 9782873520144

ASJC Scopus subject areas: Education

Keywords: STACK, web-assisted learning tools

URLs:

http://www.sefi.be/conference-2016/papers/Mathematics_and_Engineering_Education/makela-stack-assignments-in-university-mathematics-education-73_a.pdf

Spatial borders and affordances of a temporary school building – Enhancing the school engagement and learning experience

General information

Publication status: Published
MoE publication type: A4 Article in a conference publication
Organisations: Department of Civil Engineering
Contributors: Airo, K., Vaara, L., Nenonen, S.
Pages: 715-725
Publication date: 2016

Host publication information

Title of host publication: Proceedings of the CIB World Building Congress 2016: Volume II - Environmental Opportunities and Challenges. Constructing Commitment and Acknowledging Human Experiences
Publisher: Tampere University of Technology. Department of Civil Engineering
ISBN (Electronic): 978-952-15-3742-4
URLs:
<http://urn.fi/URN:ISBN:978-952-15-3742-4>

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Sound Events and Emotions: Investigating the Relation of Rhythmic Characteristics and Arousal

A variety of recent researches in Audio Emotion Recognition (AER) outlines high performance and retrieval accuracy results. However, in most works music is considered as the original sound content that conveys the identified emotions. One of the music characteristics that is found to represent a fundamental means for conveying emotions are the rhythm-related acoustic cues. Although music is an important aspect of everyday life, there are numerous non-linguistic and non-musical sounds surrounding humans, generally defined as sound events (SEs). Despite this enormous impact of SEs to humans, a scarcity of investigations regarding AER from SEs is observed. There are only a few recent investigations concerned with SEs and AER, presenting a semantic connection between the former and the listener's triggered emotion. In this work we analytically investigate the connection of rhythm-related characteristics of a wide range of common SEs with the arousal of the listener using sound events with semantic content. To this aim, several feature evaluation and classification tasks are conducted using different ranking and classification algorithms. High accuracy results are obtained, demonstrating a significant relation of SEs rhythmic characteristics to the elicited arousal.

General information

Publication status: Published
MoE publication type: A4 Article in a conference publication
Organisations: Ionian University, Aristotle University of Thessaloniki
Contributors: Drossos, K., Kotsakis, R., Kalliris, G., Floros, A.
Number of pages: 6
Pages: 1-6
Publication date: Jul 2013

Host publication information

Title of host publication: Information, Intelligence, Systems and Applications (IISA), 2013 Fourth International Conference on
Publisher: IEEE
ISBN (Electronic): 978-1-4799-0771-7
Keywords: audio emotion recognition, Sound events, arousal, rhythm related features, audio emotion classification
DOIs:
10.1109/IISA.2013.6623709

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Sound Event Detection in Multichannel Audio Using Spatial and Harmonic Features

In this paper, we propose the use of spatial and harmonic features in combination with long short term memory (LSTM) recurrent neural network (RNN) for automatic sound event detection (SED) task. Real life sound recordings typically have many overlapping sound events, making it hard to recognize with just mono channel audio. Human listeners have been successfully recognizing the mixture of overlapping sound events using pitch cues and exploiting the stereo (multichannel) audio signal available at their ears to spatially localize these events. Traditionally SED systems have only been using mono channel audio, motivated by the human listener we propose to extend them to use multichannel audio. The proposed SED system is compared against the state of the art mono channel method on the development subset of TUT sound events detection 2016 database. The proposed method improves the F-score by 3.75% while reducing the error rate by 6%.

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Department of Signal Processing, Research group: Audio research group - ARG, Research group: Audio research group

Contributors: Adavanne, S., Parascandolo, G., Pertilä, P., Heittola, T., Virtanen, T.

Pages: 6-10

Publication date: 2016

Host publication information

Title of host publication: Proceedings of the Detection and Classification of Acoustic Scenes and Events 2016 Workshop (DCASE2016)

Publisher: Tampere University of Technology. Department of Signal Processing

ISBN (Electronic): 978-952-15-3807-0

URLs:

<http://urn.fi/URN:ISBN:978-952-15-3807-0>

Additional files:

Adavanne_DCASE2016

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

Sosiaalinen media brändi- ja asiakastiedon lähteenä

General information

Publication status: Published

MoE publication type: Not Eligible

Organisations: Department of Information Management and Logistics, Research group: Novi, Managing digital industrial transformation (mDIT), University of Vaasa (UVA), University of Tampere

Contributors: Jussila, J., Helander, N., Vuori, V., Okkonen, J.

Number of pages: 2

Pages: 55-56

Publication date: 23 Sep 2016

Host publication information

Title of host publication: TiedeAreena 2016

Volume: 11

Place of publication: Pori

Publisher: Tampereen teknillinen yliopisto, Porin laitos

Editor: Tuomi, P.

ISBN (Print): 978-952-15-3802-5

ISBN (Electronic): 978-952-15-3803-2

Keywords: sosiaalinen media, brändi, asiakastieto

URLs:

https://tutcris.tut.fi/portal/files/8228327/TiedeAreena_2016.pdf

URLs:

<http://www.ucpori.fi/tiedeareena-ohjelma>

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific

Some aspects of molecular physics in measuring tissue samples using enose for disease diagnostics

eNose technologies can be used for disease diagnostics. One technology is based on ionized molecules and their drifting speed in an electric field. Ionized molecules can be measured with ion mobility spectrometry and with electrical mobility measurements. Depending on the size scale of these molecules, different physical effects are relevant. We studied the relevance of size scale dependent physics for disease diagnostics.

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Department of Automation Science and Engineering, Integrated Technologies for Tissue Engineering Research (ITTE), University of Tampere, Medical School, Tampere University Hospital

Contributors: Karjalainen, M., Roine, A., Oksala, N., Leikkala, J.

Publication date: 2015

Host publication information

Title of host publication: XXI IMEKO World Congress "Measurement in Research and Industry"

Publisher: IMEKO-International Measurement Federation Secretariat

ISBN (Electronic): 978-80-01-05793-3

ASJC Scopus subject areas: Electrical and Electronic Engineering

Keywords: Aerosol physics, Disease diagnostics, Ion mobility spectrometry

URLs:

<http://www.scopus.com/inward/record.url?scp=84951173545&partnerID=8YFLogxK> (Link to publication in Scopus)

Source: Scopus

Source ID: 84951173545

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Social Media in Business-to-Business Companies' Innovation

Regarding the increasingly important paradigm of open innovation, it is recognized that valuable innovation-related knowledge is distributed ever more widely to various actors outside the company borders, such as users, customers, and communities. Various types of novel collaborative web tools and approaches, such as social media, can enable and significantly increase the use of distributed knowledge both within and outside company borders.

It is a common assumption that it is much more difficult to utilize social media in business-to-business (B2B) innovation and the customer interface because of the significant differences in B2B markets, B2B products, and product development, for example. Despite the growing number of company experiments and academic studies, social media are still new to many businesses. The opportunities and benefits of social media are not well understood in business, especially in B2B context. Despite the recent increasing interest in the use of social media in B2B marketing, it has received little attention from the innovation perspective.

The general purpose of this thesis is to study and help to understand the use of social media in B2B companies' innovation. The thesis focuses on the innovation process, customer interface and the related perspective of the creation and sharing of customer knowledge. The main objectives of the dissertation are to understand the challenges, new opportunities, use and benefits, as well as, functions and roles of social media in B2B innovation. The choice of carrying out the dissertation as an article thesis has offered the researcher the opportunity to study from multiple perspectives a phenomenon that has been little researched or understood. The thesis combines quantitative and qualitative research. Quantitative research approach was used to determine the current use and perceived potential of social media tools in innovation, as well as to identify challenges of social media use in B2B company innovation. Qualitative research was used to gain a deep understanding of the challenges and benefits, and roles and functions of social media in B2B innovation.

The thesis contributes to the increasing understanding on the rather little understood topic of social media and its potential in B2B companies' innovation. Based on the research, new understanding was gained on the challenges that B2B companies face in using social media in innovation, on the new possibilities and benefits that social media provide for innovation, as well as on the applications and the roles of social media in B2B innovation.

In addition, models and theories were developed for enhancing social media use: based on the qualitative research, for example, a Social Customer Learning model was built, which aims to help researchers and managers to identify and evaluate different social media approaches in business-to-business customer interface and innovation; modifications and improvements were proposed for media richness theory and channel expansion theory for the better consideration of the social media and the innovation contexts.

General information

Publication status: Published

MoE publication type: G5 Doctoral dissertation (article)

Organisations: Department of Information Management and Logistics, Research group: Novi, Managing digital industrial transformation (mDIT)

Contributors: Jussila, J.

Number of pages: 70

Publication date: 6 Nov 2015

Publication information

Publisher: Tampere University of Technology

ISBN (Print): 978-952-15-3599-4

ISBN (Electronic): 978-952-15-3621-2

Original language: English

Publication series

Name: Tampere University of Technology. Publication

Publisher: Tampere University of Technology

Volume: 1333

ISSN (Print): 1459-2045

Electronic versions:

jussila_1333

URLs:

<http://URN.fi/URN:ISBN:978-952-15-3621-2>

Bibliographical note

Awarding institution: Tampere University of Technology

Versio ok 14.12.2015

Research output: Book/Report › Doctoral thesis › Collection of Articles

Social media applications in external B2B transactions: An empirical analysis of the Finnish technology industry

Despite the popularity of the topic, social media research is still limited and focuses largely on the role of consumer-to-consumer (C2C) and business-to-consumer (B2C) domains (Volpentesta and Felicetti, 2012; Michaelidou et al., 2011). In many aspects, B2C social media practices are not directly useful for inter-organizational and business-to-business (B2B) purposes. The main aim of this paper is to increase the understanding of the current applications of social media in external B2B transactions. This is carried out through an extensive survey of companies in the technology industry which are operating purely in B2B markets, having only other companies as customers.

We wanted to understand how industrial B2B companies currently apply social media in their own inter-organizational applications, what potential they see for social media in this context, and what kind of support they need to better adopt social media together with

[their customers and partners](#).

A population of 2488 Finnish decision makers from the Federation of Finnish Technology Industries were observed. Based on the answers of 143 different companies, 125 companies were found to wholly (100%) represent B2B markets, and these were chosen as the sample of this particular study.

Studies on social media, especially survey-based studies, have not focused solely on B2B companies, particularly on the inter-organizational applications of social media in B2Bs, except for the B2B-marketing oriented study of Michaelidou et al. (2011) and the study of social media utilization in B2B relationships by Pettersson et al. (2014). This study extends these previous studies by creating new understanding of the maturity of social media integration in businesses, organizational business problems that companies perceive can be solved with social media, and approaches that can support social media adoption in B2B companies.

Managerially, the results can be used, for instance, to better understand the various possibilities of applying social media for inter-organizational use in B2Bs, which are currently only superficially understood by a significant portion of managers. This can help support and facilitate external social media use in B2Bs.

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Department of Information Management and Logistics, Research group: Novi, Pori Department, Research group: Business Ecosystems, Networks and Innovations, Managing digital industrial transformation (mDIT), University of Calabria

Contributors: Jussila, J. J., Kärkkäinen, H., Aramo-Immonen, H., Ammirato, S., Michele Felicetti, A., Della Gala, M.

Number of pages: 11

Pages: 1930-1940

Publication date: 2015

Host publication information

Title of host publication: 10th International Forum on Knowledge Asset Dynamics : Culture, Innovation and Entrepreneurship: connecting the knowledge dots

Volume: 10

Place of publication: Bari

ISBN (Electronic): 978-88-96687-07-9

Keywords: social media, business-to-business, enterprise social, survey, inter-organizational

URLs:

<http://www.knowledgeasset.org/>

Bibliographical note

ORG=tlo,0.5

ORG=pla,0.5

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Social media analytics empowering marketing insight- A framework for analyzing affective experiences from social media content

General information

Publication status: Published

Organisations: Department of Information Management and Logistics, Research group: Novi, Managing digital industrial transformation (mDIT), Tampere University of Applied Science, Turku University of Applied Science
Contributors: Jussila, J., Boedeker, M., Jalonen, H., Helander, N.
Publication date: 27 May 2016
Peer-reviewed: Unknown
Event: Paper presented at EMAC 2016, Oslo, Norway.
URLs:
<http://www.emac2016.org/>
Research output: Other conference contribution › Paper, poster or abstract › Scientific

Social Media Analytics Empowering Customer Experience Insight

General information

Publication status: Published
MoE publication type: A4 Article in a conference publication
Organisations: Managing digital industrial transformation (mDIT), Industrial and Information Management, Research group: Business Data Research Group, Research group: Knowledge and Learning Research Center, Tampere University of Applied Science, Turku University of Applied Science
Contributors: Jussila, J., Boedeker, M., Jalonen, H., Helander, N.
Pages: 25-30
Publication date: 3 Jun 2017

Host publication information

Title of host publication: 5th International Conference on Strategic Innovative Marketing, Volume: 5 : September 23-26, 2016 At Athens, Greece
Publisher: Springer
Editors: Kavoura, A., Sakas, D., Tomaras, P.
ISBN (Electronic): 978-3-319-56288-9

Publication series

Name: Springer Proceedings in Business and Economics
ISSN (Print): 2198-7246
URLs:
<http://www.icsim.net/>

Bibliographical note

jufoid=84314
Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Social capital in hybrid governance - Case study in a global subcontracting process

General information

Publication status: Published
MoE publication type: A4 Article in a conference publication
Organisations: Pori Department, Research group: Business Ecosystems, Networks and Innovations
Contributors: Mäenpää, S., Breite, R.
Publication date: 2015

Host publication information

Title of host publication: Proceedings of the 24th Annual IPSERA Conference Preparing for new competitive challenges, March 29-April 1, Amsterdam, the Netherlands
Publisher: IPSERA
ISBN (Print): 978-90-823707-0-6
Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Social capital characteristics in RD project networks

Network research has multiple approaches that offer knowledge related to multiple network types. This article identifies and discusses social capital characteristics in the context of government-funded RD project networks. Previous literature on this context has typically focused on collaboration between universities and firms while our interest is solely on interfirm relationships. Secondly, the previous literature on interfirm collaboration concerns typically other types of networks such as strategic alliances. We argue, that to understand the dynamics of inter firm collaboration in RD project networks, the research needs to be conducted in coherent environment. Data for this qualitative research was collected by interviewing 18 firm representatives who had experience on participating government-funded RD projects. We recognized social capital characteristics in RD projects and organized these findings under structural, cognitive and relational dimensions of social capital. Results indicate that project networks' social capital characteristics differ in many parts from strategic alliances and

thus support our argument. The results can be exploited by project coordinators, innovation officers and project network members to facilitate the interfirm collaboration in RD project networks.

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Mechanical Engineering and Industrial Systems, Research area: Manufacturing and Automation

Contributors: Majuri, M., Lanz, M.

Publication date: 4 Oct 2018

Host publication information

Title of host publication: 2018 Portland International Conference on Management of Engineering and Technology (PICMET)

Publisher: IEEE

Article number: 8481775

ISBN (Electronic): 9781890843373

ASJC Scopus subject areas: Strategy and Management, Communication, Engineering (miscellaneous), Management of Technology and Innovation, Organizational Behavior and Human Resource Management, Computer Networks and Communications, Decision Sciences (miscellaneous)

DOIs:

10.23919/PICMET.2018.8481775

Bibliographical note

jufoid=9093

Source: Scopus

Source ID: 85056486979

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

Social and Economic Importance of Water Services in the Built Environment: Need for More Structured Thinking

Abstract Community water supply takes priority over other water use purposes worldwide. Investment in water and sanitation systems in developing economies brings a multitude of economic and social benefits. Water infrastructure systems across the world will deteriorate unless substantially more rehabilitation is done. This paper presents a structured and hierarchical framework for sustained water services development consisting of institutions, provision, water infrastructure and production of services that hopefully create better understanding of how to develop our systems and services as part of the built environment for more sustained futures.

General information

Publication status: Published

MoE publication type: A1 Journal article-refereed

Organisations: Department of Civil Engineering

Contributors: Katko, T. S., Hukka, J. J.

Number of pages: 7

Pages: 217-223

Publication date: 2015

Peer-reviewed: Yes

Publication information

Journal: Procedia Economics and Finance

Volume: 21

ISSN (Print): 2212-5671

Original language: English

Keywords: ageing water infrastructure, institutional development, priorities, production, provision, special features.

DOIs:

10.1016/S2212-5671(15)00170-7

Source: RIS

Source ID: urn:E2D918716A9EA0A2093B36459CF62676

Research output: Contribution to journal > Article > Scientific > peer-review

Smartphone teleoperation for self-balancing telepresence robots

Self-balancing mobile platforms have recently been adopted in many applications thanks to their light-weight and slim build. However, inherent instability in their behaviour makes both manual and autonomous operation more challenging as compared to traditional self-standing platforms. In this work, we experimentally evaluate three teleoperation user interface approaches to remotely control a self-balancing telepresence platform: 1) touchscreen button user interface, 2) tilt user interface and 3) hybrid touchscreen-tilt user interface. We provide evaluation in quantitative terms based on user trajectories and recorded control data, and qualitative findings from user surveys. Both quantitative and qualitative results support our finding that the hybrid user interface (a speed slider with tilt turn) is a suitable approach for smartphone-based

teleoperation of self-balancing telepresence robots. We also introduce a client-server based multi-user telepresence architecture using open source tools.

General information

Publication status: Published
MoE publication type: A4 Article in a conference publication
Organisations: Computing Sciences
Contributors: Ainasoja, A. E., Pertuz, S., Kämäräinen, J.
Number of pages: 8
Pages: 561-568
Publication date: 2019

Host publication information

Title of host publication: VISIGRAPP 2019 - Proceedings of the 14th International Joint Conference on Computer Vision, Imaging and Computer Graphics Theory and Applications
Publisher: SCITEPRESS
Editors: Kerren, A., Hurter, C., Braz, J.
ISBN (Electronic): 9789897583544
ASJC Scopus subject areas: Computer Science Applications, Computer Vision and Pattern Recognition, Computer Graphics and Computer-Aided Design
Keywords: Teleoperation, Telepresence, User Interface
Electronic versions:
VISAPP_2019_199
DOIs:
10.5220/0007406405610568
URLs:
<http://urn.fi/URN:NBN:fi:tty-201908282038>
Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Smart microphone sensor system platform

A platform for a flexible, smart microphone system using available hardware components is presented. Three subsystems are employed, specifically: (a) a set of digital MEMs microphones, with a one-bit serial output; (b) a preprocessing/digital-to-digital converter; and (c) a CPU/DSP-based embedded system with I2S connectivity. Basic preprocessing functions, such as noise gating and filtering can be performed in the preprocessing stage, while application-specific algorithms such as word spotting, beam-forming, and reverberation suppression can be handled by the embedded system. Widely used high-level operating systems are supported including drivers for a number of peripheral devices. Finally, an employment scenario for a wireless home automation speech activated front-end sensor system using the platform is analyzed.

General information

Publication status: Published
MoE publication type: B3 Non-refereed article in conference proceedings
Organisations: University of Patras, BLUE dev Ltd., Former organisation of the author, Ionian University
Contributors: Kokkinis, E., Drossos, K., Tatlas, N., Floros, A., Tsilfidis, A., Agavanakis, K.
Number of pages: 4
Publication date: Apr 2012

Host publication information

Title of host publication: Audio Engineering Society Convention 132
Publisher: AES Audio Engineering Society
URLs:
<http://www.aes.org/e-lib/browse.cfm?elib=16604>
Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific

Site-controlled InAs Quantum Dots for Plasmonics

We present site-controlled epitaxy of InAs quantum dots (QD) for plasmonics and report QD-plasmon coupling in a hybrid structure consisting of site-controlled InAs/GaAs QD chains in the proximity of an Ag film.

General information

Publication status: Published
MoE publication type: A4 Article in a conference publication
Organisations: Optoelectronics Research Centre, Research group: Semiconductor Technology and Applications, Research group: Laboratory for Future Electronics, Department of Physics, Research group: Nanophotonics
Contributors: Hakkarainen, T., Tommila, J., Schramm, A., Simonen, J., Niemi, T., Strelow, C., Kipp, T., Kontio, J., Guina, M.

Publication date: 2016

Host publication information

Title of host publication: Conference on Lasers and Electro-Optics 2016 : QELS_Fundamental Science

Publisher: OSA - The Optical Society

Article number: FM1B.3

ISBN (Electronic): 978-1-943580-11-8

ASJC Scopus subject areas: Condensed Matter Physics, Electronic, Optical and Magnetic Materials

Keywords: (250.5403) Plasmonics, (160.4236) Nanomaterials, (160.6000) Semiconductor materials

DOIs:

10.1364/CLEO_QELS.2016.FM1B.3

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Sisäympäristön laadun ja terveellisyden arviointi energiaparannuskohteissa

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Research group: Concrete and Bridge Structures, Research area: Structural Engineering, Department of Civil Engineering, Research group: Building Physics, Natl Inst Hlth & Welf, Finland National Institute for Health & Welfare, Dept Environm Hlth

Contributors: Mari, T., Leivo, V., Pekkonen, M., Aaltonen, A., Kiviste, M., Haverinen-Shaughnessy, U.

Number of pages: 6

Pages: 13-18

Publication date: 16 Mar 2016

Host publication information

Title of host publication: Sisäilmastoseminaari 2016, Sisäilmayhdistys raportti 34

Publisher: SIY SISÄILMATIETO OY

ISBN (Print): 978-952-5236-44-6

URLs:

http://sisailmayhdistys.omaverkkokauppa.fi/epages/sisailmayhdistys.sf/fi_FI/?ObjectPath=/Shops/2015081803/Products/SE16

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Single Shot Time Domain Ghost Imaging using Wavelength Multiplexing

We report on the first demonstration of computational ghost imaging in the time domain using wavelength multiplexing.

The wavelength-multiplexed Hadamard patterns used to probe a time-varying waveform enables image reconstruction in real time.

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Department of Physics, Research area: Optics, Research group: Nonlinear Fiber Optics, Ita-Suomen yliopisto, Institut FEMTO-ST, UMR 6174 CNRS-Université de Franche-Comté

Contributors: Ryczkowski, P., Barbier, M., Friberg, A. T., Dudley, J. M., Genty, G.

Publication date: 2016

Host publication information

Title of host publication: Frontiers in Optics 2016

Publisher: Optical Society of America (OSA)

Article number: FTh5C.6

ISBN (Electronic): 978-1-943580-19-4

DOIs:

10.1364/FIO.2016.FTh5C.6

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Single-mode 1180 nm GaInNAs/GaAs DBR laser diode for frequency doubling to 590 nm: paper CB_11_4

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Optoelectronics Research Centre, Research group: Nanophotonics, Research group: Semiconductor Technology and Applications

Contributors: Korpijärvi, V., Viheriälä, J., Aho, A., Guina, M.
Publication date: 24 Jun 2015

Host publication information

Title of host publication: 2015 European Conference on Lasers and Electro-Optics - European Quantum Electronics Conference

Publisher: OSA

ISBN (Print): 978-1-4673-7475-0

Keywords: DBR laser, GaInNAs

URLs:

https://www.osapublishing.org/abstract.cfm?uri=cleo_europe-2015-CB_11_4

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Single micro-particle scattering detection based on Edge Filter Enhanced Self-Mixing Interferometry

General information

Publication status: Published

MoE publication type: B3 Non-refereed article in conference proceedings

Organisations: Research area: Optics, Department of Physics, Research group: Applied Optics

Contributors: Contreras, V., Lonnqvist, J., Toivonen, J.

Pages: CH_P_11

Publication date: 2015

Host publication information

Title of host publication: 2015 European Conference on Lasers and Electro-Optics - European Quantum Electronics Conference

Publisher: Optical Society of America

ISBN (Electronic): 978-1-4673-7475-0

URLs:

http://www.osapublishing.org/abstract.cfm?URI=CLEO_Europe-2015-CH_P_11

Source: Bibtex

Source ID: urn:fc7373a93e31bcda04a5098b47eed6aa

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific

Single-frequency 571nm VECSEL for photo-ionization of magnesium

We report the development of an intracavity-frequency-doubled vertical external-cavity surface-emitting laser (VECSEL) emitting at 571 nm for photoionization of magnesium. The laser employs a V-cavity geometry with a gain chip at the end of one cavity arm and a lithium triborate (LBO) crystal for second harmonic generation. The gain chip has a bottom-emitting design with ten GaInAs quantum wells of 7 nm thickness, which are strain compensated by GaAsP. The system is capable of producing up to 2.4 ± 0.1 W (total power in two separate output beams) in the visible. The free-running relative intensity noise was measured to be below -55 dBc/Hz over all frequencies from 1 Hz to 1 MHz. With acoustic isolation and temperature regulation of the laser breadboard, the mode-hop free operation time is typically over 5 hrs. To improve the long-term frequency stability, the laser can be locked to a Doppler-free transition of molecular iodine. To estimate the short-term linewidth, the laser was tuned to the resonance of a reference cavity. From analysis of the on-resonance Hänsch-Couillaud error signal we infer a linewidth of 50 ± 10 kHz. Light at 285 nm is generated with an external build-up cavity containing a β -barium borate (BBO) crystal. The UV light is used for loading 25Mg^+ ions in a surface-electrode RF Paul trap. These results demonstrate the applicability and versatility of high-power, single-frequency VECSELs with intracavity harmonic generation for applications in atomic and molecular physics.

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Optoelectronics Research Centre, Research group: Semiconductor Technology and Applications, National Institute of Standards and Technology, Time and Frequency Division, Boulder, Colorado

Contributors: Burd, S., Leinonen, T., Penttinen, J., Allcock, D., Slichter, D., Srinivas, R., Wilson, A., Guina, M., Leibfried, D., Wineland, D.

Number of pages: 8

Publication date: 2 Jun 2016

Host publication information

Title of host publication: Proceedings of SPIE : Vertical External Cavity Surface Emitting Lasers (VECSELs) VI

Volume: 9734

Place of publication: San Francisco

Publisher: SPIE

Article number: 973411

ISBN (Electronic): 9781628419696

Publication series

Name: SPIE Conference Proceedings

ISSN (Print): 0277-786X

ISSN (Electronic): 1996-756X

ASJC Scopus subject areas: Atomic and Molecular Physics, and Optics

Keywords: VECSEL, OPSP, SDL, frequency doubling, SHG, ion trapping, single-frequency, photoionization, doppler-free spectroscopy, magnesium

DOIs:

10.1117/12.2213398

Bibliographical note

JUF0ID=71479

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

Single exposure lensless subpixel phase imaging

Lensless phase-retrieval system with phase modulation of free propagation wavefront is proposed. Contrary to the traditional super-resolution phase-retrieval, the method in this paper requires a single observation only and uses advanced SR-SPAR iterative technique. Successful object imaging relies on modulation of the object wavefront with a random phase-mask, which generates enlarged intensity patterns, allowing us to extract more information than it is possible without such a mask. The achieved high-quality super-resolution phase-imaging is demonstrated by simulation-tests produced with the parameters corresponding to the physical prototype of the considered optical system.

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Computing Sciences, Research group: Computational Imaging-CI

Contributors: Kocsis, P., Shevkunov, I., Katkovnik, V., Egiazarian, K.

Number of pages: 9

Publication date: 2019

Host publication information

Title of host publication: Digital Optical Technologies 2019

Publisher: SPIE, IEEE

Editors: Kress, B. C., Schelkens, P.

ISBN (Electronic): 9781510628038

Publication series

Name: Proceedings of SPIE - The International Society for Optical Engineering

Volume: 11062

ISSN (Print): 0277-786X

ISSN (Electronic): 1996-756X

ASJC Scopus subject areas: Electronic, Optical and Magnetic Materials, Condensed Matter Physics, Computer Science Applications, Applied Mathematics, Electrical and Electronic Engineering

Keywords: Diffractive optical element, Lensless imaging, Lensless system design, Phase imaging, Phase measurement, Phase retrieval, Sparse representation, Sub-pixel resolution

DOIs:

10.1117/12.2525679

Source: Scopus

Source ID: 85074197001

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

Simultaneous binary hash and features learning for image retrieval

Content-based image retrieval systems have plenty of applications in modern world. The most important one is the image search by query image or by semantic description. Approaches to this problem are employed in personal photo-collection management systems, web-scale image search engines, medical systems, etc. Automatic analysis of large unlabeled image datasets is virtually impossible without satisfactory image-retrieval technique. It's the main reason why this kind of automatic image processing has attracted so much attention during recent years. Despite rather huge progress in the field, semantically meaningful image retrieval still remains a challenging task. The main issue here is the demand to provide reliable results in short amount of time. This paper addresses the problem by novel technique for simultaneous learning of global image features and binary hash codes. Our approach provide mapping of pixel-based image representation to hash-value space simultaneously trying to save as much of semantic image content as possible. We use deep learning methodology to generate image description with properties of similarity preservation and statistical independence. The main advantage of our approach in contrast to existing is ability to fine-tune retrieval procedure for very specific application which allow us to provide better results in comparison to general techniques. Presented in the paper framework for data-

dependent image hashing is based on use two different kinds of neural networks: convolutional neural networks for image description and autoencoder for feature to hash space mapping. Experimental results confirmed that our approach has shown promising results in compare to other state-of-the-art methods.

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Department of Signal Processing, Research group: Computational Imaging-CI, Don State Technical University, Univ of Texas at San Antonio

Contributors: Frantc, V. A., Makov, S. V., Voronin, V. V., Marchuk, V. I., Semenishchev, E. A., Egiazarian, K. O., Agaian, S.

Publication date: 2016

Host publication information

Title of host publication: Mobile Multimedia/Image Processing, Security, and Applications 2016

Publisher: SPIE

Article number: 986902

ISBN (Electronic): 9781510601109

Publication series

Name: SPIE Conference Proceedings

Volume: 9869

ISSN (Print): 0277-786X

ASJC Scopus subject areas: Electronic, Optical and Magnetic Materials, Condensed Matter Physics, Computer Science Applications, Applied Mathematics, Electrical and Electronic Engineering

Keywords: autoencoder, content-based image retrieval, deep convolutional neural network, semantic hashing

DOIs:

10.1117/12.2223605

Source: Scopus

Source ID: 84991480411

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

Simulointi nopeuttaa käyttöiän määrittystä

General information

Publication status: Published

MoE publication type: D1 Article in a trade journal

Organisations: Department of Materials Science, Research group: Tribology and Machine Elements, Department of Mechanical Engineering and Industrial Systems, Research group: Kokeellinen virtaustekniikka, Research area: Applied Mechanics, Department of Intelligent Hydraulics and Automation, Research group: Fluid power automation in mobile machines, Department of Electrical Engineering, Research area: Reliability

Contributors: Ojala, P., Saarenrinne, P., Miettinen, J., Multanen, P., Kiilunen, J., Hietala, J., Kolu, A., Pippola, J., Mostofizadeh, M., Ylönen, M.

Number of pages: 4

Pages: 24-27

Publication date: 2015

Peer-reviewed: Unknown

Publication information

Journal: Promaint

Volume: 2

ISSN (Print): 1797-2000

Original language: Finnish

Bibliographical note

ORG=mol,0.25

ORG=mei,0.25

ORG=iha,0.25

ORG=dee,0.25

Research output: Contribution to journal > Article > Professional

Simulation studies of DFB laser longitudinal structures for narrow linewidth emission

Simulation studies targeting high-power narrow-linewidth emission from DFB lasers are presented. The linewidth and output power calculations take into account the mirror losses, including the grating and the facets, as well as spontaneous emission noise, effective refractive index, power and carrier density variations inside the cavity. The longitudinal power and carrier density distributions have been evaluated and their effects on longitudinal spatial hole burning and possible

side mode lasing are discussed.

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Optoelectronics Research Centre, Research group: Semiconductor Technology and Applications

Contributors: Virtanen, H., Uusitalo, T., Dumitrescu, M.

Number of pages: 2

Pages: 153-154

Publication date: 17 Aug 2016

Host publication information

Title of host publication: 16th International Conference on Numerical Simulation of Optoelectronic Devices, NUSOD 2016

Publisher: IEEE

ISBN (Electronic): 9781467386036

ASJC Scopus subject areas: Electrical and Electronic Engineering, Electronic, Optical and Magnetic Materials, Modelling and Simulation, Numerical Analysis

DOIs:

10.1109/NUSOD.2016.7547078

Source: Scopus

Source ID: 84987641768

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

Simulation of photon-photon resonance enhanced direct modulation bandwidth of DFB lasers

Simulations and experimental results of high-frequency photon-photon resonance are used to examine the possibilities to extend the direct modulation bandwidth in dual-mode distributed feedback lasers beyond the conventional limit set by the carrier-photon resonance.

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Optoelectronics Research Centre, Research group: Semiconductor Technology and Applications, Brighterwave Inc, Politecnico di Torino

Contributors: Dumitrescu, M., Uusitalo, T., Virtanen, H., Laakso, A., Bardella, P., Montrosset, I.

Number of pages: 2

Pages: 147-148

Publication date: 17 Aug 2016

Host publication information

Title of host publication: 16th International Conference on Numerical Simulation of Optoelectronic Devices, NUSOD 2016

Publisher: IEEE

ISBN (Electronic): 978-1-4673-8603-6

ASJC Scopus subject areas: Electrical and Electronic Engineering, Electronic, Optical and Magnetic Materials, Modelling and Simulation, Numerical Analysis

DOIs:

10.1109/NUSOD.2016.7547075

Bibliographical note

EXT="Laakso, A."

Source: Scopus

Source ID: 84987641496

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

Simulation of ash-forming compounds in the kraft recovery boiler

This paper presents a summary of the doctoral dissertation titled "Modeling Fume Particle Dynamics and Deposition with Alkali Metal Chemistry in Kraft Recovery Boilers". In the thesis, a computational model was developed and used to simulate the behavior of alkali metal compounds in kraft recovery boilers. The model combines, for the first time, the methods of CFD (Computational Fluid Dynamics), equilibrium chemistry, and fine particle dynamics to model the formation and deposition of fume particles. Fume particles are below 1 μm in diameter and form through the condensation of the alkali metal compounds. The model has been partially validated in an operating recovery boiler in terms of fume particle composition, but the modeling results also shed light on processes that cannot be investigated through experimental methods alone. For example, the modeling results indicate that thermophoresis is the main factor leading to fume deposit formation.

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Department of Chemistry and Bioengineering, Research group: Power Plant and Combustion Technology

Contributors: Leppänen, A., Välimäki, E., Oksanen, A.

Number of pages: 10

Publication date: 2015

Host publication information

Title of host publication: 10th European Conference on Industrial Furnaces and Boilers

Place of publication: Porto, Portugal

ISBN (Electronic): 978-972-99309-7-3

Keywords: kraft recovery boiler, alkali metal, fine particle, deposition, computational fluid dynamics

URLs:

<http://www.cenertec.pt/infub/>

Source: Bibtex

Source ID: urn:c88098f51c0b1f0404f1a0f11bbb345f

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

SimpleTree: An Efficient Open Source Tool to Build Tree Models from TLS Clouds

An open source tool named SimpleTree, capable of modelling highly accurate cylindrical tree models from terrestrial laser scan point clouds, is presented and evaluated. All important functionalities, accessible in the software via buttons and dialogues, are described including the explanation of all necessary input parameters. The method is validated utilizing 101 point clouds of six different tree species, in the main evergreen and coniferous trees. All scanned trees have been destructively harvested to get accurate estimates of above ground biomass with which we assess the accuracy of the SimpleTree-reconstructed cylinder models. The trees were grouped into four data sets and for each one a Concordance Correlation Coefficient of at least 0.92 (0.92, 0.97, 0.92, 0.94) and an total relative error at most ~8 % (2.42%, 3.59%, -4.59%, 8.27%) was achieved in the comparison of the model results to the ground truth data. A global statistical improvement of derived cylinder radii is presented as well as an efficient optimization approach to automatically improve user given input parameters. An additional check of the SimpleTree results is presented via comparison to the results of trees reconstructed using an alternative, published method.

General information

Publication status: Published

MoE publication type: A1 Journal article-refereed

Organisations: Department of Mathematics, Research group: MAT Inverse Problems, Mathematical modelling with wide societal impact (MathImpact)

Contributors: Hackenberg, J., Spiecker, H., Calders, K., Disney, M., Raunonen, P.

Number of pages: 50

Pages: 4245-4294

Publication date: 23 Nov 2015

Peer-reviewed: Yes

Publication information

Journal: Forests: Open Access Journal

Volume: 6

Issue number: 11

ISSN (Print): 1999-4907

Ratings:

Scopus rating (2015): CiteScore 1.7 SJR 0.633 SNIP 0.761

Original language: English

DOIs:

10.3390/f6114245

URLs:

<http://www.mdpi.com/1999-4907/6/11/4245> (Webpage of the article)

Research output: Contribution to journal > Article > Scientific > peer-review

Short-range supercontinuum based lidar for combustion diagnostics

We developed a short range Lidar system using a supercontinuum source spectrally tailored to cover the ro-vibrational transition energies of desired components of a flue gas. The system enables simultaneous remote measurements of the gas parameters, like temperature and concentration which play a key role in the performance of combustion power plants. The technique requires only one inspection window and can thus be used in combustion units with limited access. It exploits differential absorption between specific wavelength bands of the gas absorption spectrum. The transmittance of individual wavelength band is derived from the detected backscattered temporal intensity of the supercontinuum pulses. We demonstrate preliminary industrial measurement of water vapor temperature and concentration in a full scale boiler. The technique also enables 3D mapping of temperature and concentration.

General information

Publication status: Published
MoE publication type: A4 Article in a conference publication
Organisations: Physics, Valmet Technologies Oy
Contributors: Saleh, A., Ryczkowski, P., Genty, G., Toivonen, J.
Publication date: 2019

Host publication information

Title of host publication: SPIE Future Sensing Technologies
Publisher: SPIE, IEEE
Editors: Kimata, M., Valenta, C. R.
Article number: 111970Y
ISBN (Electronic): 9781510631113

Publication series

Name: Proceedings of SPIE
Volume: 11197
ISSN (Print): 0277-786X
ISSN (Electronic): 1996-756X
ASJC Scopus subject areas: Electronic, Optical and Magnetic Materials, Condensed Matter Physics, Computer Science Applications, Applied Mathematics, Electrical and Electronic Engineering
Keywords: Combustion, Diagnostics, Lidar, Remote sensing, Supercontinuum
DOIs:
10.1117/12.2542720

Bibliographical note

jufoid=71479
Source: Scopus
Source ID: 85078209433
Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

Short range HF radio channel measurements: Search for one path channels

High frequency (HF) radio channel is diverse since it could be a single path channel or a multipath channel. However, there is lack of information about what is the ratio between these. Herein, results from a measurement campaign in Finland for ground wave and near vertical incidence skywave (NVIS) paths are reported. It was observed that one path channels are rather widely available and in ground waves they dominate. This means that channels for high modulation orders (high data rate HF) are available and should be searched for during the link establishment process. Unfortunately, the current link establishment processes do not support that such that maybe it is time for improvements. Another observation was that if channels are available at all, then usually there are multiple channels available. This means that recently introduced wideband (up to 24 kHz) and multiband (several 3 kHz bands) HF communications have room.

General information

Publication status: Published
MoE publication type: A4 Article in a conference publication
Organisations: Department of Electronics and Communications Engineering, Research group: Wireless Communications and Positioning, Oulun Yliopisto/CWC, Kyynel Oy
Contributors: Saarnisaari, H., Hovinen, V., Tuomivaara, H., Yli-Kaakinen, J.
Number of pages: 6
Publication date: 2016

Host publication information

Title of host publication: 2016 International Conference on Military Communications and Information Systems (ICMCIS)
ISBN (Electronic): 9781509017775
DOIs:
10.1109/ICMCIS.2016.7496559
Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

Shared use of research laboratories Changing spatial concepts: A Case Study in a Finnish Biomedical Organization

General information

Publication status: Published
MoE publication type: A4 Article in a conference publication
Organisations: School of Architecture, Research group: Public Buildings, Department of Civil Engineering
Contributors: Yläoutinen, J., Peltoniemi, S., Nenonen, S.
Number of pages: 15

Pages: 183-197
Publication date: 2015

Host publication information

Title of host publication: Conference on Research on Health Care Architecture : ARCH 14 Conference Proceedings
November 19-21, 2014, Espoo, Finland
Place of publication: Helsinki
ISBN (Electronic): 978-952-60-6201-3

Publication series

Name: Aalto University publication series ART + DESIGN + ARCHITECTURE, 6/2015
Publisher: Aalto University
ISSN (Print): 1799-4861
ISSN (Electronic): 1799-4853
Keywords: healthcare architecture, hospital architecture, care facilities, hospital environments
URLs:
<http://urn.fi/URN:ISBN:978-952-60-6201-3>

Bibliographical note

ORG=ark,0.5
ORG=rak,0.5
Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Shadow Ghost Imaging in the Time Domain

General information

Publication status: Published
MoE publication type: B3 Non-refereed article in conference proceedings
Organisations: Department of Physics, Research area: Optics, Research group: Nonlinear Fiber Optics, Frontier Photonics
Contributors: Ryczkowski, P., Barbier, M., Friberg, A. T., Dudley, J. M., Genty, G.
Publication date: 2015

Host publication information

Title of host publication: Frontiers in Optics 2015
Publisher: OSA
Article number: FW6C.1
ISBN (Electronic): 978-1-943580-03-3
DOIs:
10.1364/FIO.2015.FW6C.1
Source: Bibtex
Source ID: urn:a11e0cac2c12b03797ccabee4da08320
Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific

Service orientation and innovation in the strategies of manufacturing SMEs

Manufacturing SMEs have an important role in the supply chains of larger firms. When large firms servitize their business, also SMEs may need to consider their strategies concerning services. Limited research attention has been directed at servitization as a strategic choice of SMEs and its different manifestations in service orientation and innovation. The aim of the paper is to increase understanding on the role of services in the strategies of manufacturing SMEs. The focus is on service orientation and innovation, and identification of differences between component manufacturers and equipment manufacturers. A qualitative, exploratory research strategy is employed in the context of nineteen technology-intensive manufacturing SMEs. The findings from SME managers' interviews show that equipment manufacturers have a stronger service orientation than component manufacturers in terms of share of services, orientation to process-centric services, and service variety. The majority of respondents have experiences with in-house service development primarily, and customer-centric service development took place only in a few companies. Furthermore, companies featured services in their strategies either minimally, reactively or proactively. Equipment manufacturers were more likely to take the proactive approach whereas component manufacturers were more reactive or fully avoided services. This paper offers valuable knowledge about the ways in which technology-intensive SMEs feature service orientation and innovation into their strategies. Besides changes in offerings, capabilities and value networks, servitization can drive changes in the business scope and innovation processes of the manufacturing SMEs.

General information

Publication status: Published
MoE publication type: A4 Article in a conference publication
Organisations: Department of Industrial Management, Research group: Center for Research on Operations Projects and Services

Contributors: Martinsuo, M., Väliäho, V.
Number of pages: 17
Publication date: Jun 2016

Host publication information

Title of host publication: 23rd Innovation and Product Development Management Conference (IPDMC) : 12-14 June, 2016, Glasgow, U.K.

Publisher: EIASM

Electronic versions:

160403_IPDMC_ServiceOrientation

URLs:

<http://urn.fi/URN:NBN:fi:tty-201708211693>

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Service Failure and Interruption Probability Analysis for Licensed Shared Access Regulatory Framework

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Department of Electronics and Communications Engineering, Research group: Emerging Technologies for Nano-Bio-Info-Cogno

Contributors: Gudkova, I., Samouylov, K., Ostrikova, D., Mokrov, E., Ponomarenko-Timofeev, A., Andreev, S., Koucheryavy, Y.

Number of pages: 9

Pages: 123-131

Publication date: 2015

Host publication information

Title of host publication: 2015 7th International Congress on Ultra Modern Telecommunications and Control Systems and Workshops (ICUMT)

Publisher: IEEE

ISBN (Print): 978-1-4673-9282-2

DOIs:

10.1109/ICUMT.2015.7382416

Bibliographical note

INT=elt,"Ponomarenko-Timofeev, Aleksei"

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Seinäjoen ydinkeskustan olennaiset kehitysvaiheet ja sen 1950 - 70-lukujen rakennusperinnön arvottamisperiaatteita

General information

Publication status: Published

MoE publication type: D4 Published development or research report or study

Organisations: School of Architecture, Research group: Urban Laboratory

Contributors: Hirvonen, T.

Number of pages: 121

Publication date: 2015

Publication information

Place of publication: Tampere

Publisher: Tampereen teknillinen yliopisto. Arkkitehtuurin laitos

ISBN (Electronic): 978-952-15-3549-9

Original language: Finnish

Electronic versions:

hirvonen_seinajoen_ydinkeskustan_olennaiset_kehitysvaiheet

URLs:

<http://URN.fi/URN:ISBN:978-952-15-3549-9>

Bibliographical note

Versio ok 14.12.2015

Research output: Book/Report › Commissioned report › Professional

Securing the flow of information in renovation projects: Sustainable synergies from buildings to the urban scale

Continuous flow of information is a paramount importance for the success of a renovation project. This has been a clear statement in several researches, clearances, publications and press releases in Finland. Tampere University of Technology (TUT) studied Finnish state supported mold renovations in three independent researches between 2010 and 2016. First one brought out that the observations made in the condition investigation weren't always taken into account in the implementation of the renovation. Next two researches focused to study the additional state grant processes, where the external review procedures were helping the flow of information. However, the processes still had some shortcomings and therefore the research team developed a form based method that property owners and builders can utilize for a successful removal of the indoor air problems. This paper describes the outlines of the form as well as the principles and methods for securing the flow of information from condition investigations to the renovation design and quality assurance of the building project. Project planning and monitoring measurements are also taken into account in the method.

General information

Publication status: Published

MoE publication type: A1 Journal article-refereed

Organisations: Civil Engineering, Research area: Structural Engineering

Contributors: Marttila, T., Annila, P., Suonketo, J., Kero, P., Pentti, M.

Number of pages: 6

Pages: 228-233

Publication date: 2017

Peer-reviewed: Yes

Publication information

Journal: PROCEEDIA ENVIRONMENTAL SCIENCES

Volume: 38

ISSN (Print): 1878-0296

Original language: English

Keywords: Moisture damage, Indoor air quality (IAQ), Condition investigation, Renovation design

DOIs:

10.1016/j.proenv.2017.03.109

Source: RIS

Source ID: urn:1E04A8F47620BCE57737681F0930D8DB

Research output: Contribution to journal › Article › Scientific › peer-review

Second-harmonic generation from thermally-evaporated indium selenide thin films

General information

Publication status: Published

MoE publication type: B3 Non-refereed article in conference proceedings

Organisations: Department of Physics, Research group: Nonlinear Optics, Research area: Optics

Contributors: Slablab, A., Divya, S., Koskinen, K., Czaplicki, R., Kailasnath, M., Radhakrishnan, P., Kauranen, M.

Pages: CE_12_4

Publication date: 21 Jun 2015

Host publication information

Title of host publication: The European Conference on Lasers and Electro-Optics 2015 : Munich Germany 21–25 June 2015

Publisher: Optical Society of America

ISBN (Electronic): 978-1-4673-7475-0

URLs:

http://www.osapublishing.org/abstract.cfm?URI=CLEO_Europe-2015-CE_12_4

Source: Bibtex

Source ID: urn:888ad7045d652720bf995336ec1122eb

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific

Scanning of radioluminescence emission with a PMT for remote detection of alpha contamination

General information

Publication status: Published

MoE publication type: B3 Non-refereed article in conference proceedings

Organisations: Department of Physics, Research area: Optics, Research group: Applied Optics, STUK Radiat & Nucl Safety Author, Commiss European Communities, Joint Res Ctr, Inst Transuranium Elements

Contributors: Sand, J., Ihantola, S., Nicholl, A., Hrnccek, E., Toivonen, J., Toivonen, H., Peräjärvi, K.

Publication date: 2015

Host publication information

Title of host publication: The European Conference on Lasers and Electro-Optics 2015

Publisher: Optical Society of America

Article number: CN_2_3

ISBN (Electronic): 978-1-4673-7475-0

Keywords: Radioluminescence, alpha radiation, Optical detection of alpha emitters

URLs:

http://www.osapublishing.org/abstract.cfm?URI=CLEO_Europe-2015-CN_2_3

Source: Bibtex

Source ID: urn:c5e6c13ca1357cdf98039843381a5b5f

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific

Savukaasun NO_x-päästöjen epäsuora monitorointi maakaasukäyttöisissä polttolaitoksissa

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Department of Automation Science and Engineering, Research area: Measurement Technology and Process Control, Research area: Dynamic Systems, Helen Oy

Contributors: Korpela, T., Kumpulainen, P., Majanne, Y., Häyrynen, A.

Number of pages: 6

Pages: 1-6

Publication date: 2015

Host publication information

Title of host publication: Automaatio XXI seminaari

Publisher: Suomen Automaatioseura

Editor: Jämsä-Jounela, S.

ISBN (Print): 978-952-5183-46-7

Publication series

Name: SAS julkaisusarja

No.: 44

ISSN (Print): 1455-6502

URLs:

<http://xxi.automaatioseura.fi/>

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

Sata vuotta vesihuoltoa Suomessa

General information

Publication status: Published

MoE publication type: A1 Journal article-refereed

Organisations: Civil Engineering

Contributors: Juuti, P., Katko, T. S., Rajala, R.

Number of pages: 3

Pages: 13-15

Publication date: Dec 2017

Peer-reviewed: Yes

Publication information

Journal: Vesitalous

Volume: 58

Issue number: 6

ISSN (Print): 0505-3838

Original language: Finnish

Research output: Contribution to journal > Article > Scientific > peer-review

Sata vuotta Suomen suurimmasta lavantautiepidemiasta

General information

Publication status: Published

MoE publication type: A2 Review article in a scientific journal

Organisations: Civil Engineering

Contributors: Juuti, P., Rajala, R.
Number of pages: 3
Pages: 12-14
Publication date: 2017
Peer-reviewed: Yes

Publication information

Journal: Vesitalous
Volume: 2017
Issue number: 1
ISSN (Print): 0505-3838
Original language: Finnish
URLs:

<http://www.vesitalous.fi/vesitalous-lehdet/vesien-historia/>

Research output: Contribution to journal › Review Article › Scientific › peer-review

Samsung and Volkswagen crisis communication in Facebook and Twitter: A comparative study

Since September 2015 at least two major crises have emerged where major industrial companies producing consumer products have been involved. In September 2015 diesel cars manufactured by Volkswagen turned out to be equipped with cheating software that caused NO₂ and other emission values to be reduced to acceptable levels while tested from the real, unacceptable values in normal use. In August 2016 reports began to appear that the battery of a new smart phone produced by Samsung, Galaxy Note7, could begin to burn, or even explode, while the device was on. In Nov. 2016 also 34 washing machine models were reported to have caused damages due to disintegration. In all cases, the companies have experienced substantial financial losses, their shares have lost value, and their reputation has suffered among consumers and other stakeholders. In this paper, we study the commonalities and differences in the crisis management strategies of the companies, mostly concentrating on the crisis communication aspects. We draw on Situational Crisis Communication Theory (SCCT). The communication behaviour of the companies and various stakeholders during crisis is performed by investigating the official web sites of the companies and communication in Twitter and Facebook on their own accounts. We also collected streaming data from Twitter where Samsung and the troubled smart phone or washing machines were mentioned. For VW we also collected streaming data where the emission scandal or its ramifications were mentioned and performed several analyses, including sentiment analysis.

General information

Publication status: Published
MoE publication type: A4 Article in a conference publication
Organisations: Industrial and Information Management, Jyväskylän yliopisto, Laboratory of Industrial and Information Management
Contributors: Zhang, B., Veijalainen, J., Kotkov, D.
Number of pages: 12
Pages: 312-323
Publication date: 2017

Host publication information

Title of host publication: WEBIST 2017 - Proceedings of the 13th International Conference on Web Information Systems and Technologies
Publisher: SCITEPRESS
ISBN (Electronic): 9789897582462
ASJC Scopus subject areas: Computer Networks and Communications, Information Systems
Keywords: Crisis communication strategies, Facebook, Samsung Galaxy Note 7 crisis, Samsung washing machine crisis, SCCT, Sentiment analysis, Twitter, Volkswagen emission crisis
DOIs:
10.5220/0006301403120323
Source: Scopus
Source ID: 85024488684
Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Safety, Space and Structure Quality Requirements in Construction Scheduling

Abstract Quality assessment of a construction project schedule can be a challenging task for project stakeholders. A little research work has addressed quality of schedules though a good project schedule can be considered as of the key factors of project success. The development of a reliable and easy to perform construction schedule quality assessment procedure seems to be a challenging task. Since Schedule Health Assessment of a construction project has to be strictly related to process requirements, it is used the 3 "S" rule as a starting point and framework for obtaining improved understanding of quality of construction schedules. The 3 "S" are Safety, Space and Structure, meaning that the planned process should provide a safe working environment to construction workers, sufficient space to perform construction activities and the required sequence of construction operations and project phases. The aim of the study is to implement a

schedule quality assessment method that takes into account the 3“S” rule of construction process. The 3“S” requirements can be successfully integrated in a Schedule Health Assessment method, but to facilitate their implementation and control a flow-line chart is needed, thus the schedule tool becomes a new requirement for construction schedule quality control.

General information

Publication status: Published

MoE publication type: A1 Journal article-refereed

Organisations: Department of Civil Engineering, Research group: Digitalization in the real estate and construction sector, Research group: Capacity Development of Water and Environmental Services CADWES, Research group: Real estate development

Contributors: Bragadin, M. A., Kähkönen, K.

Number of pages: 8

Pages: 407-414

Publication date: 2015

Peer-reviewed: Yes

Publication information

Journal: Procedia Economics and Finance

Volume: 21

ISSN (Print): 2212-5671

Original language: English

Keywords: Construction management, Project Control, Project Scheduling, Quality, Safety.

DOIs:

10.1016/S2212-5671(15)00193-8

URLs:

<http://www.sciencedirect.com/science/article/pii/S2212567115001938>

Source: RIS

Source ID: urn:F0EEB88647642A7A838E1B2E16C028A8

Research output: Contribution to journal › Article › Scientific › peer-review

Role of Water Cooperatives in Water Service Production - Lessons from Finland and Denmark

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Department of Civil Engineering

Contributors: Pietilä, P., Arvonen, V., Katko, T.

Pages: 1152-1161

Publication date: 2016

Host publication information

Title of host publication: Proceedings of the 20th CIB World Building Congress 2016 : May 30 – June 3, 2016 Tampere Finland

Volume: V

Publisher: Tampere University of Technology

Editor: Achour, N.

ISBN (Electronic): 978-952-15-3745-5

URLs:

<http://urn.fi/URN:ISBN:978-952-15-3745-5>

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Role of Power and Sense Making in the Briefing of a Small Renovation Project

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Department of Civil Engineering, Research area: Construction Management and Economics, Research group: Digitalization in the real estate and construction sector

Contributors: Naaranoja, M., Kähkönen, K., Keinänen, M.

Pages: 611-621

Publication date: 2016

Host publication information

Title of host publication: Proceedings of the CIB World Building Congress 2016: Volume I - Creating built environments of new opportunities

Publisher: Tampere University of Technology. Department of Civil Engineering
ISBN (Electronic): 978-952-15-3741-7
URLs:

<http://urn.fi/URN:ISBN:978-952-15-3741-7>

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

Roadmap towards the vision of the future power system and electricity market

This paper reports the results of the Finnish national project "Roadmap 2025" which had two main objectives. The first one was to clarify the long term vision (up to 2035) of the power system and electricity market, and the second one was to create a roadmap, a development path towards the vision. The project was partially an update of the project "Vision of the Power System 2030", reported at CIRED 2007. However, instead of focusing only on technological issues, the project also included electricity market and service market perspectives and emphasized the necessary actions needed in changing the present system into the system of the future. The main results can be summarized as follows: Challenges of the future flexible power system which will be achieved by strong transmission network, cross-border grid connections, automation, undergrounding of MV and LV networks, microgrids, controllable loads, energy storages and renewable energy.

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Department of Electrical Engineering, Research area: Power engineering, University of Vaasa (UVA), Department of Chemistry and Bioengineering, Lappeenranta University of Technology, Oy Merinova Ab

Contributors: Kumpulainen, L., Kauhaniemi, K., Repo, S., Valkealahti, S., Honkapuro, S., Partanen, J., Koivisto-Rasmussen, R., Järventausta, P.

Publication date: 2016

Host publication information

Title of host publication: CIRED Workshop 2016

Publisher: Institution of Engineering and Technology

ISBN (Electronic): 978-1-78561-202-2

ASJC Scopus subject areas: Electrical and Electronic Engineering

DOIs:

10.1049/cp.2016.0690

Source: Scopus

Source ID: 85007529978

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

Risk Assessment of Major Storm Situation in Distribution System

Risk and reliability have a significant connection in meaning; both of them are the facts for one inference. High level of risk is resource of lower reliability. Risk management in power system has a variety of different subjects including models, methods and applications. Risk is a mixture of probability of disturbance event and the negative effect of that occurrence. Usually it counted for random accident which has harmful effect on people's life and environment. In this paper risks study of storm situation modelled. Random failures in power system are the origin of risk and cannot control by staff. Monte-Carlo Simulation (MCS) has used to model the fault frequencies and outage time of customers. The two tools which use in financial studies to make investment decision and applicable in power systems are Value-at-Risk (VaR) and Conditional Value-at-Risk (CVaR) Result of study compared to the actual reliability which confirm the improvement in the reliability of system. It is not possible to predict the precise amount of load value, Concerns of power outage in local area and possibility of a general blackout.

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Department of Electrical Engineering, Research area: Power engineering, Smart Energy Systems (SES)

Contributors: Dehghani, N., Supponen, A., Repo, S.

Publication date: 1 Sep 2015

Host publication information

Title of host publication: 2015 50th International Universities Power Engineering Conference (UPEC)

Publisher: IEEE

ISBN (Print): 978-1-4673-9682-0

DOIs:

10.1109/UPEC.2015.7339808

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

Riding for a fall in outsourced ISD: Transferring knowledge between onshore vendor and offshored unit

General information

Publication status: Published

MoE publication type: D3 Professional conference proceedings

Organisations: Department of Information Management and Logistics, Research group: Novi

Contributors: Alanne, A., Pekkola, S.

Publication date: 18 Feb 2015

Host publication information

Title of host publication: 9th Global Sourcing Workshop 2015 : La Thuile, Italy, February 18-21, 2015

URLs:

<http://www.globalsourcing.org.uk/2013/05/the-8th-global-sourcing-workshop-23-26-of-march-2014-call-for-papers-released/>

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Professional

Riding for a fall in outsourced ISD: Knowledge transfer challenges between the onshore vendor and the offshored unit

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Department of Information Management and Logistics, Research group: Novi, Managing digital industrial transformation (mDIT), Tampere University of Technology

Contributors: Alanne, A., Pekkola, S.

Number of pages: 17

Pages: 124-140

Publication date: 2015

Host publication information

Title of host publication: Achieving Success and Innovation in Global Sourcing: Perspectives and Practices : 9th Global Sourcing Workshop 2015, La Thuile, Italy, February 18-21, 2015, Revised Selected Papers

Place of publication: Germany

Publisher: Springer Verlag

Editors: Oshri, I., Kotlarsky, J., Willcocks, L.

ISBN (Print): 978-3-319-26738-8

ISBN (Electronic): 978-3-319-26739-5

Publication series

Name: Lectures Notes in Business Information Processing

Volume: 236

ISSN (Print): 1865-1348

DOIs:

10.1007/978-3-319-26739-5_7

URLs:

<http://www.globalsourcing.org.uk/2013/05/the-8th-global-sourcing-workshop-23-26-of-march-2014-call-for-papers-released/>

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

RF energy harvesting system with RFID-enabled charge storage monitoring

Radio frequency (RF) energy scavenging is a compelling approach to energize the low-power wireless devices. We present an energy harvesting system consists of a low-power RF switch circuitry and a passive UHF RFID tag. When the voltage at the storage capacitor terminals exceeds 0.58 V, RF switch connects the UHF RFID microchip to a dipole-type tag antenna. This way, an RFID reader can detect the charge storage level wirelessly with minimal power consumption at the harvester. In this paper, we detail the development of the system and present results from both simulations and measurement. Overall, we were able to achieve 0.58 V at the storage capacitor and detect the storage level indicator tag at the distance of 5.1 m in an experiment where regular 8.7 dBi patch antennas were connected to the harvester input and output of an RFID reader emitting 2.5 W EIRP.

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Faculty of Biomedical Sciences and Engineering, Research group: Wireless Identification and Sensing Systems Research Group, Research group: Wireless Identification and Sensing Systems Research Group
Contributors: Pournoori, N., Khan, W., Ukkonen, L., Björninen, T.
Number of pages: 4
Publication date: 26 Sep 2018

Host publication information

Title of host publication: 2018 IEEE International Conference on RFID Technology & Application (RFID-TA)
Publisher: IEEE
ISBN (Electronic): 978-1-5386-5057-8
Electronic versions:
RFID paper
DOIs:
10.1109/RFID-TA.2018.8552826
URLs:
<http://urn.fi/URN:NBN:fi:tty-201812192865>
Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Revisiting technological depths and breadths effects on firm performance: the case of pharmaceutical industry

General information

Publication status: Published
MoE publication type: B3 Non-refereed article in conference proceedings
Organisations: Information and Knowledge Management, Research group: Business Ecosystems, Networks and Innovations, VTT Tech Res Ctr Finland, VTT Technical Research Center Finland, VTT Technical Research Centre of Finland, Innovation and Knowledge Economy, VTT Technical Research Centre of Finland
Contributors: Suominen, A., Hajikhani, A., Seppänen, M.
Publication date: Jun 2019

Host publication information

Title of host publication: Proceedings of International Society for Professional Innovation Management (ISPIM) : 16-19 June, 2019, Florence, Italy
Publisher: International Society for Professional Innovation Management ISPIM
ISBN (Print): 978-952-335-351-0
URLs:
<https://search.proquest.com/docview/2297093349/fulltext/A0A6F0AAD87946F6PQ/1?accountid=14242>
Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific

Revisiting gray pixel for statistical illumination estimation

We present a statistical color constancy method that relies on novel gray pixel detection and mean shift clustering. The method, called Mean Shifted Grey Pixel – MSGP, is based on the observation: true-gray pixels are aligned towards one single direction. Our solution is compact, easy to compute and requires no training. Experiments on two real-world benchmarks show that the proposed approach outperforms state-of-the-art methods in the camera-agnostic scenario. In the setting where the camera is known, MSGP outperforms all statistical methods.

General information

Publication status: Published
MoE publication type: A4 Article in a conference publication
Organisations: Computing Sciences, Czech Technical University in Prague, Intel Finland
Contributors: Qian, Y., Pertuz, S., Nikkanen, J., Kämäräinen, J., Matas, J.
Number of pages: 11
Pages: 36-46
Publication date: 2019

Host publication information

Title of host publication: VISIGRAPP 2019 - Proceedings of the 14th International Joint Conference on Computer Vision, Imaging and Computer Graphics Theory and Applications
Publisher: SCITEPRESS
Editors: Kerren, A., Hurter, C., Braz, J.
ISBN (Electronic): 9789897583544
ASJC Scopus subject areas: Computer Science Applications, Computer Vision and Pattern Recognition, Computer Graphics and Computer-Aided Design
Keywords: Color Constancy, Gray Pixel, Illumination Estimation
Electronic versions:

VISAPP_2019_201

DOIs:

10.5220/0007406900360046

URLs:

<http://urn.fi/URN:NBN:fi:tty-201908282042>

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Review on mobility as a service in scientific literature

Our current private car based transport system is inefficient and unsustainable. The Mobility as a Service (MaaS) model is offering a solution by combining public and private transport modes and aiming to provide seamless trips over one interface. This study summarises the current state of the art of MaaS research by analysing scientific research papers. Overall, 16 MaaS-related documents in Scopus and ScienceDirect databases were recognised as relevant for this study. The relevant literature was divided into three groups according to the topics of the studies. The most significant observations are presented based on the literature and future research needs are discussed. Currently, there are relatively few MaaS-related scientific studies published, but the issue is topical as most of the relevant studies were published in 2016 or 2017. This study helps the MaaS stakeholders and the scientific community to recognize the current state of the art and where to focus in future.

General information

Publication status: Published

MoE publication type: D3 Professional conference proceedings

Organisations: Civil Engineering

Contributors: Utriainen, R., Pöllänen, M.

Number of pages: 15

Pages: 141-155

Publication date: 2017

Host publication information

Title of host publication: Conference Proceedings 1st International Conference on Mobility as a Service : ICoMaaS, Tampere 28.-29.11.2017

Publisher: Tampere University of Technology

Article number: 15

URLs:

<http://www.tut.fi/verne/icomaas/download/>

http://www.tut.fi/verne/wp-content/uploads/ICoMaaS_Proceedings_S4.pdf

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Professional

Re-use of engineering design rationale in Finnish SME project based industry

This study presents views on barriers of re-use of engineering design rationale. The research data was gathered by interviewing 29 persons who work in 19 different Finnish SME engineering project based companies. The topic was studied on three main levels: due to actions of business management, due to actions of project team and due to individuals own action. From this perspective, six categories of barriers of tacit knowledge re-use were found: Time management, Tools and ocumentation practices, Working methods, Validity of information, Well-being at work and Distinction in competence.

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Mechanical Engineering and Industrial Systems, Research area: Design, Development and LCM, Tampere University

Contributors: Ellman, A., Paronen, J., Juuti, T. S., Tiainen, T.

Number of pages: 8

Pages: 1825-1832

Publication date: 24 May 2018

Host publication information

Title of host publication: Proceedigns of the Design 2018 15th International Design Conference

Publisher: The Design Society

ISBN (Electronic): 978-953-7738-59-4

Keywords: design knowledge, design practice, design management

DOIs:

10.21278/idc.2018.0363. Embargo ended: 1/07/18

Bibliographical note

jufoid=84955

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Resource – Space Charts for Construction Workspace Scheduling

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Department of Civil Engineering, Research area: Construction Management and Economics, Research group: Digitalization in the real estate and construction sector, Research group: Capacity Development of Water and Environmental Services CADWES, Research group: Real estate development

Contributors: Bragadin, M. A., Kähkönen, K.

Pages: 677-688

Publication date: 2016

Host publication information

Title of host publication: Proceedings of the CIB World Building Congress 2016: Volume III - Building Up Business Operations and Their Logic. Shaping Materials and Technologies

Publisher: Tampere University of Technology. Department of Civil Engineering

ISBN (Electronic): 978-952-15-3743-1

URLs:

<http://urn.fi/URN:ISBN:978-952-15-3743-1>

Bibliographical note

EXT="Bragadin, Marco A."

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Resonant harmonic generation in AlGaAs nanoantennas using cylindrical vector beams

We use second- and third-harmonic generation with cylindrical vector beams to investigate AlGaAs nanodisks. The nonlinear emission is found to depend strongly on the interplay between tensorial nonlinearities, focal-field symmetries and resonant multipolar excitations.

General information

Publication status: Published

MoE publication type: D3 Professional conference proceedings

Organisations: Photonics, Research group: Nonlinear Optics, Australian National University

Contributors: Camacho-Morales, R., Bautista, G., Zang, X., Xu, L., Turquet, L., Miroshnichenko, A., Lamprianidis, A., Rahmani, M., Neshev, D. N., Kauranen, M.

Number of pages: 2

Publication date: 2018

Host publication information

Title of host publication: CLEO : QELS_Fundamental Science 2018

Publisher: The Optical Society; OSA

Article number: FF1E.6

ISBN (Electronic): 978-1-943580-42-2

Electronic versions:

CLEO2018-algaas-cvb. Embargo ended: 18/05/19

DOIs:

[10.1364/CLEO_QELS.2018.FF1E.6](https://doi.org/10.1364/CLEO_QELS.2018.FF1E.6)

URLs:

<http://urn.fi/URN:NBN:fi:tyy-201806041920>. Embargo ended: 18/05/19

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Professional

Resilient Asset Management and Governance Fordeteriorating Water Services Infrastructure

This paper argues that strategic asset management and a sound regulatory regime are required urgently if we want to change the current paradigm of aging and decaying water services infrastructure and expand the coverage of improved water services in the developing economies. In the OECD countries access to safe water supply and sanitation has largely been ensured through substantial investment over many decades. Yet, significant investments will still be required to rehabilitate the existing infrastructures, to bring them into conformity with more stringent environmental and health regulations, and to maintain service quality in the future. In the non-OECD countries the challenges are more daunting. Large parts of their population have no access and many suffer from unsatisfactory services. Nearly one billion people lack access to clean drinking water and 2.6 billion people lack access to improved sanitation services. Lack of sound economic regulatory frameworks and enforcement regimes, and poor asset management practices, in particular

underpricing of water services is a common problem throughout the world.

General information

Publication status: Published

MoE publication type: A1 Journal article-refereed

Organisations: Department of Civil Engineering, Department of Chemistry and Bioengineering

Contributors: Hukka, J. J., Katko, T. S.

Number of pages: 8

Pages: 112-119

Publication date: 2015

Peer-reviewed: Yes

Publication information

Journal: Procedia Economics and Finance

Volume: 21

ISSN (Print): 2212-5671

Original language: English

Keywords: aging and deteriorating water services infrastructure, investment gap, strategic asset management, regulatory and enforcement framework, sustainability.

DOIs:

10.1016/S2212-5671(15)00157-4

Source: RIS

Source ID: urn:B63C341C3AC1323B613E64632E9D1135

Research output: [Contribution to journal](#) › [Article](#) › [Scientific](#) › [peer-review](#)

Research-industry collaboration: a review of the literature on evaluation methods and motivations

Relationships and collaborations between research and industry play an essential role in sustaining innovation. Therefore, different types of innovation models developed to refer to a set of interaction channels, mechanism and forms of linkage between academia and industry. The latter studies highlight enhancing and diminishing factors of collaboration management, practices on knowledge interactions and collaborative relationships on various levels depending on considered industrial sectors. This review establishes the state of current knowledge in the field and classifies key metrics and indicators for evaluation of research-industry collaboration linkage.

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Industrial Engineering and Management, Research group: Center for Innovation and Technology Research , CERN, European Organization for Nuclear Research (CERN)

Contributors: Solodko, A., Mäkinen, S., Lasheras, N. C., Bedolla, J. S., Saari, U.

Number of pages: 7

Publication date: 29 Aug 2019

Host publication information

Title of host publication: PICMET 2019 Conference : August 25-29, 2019, Portland, Oregon, USA

Place of publication: Portland

Article number: 19R0108

ISBN (Electronic): 978-1-890843-40-3

DOIs:

10.23919/PICMET.2019.8893878

Research output: [Chapter in Book/Report/Conference proceeding](#) › [Conference contribution](#) › [Scientific](#) › [peer-review](#)

Requirements from industrial internet for innovations in advanced industrial services

Manufacturing firms are experimenting with the possibilities of the Industrial Internet, while at the same time adding services and service-related business models to their offerings. Previous research is not, yet, clear on how these simultaneous transformations are handled, particularly when firms being to offer more advanced industrial services. The objective in this study is to identify the key expectations and requirements that an industrial system manufacturer faces, when adopting Industrial Internet and innovating advanced industrial services for its business customers. A single case study was carried out in a manufacturing firm offering complex industrial systems and related services to business customers. Seventeen interviews and three workshops were carried out, to collect data. The results show that the manufacturing firms need novel segmentation criteria, to map their customer base and its prospects for advanced services. Four systemic requirements are identified, for the manufacturing firm to benefit from the Industrial Internet in advanced industrial services. As Industrial Internet can enable advanced services that are highly systemic in nature, service innovations require that the business ecosystem is engaged in the development work together with the manufacturing firm.

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Industrial and Information Management, Research group: Center for Research on Operations Projects and Services

Contributors: Martinsuo, M., Laurila, F.

Number of pages: 16

Publication date: Jun 2018

Host publication information

Title of host publication: Proceedings of the 25th Innovation and Product Development Management Conference

Publisher: European Institute for Advanced Studies in Management, EIASM

Publication series

Name: International Product Development Management Conference

ISSN (Electronic): 1998-7374

Bibliographical note

INT=tjt,"Laurila, Fanni"

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Remote monitoring systems as enablers for project-related services

Project-based firms complement their system deliveries with services. Remote monitoring assists these firms in monitoring the use of the installed base of equipment and offering services that meet the customers' needs. This paper analyses how remote monitoring systems can enable project-related services. A qualitative study was conducted at three engineering firms that provide technology-based solutions and services for a global installed base of equipment. The paper demonstrates different value drivers for using remote monitoring systems, discusses opportunities for utilizing remote data to improve project-related services and enablers, and describes barriers in implementing remote monitoring systems. Ultimately, the research highlights the role of remote monitoring systems in enabling services during the project lifecycle. Project-based firms complement their system deliveries with services. Remote monitoring assists these firms in monitoring the use of the installed base of equipment and offering services that meet the customers' needs. This paper analyses how remote monitoring systems can enable project-related services. A qualitative study was conducted at three engineering firms that provide technology-based solutions and services for a global installed base of equipment. The paper demonstrates different value drivers for using remote monitoring systems, discusses opportunities for utilizing remote data to improve project-related services and enablers, and describes barriers in implementing remote monitoring systems. Ultimately, the research highlights the role of remote monitoring systems in enabling services during the project lifecycle.

General information

Publication status: Published

MoE publication type: D3 Professional conference proceedings

Organisations: Department of Industrial Management, Research group: Center for Research on Operations Projects and Services

Contributors: Momeni, K., Martinsuo, M.

Number of pages: 23

Publication date: Jun 2015

Host publication information

Title of host publication: IRNOP 2015 : International Research Network on Organizing by Projects Conference

Publisher: IRNOP

Keywords: Project business, Services , Remote monitoring systems

URLs:

<https://www.bartlett.ucl.ac.uk/cpm/irnop-2015>

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Professional

Remarks on characterization of bent functions in terms of gibbs dyadic derivatives

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Department of Signal Processing, Research group: Algebraic and Algorithmic Methods in Signal Processing AAMSP, Signal Processing Research Community (SPRC), University of Niš, Technical University of Dortmund

Contributors: Stanković, R. S., Astola, J. T., Moraga, C., Stanković, M., Gajić, D.

Number of pages: 8

Pages: 632-639

Publication date: 2015

Host publication information

Title of host publication: Computer Aided Systems Theory – EUROCAST 2015 : 15th International Conference, Las Palmas de Gran Canaria, Spain, February 8-13, 2015, Revised Selected Papers

Publisher: Springer

ISBN (Print): 978-3-319-27339-6

ISBN (Electronic): 978-3-319-27340-2

Publication series

Name: Lecture Notes in Computer Science

Volume: 9520

ISSN (Print): 0302-9743

ISSN (Electronic): 1611-3349

ASJC Scopus subject areas: Computer Science(all), Theoretical Computer Science

Keywords: Bent functions, Dyadic derivatives, GPU, Walsh functions

DOIs:

10.1007/978-3-319-27340-2_78

Source: Scopus

Source ID: 84952325470

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Reliability and Perceived Value of Sentiment Analysis for Twitter Data

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Managing digital industrial transformation (mDIT), Industrial and Information Management, Research

group: Business Data Research Group, Research group: Knowledge and Learning Research Center, University of Vaasa, University of Tampere

Contributors: Jussila, J., Vuori, V., Okkonen, J., Helander, N.

Pages: 43-48

Publication date: 3 Jun 2017

Host publication information

Title of host publication: 5th International Conference on Strategic Innovative Marketing, At Athens, Greece, : September 23-26, 2016

Publisher: Springer

Editors: Kavoura, A., Sakas, D., Tomaras, P.

ISBN (Electronic): 978-3-319-56288-9

Publication series

Name: Springer Proceedings in Business and Economics

ISSN (Print): 2198-7246

Electronic versions:

Reliability and perceived value

DOIs:

10.1007/978-3-319-56288-9_7

URLs:

<http://urn.fi/URN:NBN:fi:tuni-201910033678>

URLs:

<http://www.icsim.net/>

Bibliographical note

jufoid=84314

EXT="Vuori, Vilma"

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Relevance of five generic business ideation approaches vis-a-vis contexts embedded within construction markets

In general, ideation encompasses the formation of ideas or mental images of things not present to the senses or simply the creation of new ideas. Business ideation is herein perceived to be the core area within future-oriented business management (BM). The main aim of the paper is to assess and advance the relevance of the five generic approaches to business ideation vis-à-vis

firms targeting contexts embedded within construction markets. A typology differentiates between the fitting, value-creating, profit generating, systemizing, and commercializing approaches. It is argued that each approach is, at minimum, highly relevant in the case of business unit (BU) management targeting preferred client investment and procurement behavior within construction markets. Approach 1 involves BUs aiming at fit between clients and their needs as well as

units' offerings and operations, respectively. Professional clients couple needs with preferred procurement methods whereas competing BUs are trying to achieve best fit between solutions and client behaviors. This approach calls for research on how to sustain such fit between a BU and clients when changes occur. Approach 2 enables BUs to create value by specifying high-value propositions, producing value to clients, and capturing their fair shares of produced values. Farsighted clients look for more or novel values for construction investments and, thus, units are collaborating and co-producing values to clients. This approach calls for research on a BU's value co-production with such clients, value capture, and offerings integration. Approach 3 accommodates BUs that are focusing on generating profits, achieving high-profit levels, and sustaining them. Pioneering clients pursue complex investment aims that can be met only by radical solutions. This approach calls for research on a BU's profit-generating mechanisms related to clients with complex investment needs and radical solutions. Approach 4 facilitates BUs to systemize businesses around core ideas. Sectoral clients have large or complex needs and, in turn, units are satisfying them by engineering systems as wholes and delivering them as parts. This approach calls for research on BUs with systems and clients, multi-dimensional investments, and system engineering as wholes and parts. Approach 5 facilitates BUs to couple ideas with commercializing dimensions such as entrepreneurship, innovation, business development, venturing, or spin-offing. Risk-taking clients prefer to enter high-innovation contracts and, thus, units are offering novel solutions and emerging business cases. This approach calls for research on a BU's entrepreneurial competencies and risk-taking clients, wicked investment needs, and high-innovation contracts. In the same vein, the suggestions are put forth to CIB-related scholars for directing research on along the BM and ideation dimensions and adopting most relevant approaches. Likewise, management in firms and BUs competing in construction markets are encouraged to assess the business case-sensitive relevance of each of Approaches 1-5 and try out those with initial high relevance.

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Department of Civil Engineering, Research group: Digitalization in the real estate and construction sector

Contributors: Huovinen, P.

Number of pages: 12

Pages: 1129-1140

Publication date: 28 May 2016

Host publication information

Title of host publication: Proceedings of the CIB World Building Congress 2016, May 30 - June 3, 2016, Tampere, Finland
: Advancing products and services

Volume: V

Place of publication: Tampere

Publisher: Tampere University of Technology. Department of Civil Engineering

Editor: Achour, N.

ISBN (Print): 978-952-15-3745-5

Keywords: Business ideation, business management, construction markets, literature review

Electronic versions:

CIB WBC16 Pekka Huovinen Final paper (camera-ready) 280316

URLs:

<http://urn.fi/URN:NBN:fi:tty-201611214721>

URLs:

<http://www.wbc16.com/wbc16/welcome.html>

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

Relations between civil engineering students' approaches to learning, perceptions of the development of professional skills and perceived workload

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Department of Civil Engineering, Research group: Digitalization in the real estate and construction sector, Teaching and Learning Services, University of Helsinki

Contributors: Salmisto, A., Postareff, L., Nokelainen, P.

Publication date: 2016

Host publication information

Title of host publication: 44th Annual Conference of the European Society for Engineering Education SEFI2016:

Proceedings : 12-15 September 2016, Tampere, Finland

ISBN (Print): 978-2-87352-014-4

Keywords: Engineering education, professional skills, approaches to learning, perceived workload

URLs:

[http://www.sefi.be/conference-](http://www.sefi.be/conference-2016/papers/Open_and_Online_Engineering_Education__Engineering_Education_Research/salmisto-relations-between-civil-engineering-students'-approaches-54_a.pdf)

[2016/papers/Open_and_Online_Engineering_Education__Engineering_Education_Research/salmisto-relations-between-civil-engineering-students'-approaches-54_a.pdf](http://www.sefi.be/conference-2016/papers/Open_and_Online_Engineering_Education__Engineering_Education_Research/salmisto-relations-between-civil-engineering-students'-approaches-54_a.pdf)

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Relational Capital for Shared Vision in Innovation Ecosystems

This paper provides a multiscopic view of the relationship profiles of businesses in three selected urban innovation ecosystems. With the Triple Helix framework, the ecosystem perspective and with shared vision for transformation initiatives, we explore relationships as structure in the metropolitan areas of Austin, TX, Minneapolis, MN, and Paris, France. Network metrics are interpreted as relationship indicators; and network visualizations reveal existing relationships and distinct patterns that structure the business ecosystems in each geographic area at the enterprise, growth and startup levels. We illustrate that relationship indicators and their visualization can be valuable resources for quantitatively and qualitatively understanding and analyzing the complexities of engagement, agility, structural cohesion, vitality, embeddedness, and linking factors in innovation ecosystems. Furthermore, these indicators highlight opportunities for the development of shared vision through interventions and network orchestration.

General information

Publication status: Published

MoE publication type: A1 Journal article-refereed

Organisations: Department of Mathematics, Research group: MAT Intelligent Information Systems Laboratory

Contributors: Russell, M. G., Huhtamäki, J., Still, K., Rubens, N., Basole, R. C.

Number of pages: 36

Publication date: 2015

Peer-reviewed: Yes

Publication information

Journal: Triple Helix: A Journal of University-Industry-Government Innovation and Entrepreneurship

Volume: 2

Issue number: 1

ISSN (Print): 2197-1927

Original language: English

Keywords: Ecosystem, Networks, Innovation, Business, Metropolitan, Relationships, Visualization

DOIs:

10.1186/s40604-015-0017-2

Source: RIS

Source ID: urn:F38A9FE4A6D713DF7D7D6341B47D22C2

Research output: Contribution to journal › Article › Scientific › peer-review

Re-inventing organizational creativity and innovation through adopting a service-based working culture

By considering creativity to be a necessity for organisational competitiveness in today's rigorously changing working environments, this study seeks to examine whether adopting a service-based working culture could significantly improve organisational creativity and innovation. Grounded on the concepts of the Service-Dominant Logic and Complex Adaptive Systems, this research develops on understanding of the complexity of the emerging socially and digitally connected networks of individuals, teams and institutions. By introducing a novel framework for facilitating and improving the adaptability of a service-based working culture, this study offers both deliberation and practical advice for business organisations seeking valuable insight into how to develop and manage organisational creativity and innovation in increasingly digitalised service ecosystems. Specifically, the proposed framework encourages organisations to invest in the learning capacities and motivations of their employees.;

General information

Publication status: Published

MoE publication type: A3 Part of a book or another research book

Organisations: Industrial and Information Management

Contributors: Ketonen-Oksi, S.

Number of pages: 20

Pages: 1-20

Publication date: 28 Dec 2016

Host publication information

Title of host publication: Integrating Art and Creativity into Business Practice

Publisher: IGI Global

ISBN (Print): 9781522520504

ISBN (Electronic): 9781522520511

ASJC Scopus subject areas: Arts and Humanities(all), Economics, Econometrics and Finance(all), Business, Management and Accounting(all)

DOIs:

10.4018/978-1-5225-2050-4.ch001

Research output: Chapter in Book/Report/Conference proceeding › Chapter › Scientific › peer-review

Reinventing organisational creativity and innovation through adapting a service-based working culture

General information

Publication status: Published

MoE publication type: A3 Part of a book or another research book

Organisations: Department of Information Management and Logistics

Contributors: Ketonen-Oksi, S.

Number of pages: 20

Pages: 1-20

Publication date: 2017

Host publication information

Title of host publication: Integrating arts and creativity into business practice

Publisher: IGI Global

Editors: Schiuma, G., Lerro, A.

ISBN (Electronic): 978-1-5225-2050-4

DOIs:

10.4018/978-1-5225-2050-4

Research output: Chapter in Book/Report/Conference proceeding › Chapter › Scientific › peer-review

Reinforcement learning for improved UAV-based integrated access and backhaul operation

There is a strong interest in utilizing commercial cellular networks to support unmanned aerial vehicles (UAVs) to send control commands and communicate heavy traffic. Cellular networks are well suited for offering reliable and secure connections to the UAVs as well as facilitating traffic management systems to enhance safe operation. However, for the full-scale integration of UAVs that perform critical and high-risk tasks, more advanced solutions are required to improve wireless connectivity in mobile networks. In this context, integrated access and backhaul (IAB) is an attractive approach for the UAVs to enhance connectivity and traffic forwarding. In this paper, we study a novel approach to dynamic associations based on reinforcement learning at the edge of the network and compare it to alternative association algorithms. Considering the average data rate, our results indicate that the reinforcement learning methods improve the achievable data rate. The optimal parameters of the introduced algorithm are highly sensitive to the donor next generation node base (DgNB) and UAV IAB node densities, and need to be identified beforehand or estimated via a stateful search. However, its performance nearly converges to that of the ideal scheme with a full knowledge of the data rates in dense deployments of DgNBs.

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Electrical Engineering, Research group: Emerging Technologies for Nano-Bio-Info-Cogno, Research

group: Wireless Communications and Positioning, Intel Corporation

Contributors: Tafintsev, N., Moltchanov, D., Simsek, M., Yeh, S. P., Andreev, S., Koucheryavy, Y., Valkama, M.

Number of pages: 7

Publication date: 2020

Host publication information

Title of host publication: 2020 IEEE International Conference on Communications Workshops, ICC Workshops 2020 - Proceedings

Publisher: IEEE

ISBN (Print): 978-1-7281-7441-9

ISBN (Electronic): 9781728174402

Publication series

Name: IEEE/CIC international conference on communications in China - workshops

ISSN (Print): 2474-9133

ISSN (Electronic): 2474-9141

ASJC Scopus subject areas: Artificial Intelligence, Computer Networks and Communications, Signal Processing, Information Systems and Management, Control and Optimization

DOIs:

10.1109/ICCWorkshops49005.2020.9145423

Bibliographical note

JUF0ID=88220

Source: Scopus

Source ID: 85090294995

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

Reinforcement Corrosion Modelling in Renovation Strategy for Concrete Facades

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Department of Civil Engineering, Research group: Service Life Engineering of Structures

Contributors: Köliö, A., Lahdensivu, J., Pentti, M.

Pages: 199-211

Publication date: 2016

Host publication information

Title of host publication: Proceedings of the CIB World Building Congress 2016: Volume III - Building Up Business Operations and Their Logic. Shaping Materials and Technologies

Publisher: Tampere University of Technology. Department of Civil Engineering

ISBN (Electronic): 978-952-15-3743-1

URLs:

<http://urn.fi/URN:ISBN:978-952-15-3743-1>

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

Referenced backscattering compression level indicator based on passive UHF RFID tags

We establish a passive UHF RFID tag as a sensor with a referenced readout to compression. We introduce the sensor tag design, which is based on a two-part split ring resonator antenna, and present the compression sensor platform with a reference tag. We analyze the achieved wireless measurement results and evaluate the performance of the compression sensing platform. Based on these initial measurements, passive RFID-based sensors could provide a maintenance-free wirelessly readable option for compression sensing, for example for structural health monitoring.

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Faculty of Biomedical Sciences and Engineering, Research group: Wireless Identification and Sensing Systems Research Group, BioMediTech

Contributors: Qureshi, S., Björninen, T., Virkki, J.

Number of pages: 3

Publication date: 26 Sep 2018

Host publication information

Title of host publication: 2018 IEEE International Conference on RFID Technology & Application (RFID-TA)

Publisher: IEEE

ISBN (Electronic): 978-1-5386-5057-8

DOIs:

10.1109/RFID-TA.2018.8552830

Bibliographical note

JUF0ID=72031

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

Reducing uncertainties in above-ground biomass estimates using terrestrial laser scanning

General information

Publication status: Published

MoE publication type: D3 Professional conference proceedings

Organisations: Department of Mathematics, Research group: MAT Inverse Problems, Univ Melbourne, University of Melbourne, Melbourne Sch Land & Environm

Contributors: Calders, K., Burt, A., Newnham, G., Disney, M., Murphy, S., Raunonen, P., Herold, M., Culvenor, D., Armston, J., Avitabile, V., Kaasalainen, M.

Number of pages: 3

Pages: 197-199

Publication date: 2015

Host publication information

Title of host publication: Proceedings of SilviLaser 2015 : 14th conference on Lidar Applications for Assessing and Managing Forest Ecosystems

URLs:

https://silvilaser2015.teledetection.fr/files/Proceedings_Silvilaser_22_09_2015_2.pdf (Conference proceedings)

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Professional

Recurrence network analysis of wide band oscillations of local field potentials from the primary motor cortex reveals rich dynamics.

Aggregate signals that reflect activities of a large number of neurons in the cerebral cortex, local field potentials (LFPs) have been observed to mediate gross functional activities of a relatively small volume of the brain tissues. There are several bands of the oscillations frequencies in LFPs that have been observed across multiple brain areas. The signature oscillation band of the LFPs in the primary motor cortex (MI) is over β range and it has been consistently observed both in human and non-human primates around the time of visual cues and movement onsets. However, its dynamical behavior has not been well characterized. Furthermore, dynamics of β oscillations has been documented based on the phase locking of β oscillations, but not in terms of the inherent dynamics of the oscillations themselves. Here, we used the complexity measure derived from cluster coefficients of a recurrence network and analyzed a pair of wide-band signals, one including β band of the LFPs and the other ranging the low γ band in MI recorded from a non-human primate. We show rather unique temporal profiles of the evoked responses using complexity of the dynamical behavior in both bands of the oscillation, either of which is not simply resembling either the power of the oscillation or the phase locking of β oscillations. Therefore, the current method can reveal a new type of dynamics of the underlying network complexity during the task simply based on event evoked potentials of wide-band oscillatory signals.

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Department of Electronics and Communications Engineering, Research group: Computational Biophysics and Imaging Group, BioMediTech, Integrated Technologies for Tissue Engineering Research (ITTE), Department of Organismal Biology and Anatomy, University of Chicago

Contributors: Subramaniam, N. P., Hyttinen, J., Hatsopoulos, N. G., Takahashi, K.

Number of pages: 4

Pages: 960-963

Publication date: 1 Jul 2015

Host publication information

Title of host publication: International IEEE/EMBS Conference on Neural Engineering, NER

Publisher: IEEE COMPUTER SOCIETY PRESS

ISBN (Print): 9781467363891

ASJC Scopus subject areas: Artificial Intelligence, Mechanical Engineering

Keywords: event evoked potentials, functional connectivity, Local field potentials, motor cortex, recurrence network, temporal dynamics

DOIs:

10.1109/NER.2015.7146785

Source: Scopus

Source ID: 84940371617

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

Recognition of shading events caused by moving clouds and determination of shadow velocity from solar radiation measurements

Fast variability of solar radiation is the main cause of fluctuating photovoltaic (PV) power production and shadows caused by overpassing clouds are the main reason of such variability. Fast irradiance transitions caused by the edges of shadows can lead to situations where the grid inverter is not able to follow the global maximum power point (MPP) causing extra losses. Further, fast fluctuations of the power fed to the electric grid can cause, for example, power balance and quality problems. This paper presents a method to recognize shading events caused by moving clouds from measured irradiance data. The developed recognition method has been used to analyse shading events from 15 months of full-time irradiance recordings and the results of the analysis are presented. Further, the Linear Cloud Edge (LCE) method has been used to determinate velocities of the shadows.

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Department of Electrical Engineering, Research area: Power engineering

Contributors: Lappalainen, K., Valkealahti, S.

Number of pages: 6

Pages: 1568-1573
Publication date: 14 Sep 2015

Host publication information

Title of host publication: 31st European Photovoltaic Solar Energy Conference and Exhibition (31st EU PVSEC), 14– 18 September, 2015, Hamburg, Germany

ISBN (Print): 3-936338-39-6

ASJC Scopus subject areas: Energy(all)

DOIs:

10.4229/EUPVSEC20152015-5AO.7.5

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Recognising the culture context in information search

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Pori Department, Research group: Software Engineering and Intelligent Systems, Christian-Albrechts-University Kiel

Contributors: Jaakkola, H., Thalheim, B.

Number of pages: 9

Pages: 167-185

Publication date: 2016

Host publication information

Title of host publication: Proceedings of the 26th International Conference on Information Modelling and Knowledge Bases - EJC 2016. : June 6-10, 2016, Tampere, Finland.

Volume: 18

Place of publication: Tampere

Publisher: Tampere University of Technology Pori Department

Editors: Jaakkola, H., Thalheim, B., Kiyoki, Y., Yoshida, N.

ISBN (Electronic): 978-952-15-3747-9

Publication series

Name: Tampere University of Technology Pori Department Publications

No.: 18

ISSN (Electronic): 2323-8976

URLs:

<http://www.tut.fi/en/ejc/ejc-2016/index.htm>

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Recent progress in wafer-fused VECSELs emitting in the 1310 nm waveband

Over the last years we have continuously improved the performance of 1300 nm band VECSELs with wafer fused gain mirrors in the intra-cavity diamond and the flip-chip heat dissipation configurations. In this work we present recent results for gain mirrors that implement both heat-dissipation schemes applied to the same fused gain mirror structure. We demonstrate record high output powers of 7.1 W in the intra-cavity diamond heat-spreader configuration and 6.5 W in the flip-chip heat dissipation scheme. These improvements are achieved due to optimization of the wafer fused gain mirror structure based on AlGaInAs/InP-active region fused to AlAs-GaAs distributed Bragg reflector (DBR) and application of efficient methods of bonding semiconductor gain mirror chips to diamond heatspreaders.

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Optoelectronics Research Centre, Research group: Ultrafast and intense lasers, Frontier Photonics, École Polytechnique Fédérale de Lausanne, CH-1015 Lausanne, Switzerland

Contributors: Sirbu, A., Rantamäki, A., Iakolev, V., Mereuta, A., Caliman, A., Volet, N., Lyytikäinen, J., Okhotnikov, O., Kapon, E.

Number of pages: 7

Publication date: 2015

Host publication information

Title of host publication: Proceedings of SPIE vol. 8966, 2014.

Place of publication: BELLINGHAM

Publisher: SPIE

Editor: Guina, M.

Publication series

Name: Proceedings of SPIE

Publisher: SPIE-INT SOC OPTICAL ENGINEERING

Volume: 9349

ISSN (Print): 0277-786X

Keywords: Wafer-fused vertical-external-cavity surface-emitting lasers (VECSELs), wafer-fused gain mirrors, optically pumped VECSELs, photonics technology, SEMICONDUCTOR DISK LASER

DOIs:

10.1117/12.2079752

Source: WOS

Source ID: 000353134900006

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Real Time Measurements of Temporal Rogue Waves and Spontaneous Modulation Instability in Optical Fiber

We report the first real-time study of temporal rogue waves from spontaneous modulation instability. Time-lens magnification enables the direct capture of transient breather pulses and statistics, with measured intensity profiles in agreement with theory.

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Department of Physics

Contributors: Narhi, M., Wetzel, B., Billet, C., Merolla, J., Toenger, S., Sylvestre, T., Morandotti, R., Genty, G., Dias, F., Dudley, J. M.

Number of pages: 2

Publication date: 2016

Host publication information

Title of host publication: CLEO: QELS_Fundamental Science 2016

Publisher: Optical Society of America

Article number: FF2A.7

ISBN (Print): 978-1-943580-11-8

Keywords: Pulse propagation and temporal solitons, Nonlinear optics, fibers, Ultrafast measurements

DOIs:

10.1364/CLEO_QELS.2016.FF2A.7

URLs:

http://www.osapublishing.org/abstract.cfm?URI=CLEO_QELS-2016-FF2A.7

Source: Bibtex

Source ID: urn:031dc5c9ecd136bcf8278ec95dc470ce

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Real-time measurements of nonlinear instabilities in optical fibers

We review recent advances in the real-time characterization of instabilities in nonlinear fiber optics systems. In particular, we show how these techniques can provide novel insight into the dynamics of ultrafast complex optical systems.

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Photonics, UMR 6174

Contributors: Ryczkowski, P., Närhi, M., Billet, C., Merolla, J. M., Dudley, J. M., Genty, G.

Publication date: 2018

Host publication information

Title of host publication: CLEO : Applications and Technology, CLEO_AT 2018

Publisher: OSA - The Optical Society

ISBN (Electronic): 9781557528209

ASJC Scopus subject areas: Electronic, Optical and Magnetic Materials, Mechanics of Materials

DOIs:

10.1364/CLEO_AT.2018.AF2Q.1

Source: Scopus

Source ID: 85049124778

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Real-time measurements of dissipative solitons in a mode-locked fiber laser

Dissipative solitons are remarkable localized states of a physical system that arise from the dynamical balance between nonlinearity, dispersion and environmental energy exchange. They are the most universal form of soliton that can exist in nature, and are seen in far-from-equilibrium systems in many fields including chemistry, biology, and physics. There has been particular interest in studying their properties in mode-locked lasers producing ultrashort light pulses, but experiments have been limited by the lack of convenient measurement techniques able to track the soliton evolution in real-time. Here, we use dispersive Fourier transform and time lens measurements to simultaneously measure real-time spectral and temporal evolution of dissipative solitons in a fiber laser as the turn-on dynamics pass through a transient unstable regime with complex break-up and collision dynamics before stabilizing to a regular mode-locked pulse train. Our measurements enable reconstruction of the soliton amplitude and phase and calculation of the corresponding complex-valued eigenvalue spectrum to provide further physical insight. These findings are significant in showing how real-time measurements can provide new perspectives into the ultrafast transient dynamics of complex systems.

General information

Publication status: Published

MoE publication type: B1 Article in a scientific magazine

Organisations: Photonics, Research group: Nonlinear Fiber Optics, Research area: Optics

Contributors: Ryczkowski, P., Närhi, M., Billet, C., Merolla, J. -, Genty, G., Dudley, J. M.

Publication date: 26 Jun 2017

Peer-reviewed: No

Publication information

Journal: arXiv eprint

ISSN (Print): 2331-8422

Original language: English

Keywords: physics.optics, nlin.PS

Electronic versions:

1706.08571v2

Bibliographical note

See also M. Närhi, P. Ryczkowski, C. Billet, G. Genty, J. M. Dudley, Ultrafast Simultaneous Real Time Spectral and Temporal Measurements of Fibre Laser Modelocking Dynamics, 2017 Conference on Lasers and Electro-Optics Europe & European Quantum Electronics Conference, paper EE-3.5 (2017)

Source: ArXiv

Source ID: <http://arxiv.org/abs/1706.08571v2>

Research output: Contribution to journal > Article > Scientific

Real-Time Impedance-Based Stability Assessment of Grid Converter Interactions

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Automation and Hydraulic Engineering, Research area: Dynamic Systems, Research area: Measurement Technology and Process Control, Research area: Measurement Technology and Process Control, Electrical Energy Engineering, Aalborg University

Contributors: Messo, T., Luhtala, R., Roinila, T., Yang, D., Wang, X., Blaabjerg, F.

Number of pages: 8

Publication date: 2017

Host publication information

Title of host publication: IEEE Workshop on Control and Modeling for Power Electronics

ISBN (Electronic): 978-1-5090-5326-1

Electronic versions:

COMPEL_2017_final_version

DOIs:

10.1109/COMPEL.2017.8013384

URLs:

<http://urn.fi/URN:NBN:fi:tuni-202003032474>

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

Real-time human pose estimation with convolutional neural networks

In this paper, we present a method for real-time multi-person human pose estimation from video by utilizing convolutional neural networks. Our method is aimed for use case specific applications, where good accuracy is essential and variation of the background and poses is limited. This enables us to use a generic network architecture, which is both accurate and fast. We divide the problem into two phases: (1) pre-training and (2) finetuning. In pre-training, the network is learned with

highly diverse input data from publicly available datasets, while in finetuning we train with application specific data, which we record with Kinect. Our method differs from most of the state-of-the-art methods in that we consider the whole system, including person detector, pose estimator and an automatic way to record application specific training material for finetuning. Our method is considerably faster than many of the state-of-the-art methods. Our method can be thought of as a replacement for Kinect in restricted environments. It can be used for tasks, such as gesture control, games, person tracking, action recognition and action tracking. We achieved accuracy of 96.8% (PCK@0.2) with application specific data.

General information

Publication status: Published
MoE publication type: A4 Article in a conference publication
Organisations: Signal Processing, Univ of Oulu, Aalto University
Contributors: Linna, M., Kannala, J., Rahtu, E.
Number of pages: 8
Pages: 335-342
Publication date: 2018

Host publication information

Title of host publication: VISIGRAPP 2018 - Proceedings of the 13th International Joint Conference on Computer Vision, Imaging and Computer Graphics Theory and Applications
Volume: 5
Publisher: SCITEPRESS
ISBN (Electronic): 9789897582905
ASJC Scopus subject areas: Computer Vision and Pattern Recognition, Computer Graphics and Computer-Aided Design, Artificial Intelligence
Keywords: Convolutional neural networks, Human pose estimation, Person detection
DOIs:
10.5220/0006624403350342
URLs:
<https://arxiv.org/pdf/1609.07420>
Source: Scopus
Source ID: 85047804818
Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

Ready to sell? Requirements for promoting service selling in a manufacturing firm

General information

Publication status: Published
MoE publication type: A4 Article in a conference publication
Organisations: Industrial and Information Management, Research group: Center for Research on Operations Projects and Services
Contributors: Vaittinen, E., Martinsuo, M.
Number of pages: 9
Pages: 26-34
Publication date: May 2018

Host publication information

Title of host publication: Proceedings of the Spring Servitization Conference, Driving Competitiveness through Servitization, 14-16 May 2018
Publisher: Aston University
Editors: Bigdeli, A., Frandsen, T., Raja, J., Baines, T.
ISBN (Print): 9781854494481
Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

Reaction heat utilization in aluminosilicate-based ceramics synthesis and sintering

Self-propagating high-temperature synthesis (SHS) is a widely known and extensively studied highly exothermic reaction-utilizing technique for making certain advanced composites and intermetallic compounds. However, only few studies have been published about the SHS of pure aluminosilicate ceramics. In the current work, possibilities for aluminosilicate ceramic synthesis and sintering requiring less energy based on the utilization of SHS in air was studied. Kaolinite powder and exothermically reactive metallic aluminium powder were used as raw materials. Thermodynamic calculations for the possible reactions and reaction paths were performed to show the theoretical possibilities for SHS utilization. The chemical reactions, thermal expansion behaviour and formed phase- and microstructures after SHS were compared to the conventional reaction sintering of mullite. Results conclude that highly exothermic reactions above 900 °C relating mainly to aluminium oxidation can ignite the SHS reaction in air atmosphere. After initialization, the reaction proceeded in a self-sustaining manner through entire test pieces, resulting in the formation of an Al₂O₃ - Si phase structure. Thermodynamic calculations showed the total energy balance for mullite formation from aluminium and kaolinite mixtures as highly

exothermic in nature only if sufficient oxygen is available to complete the reactions. However, future research is needed to fully utilize SHS in aluminosilicate ceramics processing.

General information

Publication status: Published

MoE publication type: A1 Journal article-refereed

Organisations: Materials Science, Research group: Ceramic materials, VTT Technical Research Centre of Finland

Contributors: Karhu, M., Lagerbom, J., Kivikytö-Reponen, P., Ismailov, A., Levänen, E.

Number of pages: 12

Pages: 101-112

Publication date: 1 Mar 2017

Peer-reviewed: Yes

Publication information

Journal: Journal of Ceramic Science and Technology

Volume: 8

Issue number: 1

ISSN (Print): 2190-9385

Ratings:

Scopus rating (2017): CiteScore 1.8 SJR 0.374 SNIP 0.778

Original language: English

ASJC Scopus subject areas: Ceramics and Composites

Keywords: Aluminosilicate ceramics, Exothermic reactions, Self-propagating high-temperature synthesis, SHS, Sintering, Synthesis

Electronic versions:

10.4416_JCST2016-00094

DOIs:

10.4416/JCST2016-00094

URLs:

<http://urn.fi/URN:NBN:fi:tuni-201912106714>

Bibliographical note

EXT="Lagerbom, J."

Source: Scopus

Source ID: 85017026033

Research output: Contribution to journal > Article > Scientific > peer-review

Raudoitteiden korroosionopeuden määrittäminen betonijulkisivussa korkean aikaresoluution säädätan avulla

General information

Publication status: Published

MoE publication type: B3 Non-refereed article in conference proceedings

Organisations: Department of Civil Engineering, Research group: Service Life Engineering of Structures, Research group: Building Physics, The Finnish Meteorological Institute. Ilmatieteen laitos.

Contributors: Köliö, A., Hohti, H., Pakkala, T., Laukkarinen, A., Lahdensivu, J., Mattila, J.

Number of pages: 8

Pages: 195-202

Publication date: 20 Oct 2015

Host publication information

Title of host publication: Rakennusfysiikka 2015. Uusimmat tutkimustulokset ja hyvät käytännön ratkaisut. 20.-22.10.2015, Tampere.

Publisher: Tampereen teknillinen yliopisto, rakennustekniikan laitos, rakennetekniikka

ISBN (Print): 978-952-15-3580-2

Publication series

Name: Rakennustekniikan laitos. Rakennetekniikka. Seminaarijulkaisu

No.: 4

ASJC Scopus subject areas: Building and Construction, Civil and Structural Engineering

URLs:

<http://www.tut.fi/cs/groups/public/@I912/@web/@p/documents/liit/x124266.pdf>

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific

Raudoitetun betonirakenteen taivutuksen mallintaminen Ansys-ohjelmalla

General information

Publication status: Published

MoE publication type: B3 Non-refereed article in conference proceedings

Organisations: Department of Civil Engineering, Research group: Metal and Light-wight structures, Research group: Structural Mechanics

Contributors: Pietilä, J., Mäkinen, J.

Number of pages: 7

Pages: 91-96

Publication date: Jun 2015

Host publication information

Title of host publication: Proceedings of the XII Finnish Mechanics Days

Place of publication: Helsinki

Publisher: Rakenteiden Mekaniikan Seura ry

Editors: Kouhia, R., Mäkinen, J., Pajunen, S., Saksala, T.

ISBN (Print): 978-952-93-5608-9

ISBN (Electronic): 978-952-93-5609-6

URLs:

http://rmseura.tkk.fi/smp_proceedings/SMP12_Proceedings.pdf

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific

Rational Number Knowledge Assessment and Training With a Game Competition

Raising awareness of educational games and game-based learning is an important step for large-scale adoption of these new educational methods. Digital game-based learning provides unique opportunities to engage students in learning, which is especially important for subjects that students struggle with, such as mathematics. Therefore, the aim of the current paper was to evaluate the usefulness of a math game competition for engaging, assessing, and training rational numbers in students from different schools. In particular, we investigated whether playing a digital game would improve students'

magnitude understanding of rational numbers and whether playing behavior can be used for assessment purposes.

Finnish fourth ($n = 59$; $Mage = 10.36$) and sixth-graders ($n = 105$; $Mage = 12.34$) participated in a math game competition relying on intra-classroom cooperation and inter-classroom competition. The students played a digital rational number game called Semideus, which is founded on number line estimation task mechanics in which players have to estimate the spatial position of a target number on a number line with only its start and endpoint specified. In previous empirical studies, this task mechanic has been successfully used to assess and foster students number magnitude understanding in conventional non-game based settings. Consequently, students were allowed to play the game as much as they wanted during a three-week period in order to improve their rational number knowledge and were able to check the status of the competition online. As expected, sixth grade students performed more accurately than fourth grade students in the game-based rational number magnitude estimation tasks. Moreover, results indicated that students benefited significantly from participating in the math game competition with respect to rational number knowledge. Importantly, the Semideus game was particularly effective with students who started with less rational number knowledge. Overall, the study demonstrated that participation in a math game competition seems to be a useful and engaging approach to assess and support the development of students' rational number knowledge.

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Pervasive Computing, Research group: TUT Game Lab

Contributors: Kiili, K., Ojansuu, K., Lindstedt, A., Ninaus, M.

Pages: 320-327

Publication date: Oct 2017

Host publication information

Title of host publication: Proceedings of The 11th European Conference on Game-Based Learning ECGBL 2017

Publisher: Academic Conferences and Publishing International Limited

ISBN (Electronic): 978-1-911218-57-9

Keywords: Rational numbers, Game-based learning, Competition, Assessment, Number line

Electronic versions:

Rational Number Knowledge Assessment and Training With a Game Competition

URLs:

<http://urn.fi/URN:NBN:fi:tty-201901221136>

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Random Value Impulse Noise Removal Based on Most Similar Neighbors

A novel filter based on four most similar neighbors (MSN) is proposed in this paper which considers all the pixels of the sliding window except the central pixel after taking the first order absolute differences from the central pixel. The proposed filter is composed of two steps: noise detection followed by filtering. In noise detection, first order absolute differences are calculated and sorted in ascending order. Clusters of equal sizes are formed based on most similar pixels and then fuzzy rules are applied to detect the noise present in the current pixel. Threshold parameters are set adaptively. In filtering phase, median based fuzzy filter is used to restore the corrupted pixels. Experimental results show that the proposed filter outperforms several state-of-the-art filters for random value impulse noise removal in an image.

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Department of Electronics and Communications Engineering, International Islamic University Islamabad

Contributors: Habib, M., Rasheed, S., Hussain, A., Ali, M.

Number of pages: 5

Pages: 329-333

Publication date: 26 Feb 2016

Host publication information

Title of host publication: 2015 13th International Conference on Frontiers of Information Technology (FIT)

Publisher: IEEE

ISBN (Print): 9781467396660

ASJC Scopus subject areas: Health Informatics, Computer Science Applications, Signal Processing

Keywords: fuzzy logic, Image processing, impulse noise, noise removal

DOIs:

10.1109/FIT.2015.64

Bibliographical note

INT=elt,"Ali, Mubashir"

Source: Scopus

Source ID: 84964689604

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

Random lasing control with optical spatial solitons in nematic liquid crystals

We discuss the synergy of reorientational self-focusing and random lasing in a dye-doped nematic liquid crystalline material. The laser emission resulting from amplification and multiple scattering inside the medium can be either modulated or triggered depending on the energy of the visible pump beam and the power of the near-infrared spatial soliton, respectively exciting the two nonlinear responses. Moreover, the presence of the self-induced waveguide improves the properties of the emitted beam, i. e., directionality and profile. Finally, the laser light can be re-directed by steering the spatial soliton with the aid of an external low-frequency electric field.

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Physics, Research group: Nonlinear Optics, University "Roma Tre", Case Western Reserve University, Univ Roma Tre, Roma Tre University, Dept Elect Engr, NooEL

Contributors: Piccardi, A., Perumbilavil, S., Kauranen, M., Strangi, G., Assanto, G.

Number of pages: 5

Pages: 289-293

Publication date: 2019

Host publication information

Title of host publication: PHOTOPTICS 2019 - Proceedings of the 7th International Conference on Photonics, Optics and Laser Technology

Publisher: SCITEPRESS

Editors: Ribeiro, P., Raposo, M., Andrews, D.

ISBN (Electronic): 9789897583643

ASJC Scopus subject areas: Atomic and Molecular Physics, and Optics

Keywords: Nematic Liquid Crystals, Optical Spatial Solitons, Random Laser

DOIs:

10.5220/0007575102890293

Bibliographical note

EXT="Assanto, Gaetano"

Source: Scopus

Source ID: 85064602881

Rakenteiden ääneneristyskyvystä asumismelun kokemiseen

General information

Publication status: Published

MoE publication type: D2 Article in professional manuals or guides or professional information systems or text book material

Organisations: Department of Civil Engineering, Research group: Building Acoustics

Contributors: Kylliäinen, M.

Number of pages: 5

Pages: 92-96

Publication date: 2015

Host publication information

Title of host publication: Rakentajain Kalenteri

Place of publication: Helsinki

Publisher: Rakennustieto Oy

ASJC Scopus subject areas: Acoustics and Ultrasonics

Keywords: acoustics, building acoustics, sound insulation

Research output: Chapter in Book/Report/Conference proceeding › Chapter › Professional

Rakennusten rakennusfysikaalisen suunnittelun ja toteutuksen periaatteet

General information

Publication status: Published

MoE publication type: D2 Article in professional manuals or guides or professional information systems or text book material

Organisations: Department of Civil Engineering, Research group: Building Physics

Contributors: Vinha, J.

Number of pages: 28

Pages: 399-426

Publication date: 2015

Host publication information

Title of host publication: Rakentajain kalenteri 2016

Publisher: Rakennustieto Oy

Publication series

Name: Rakentajain kalenteri

Publisher: Rakennustieto Oy

Volume: 100

ISSN (Print): 0355-550X

ISSN (Electronic): 1799-9391

Research output: Chapter in Book/Report/Conference proceeding › Chapter › Professional

Rakennusten energiatehokkuuden parantamisen vaikutukset - Insulate-projektin tuloksia

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Research group: Concrete and Bridge Structures, Research area: Structural Engineering, Department of Civil Engineering, Research group: Building Physics, Natl Inst Hlth & Welf, Finland National Institute for Health & Welfare, Dept Environm Hlth

Contributors: Leivo, V., Turunen, M., Aaltonen, A., Kiviste, M., Pekkonen, M., Haverinen-Shaughnessy, U.

Number of pages: 12

Pages: 369-380

Publication date: 2015

Host publication information

Title of host publication: Rakennusfysiikka 2015 : Uusimmat tutkimustulokset ja hyvät käytännön ratkaisut, 20.-22-10.2015, Tampere

Publisher: Tampereen teknillinen yliopisto, rakennustekniikan laitos, rakennetekniikka

ISBN (Print): 978-952-15-3580-2

URLs:

<http://www.tut.fi/cs/groups/public/@I912/@web/@p/documents/liit/x124278.pdf>

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Rakennusfysiikka 2015. Uusimmat tutkimustulokset ja hyvät käytännön ratkaisut: 20.-22.10.2015, Tampere. Seminaarijulkaisu 4

General information

Publication status: Published

MoE publication type: C2 Edited books

Organisations: Department of Civil Engineering, Research group: Building Physics

Contributors: Vinha, J. (ed.), Ruuska, T. (ed.)

Publication date: 2015

Publication information

Place of publication: Tampere

Publisher: Tampereen teknillinen yliopisto. Rakennustekniikan laitos

ISBN (Print): 978-952-15-3580-2

Original language: Finnish

Publication series

Name: Tampereen teknillinen yliopisto, rakennustekniikan laitos, rakennetekniikka, seminaarijulkaisu

Publisher: Tampereen teknillinen yliopisto

Electronic versions:

2015_alkusivut

2015_artikkelit

URLs:

<http://urn.fi/URN:ISBN:978-952-15-3580-2>

Research output: Book/Report › Anthology › Scientific › peer-review

Rakennuksen ääniolosuhteiden suunnittelu ja toteutus

General information

Publication status: Published

MoE publication type: D4 Published development or research report or study

Organisations: Civil Engineering, Research group: Building Acoustics, Turku University of Applied Sciences

Contributors: Kylliäinen, M., Hongisto, V.

Number of pages: 50

Publication date: Dec 2019

Publication information

Place of publication: Helsinki

Publisher: Ympäristöministeriö

ISBN (Electronic): 978-952-361-035-4

Original language: Finnish

Publication series

Name: Ympäristöministeriön julkaisuja

Publisher: Ympäristöministeriö

No.: 28

ASJC Scopus subject areas: Acoustics and Ultrasonics

Keywords: akustiikka, huoneakustiikka, puheenerotettavuus, avoin oppimisympäristö, avotoimisto, opetustila

URLs:

<http://urn.fi/URN:ISBN:978-952-361-035-4>

Research output: Book/Report › Commissioned report › Professional

Raitiotien seisakkeet: Yhdyskuntasuunnittelun jatkokurssi A ja B

Vuoden 2014 Yhdyskuntasuunnittelun jatkokurssin aiheena oli Tampereelle toteutettava kaupunkiraitiotie, joka tulee helpottamaan huomattavasti kulkemista Tampereella tulevaisuudessa.

Kurssi oli sisällöltään ja osallistujiltaan epätavanomainen. Osallistujia kurssilla oli useammasta eri tiedekunnasta: Tampereen teknillisen yliopiston arkkitehtiopiskelijoita ja liikennesuunnittelun opiskelijoita, Tampereen yliopistolta psykologian sekä sosiologian opiskelijoita.

Kolmiosaisen kurssin painopiste oli urban design-osuudella, muiden ollessa vapaavalintaisia. Suunnittelukohteina poikkitieteellisesti muodostetuilla ryhmillä oli kolme Tampereen raitiotien yleissuunnitelmassa esitettyä seisaketta: Hakametsä, Turtola ja Hallila. Useat osallistujat olivat valinneet myös planning-osuuden, johon koottiin jäsenistö kunkin seisakkeen design-osuuden ryhmistä.

General information

Publication status: Published

MoE publication type: D4 Published development or research report or study

Organisations: School of Architecture, Research group: Urban Planning

Contributors: Chudoba, M. (ed.), Rajaniemi, J. (ed.), Virkkala, J. (ed.)

Number of pages: 74

Publication date: 2015

Publication information

Publisher: Tampere University of Technology, School of Architecture

ISBN (Print): 978-952-15-3456-0

ISBN (Electronic): 978-952-15-3457-7

Original language: Finnish

Electronic versions:

raiotien_seisakkeet

URLs:

<http://URN.fi/URN:ISBN:978-952-15-3457-7>

Bibliographical note

Versio ok 14.12.2015

Research output: Book/Report › Commissioned report › Professional

Radical programmes for developing the EU residential building sectors as exemplified by Finland and the Netherlands

The economic recession has hit especially hard the residential building sector in the EU region, e.g., the number of the housing completions has decreased -49% and the total residential output has been squeezed down by -24% between 2007 and 2014 (Euroconstruct, 2015). In turn, the aim of our paper is to suggest a set of radical, novel programmes for developing the national residential building sectors within EU member countries up to 2025. We have applied the framework of strategic niche management (SNM) to the diagnoses of the current portfolios of the innovation, R&D programs in our two member country contexts. In the case of the Northern Finland, the prime example is Hiukkavaara, the largest district to be built in the City of Oulu. Homes will be constructed for 20,000 new residents. Hiukkavaara is a model for climate-conscious design in the northern hemisphere. Energy and materials are conserved, nature is valued and human beings adapt to their environment. One sub-programme involves Future Buildings and Renewable Energy Project. In the case of the Netherlands, the prime example is Energiesprong (Energy Leap), i.e., the innovation programme commissioned by the Dutch Ministry of the Interior. The aim is to make buildings energy-neutral and boost large-scale initiatives. The sub-programmes are targeting homes owned by housing associations, privately owned homes, office buildings, shops and care institutions. This programme is about ensuring new supply by encouraging companies to package a variety of technical sub-solutions, full services and financing options as well as about asking clients to put out tenders and ask for quotes in novel ways, with the government making changes to the rules and the regulations. Experiences on which the Dutch case in this paper focuses are sub-programmes for residential buildings which includes Rapids, All Lights on Green and Our Home Deserves It. Based on the emerging Finnish and Dutch evidence, we are suggesting key elements to be incorporated into future national residential programmes within EU member countries on: (1) radical direction with balanced stakeholder groups, trustworthy advocates, contextual goal-setting and barriers management, (2) radical networking with entrepreneurial roles and causal links, novel expertise, transparent choices and digital platforms and (3) radical learning processes to arrive at better informed markets on user preferences, co-innovating, new rules and regulations, higher performance/price ratios, higher quality, new roles and responsibilities assignments.

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Department of Civil Engineering, Research group: Digitalization in the real estate and construction sector, Hanse University of Applied Sciences, Saxion University of Applied Sciences

Contributors: Oostra, M., Huovinen, P.

Number of pages: 12

Pages: 17-28

Publication date: 28 May 2016

Host publication information

Title of host publication: Proceedings of CIB World Building Congress 2016, May 30 - June 3, 2016 Tampere, Finland :

Creating built environments of new opportunities

Volume: I

Place of publication: Tampere

Publisher: Tampere University of Technology. Department of Civil Engineering

ISBN (Print): 978-952-15-3741-7

ASJC Scopus subject areas: Engineering(all)

Keywords: Hiukkavaara, Energiesprong, innovation programme, residential building sector

Electronic versions:

WBC16 Oostru M and Huovinen P, Radical programmes for developing the EU residential sectors as exemplified by Finland and the Netherlands

URLs:

<http://urn.fi/URN:NBN:fi:tty-201611214720>

URLs:

<http://www.wbc16.com/wbc16/welcome.html>

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

Quenching nematicon fluctuations via photo-stabilization

Light localization into optical spatial solitons can be achieved by launching optical beams in nonlocal nonlinear nematic liquid crystals. Such solitons often undergo undesired fluctuations of their trajectories. We demonstrate that partial polymerization in monoacrylate-doped nematic liquid crystals is effective in quenching such fluctuations in transverse space.

General information

Publication status: Published

MoE publication type: A1 Journal article-refereed

Organisations: Department of Physics, Research area: Optics, Research group: Nonlinear Optics, Department of Chemistry and Bioengineering, Research group: Supramolecular photochemistry

Contributors: Karimi, N., Alberucci, A., Virkki, M., Priimägi, A., Kauranen, M., Assanto, G.

Number of pages: 3

Pages: 2-4

Publication date: 31 Mar 2016

Peer-reviewed: Yes

Publication information

Journal: Photonics Letters of Poland

Volume: 8

Issue number: 1

ISSN (Print): 2080-2242

Ratings:

Scopus rating (2016): CiteScore 0.9 SJR 0.197 SNIP 0.272

Original language: English

Electronic versions:

626-2449-1-PB

DOIs:

10.4302/plp.2016.1.02

URLs:

<http://urn.fi/URN:NBN:fi:tty-201604253877>

Research output: Contribution to journal > Letter > Scientific > peer-review

Quantitative structure tree models from terrestrial laser scanner data

General information

Publication status: Published

MoE publication type: D3 Professional conference proceedings

Organisations: Department of Mathematics, Research group: MAT Inverse Problems

Contributors: Raunonen, P. A.

Number of pages: 3

Pages: 32-34

Publication date: 2015

Host publication information

Title of host publication: Proceedings of SilviLaser 2015 : 14th conference on Lidar Applications for Assessing and Managing Forest Ecosystems

URLs:

https://silvilaser2015.teledetection.fr/files/Proceedings_Silvilaser_22_09_2015_2.pdf (Conference proceedings)

Quantitative Estimation of Long-living Fluorescent Molecules from Temporal Fluorescence Intensity Data Corrupted by Nonzero-mean Noise

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Department of Signal Processing, Research group: Laboratory of Biosystem Dynamics-LBD, Research area: Information Technology for Biology and Health, Research area: Intelligence in Machines, Research group: MMDM, Research area: Signal and Information Processing

Contributors: Startceva, S., Chandraseelan, J. G., Visa, A., Ribeiro, A. S.

Pages: 17-24

Publication date: 2016

Host publication information

Title of host publication: BIOSIGNALS 2016 - 9th International Conference on Bio-Inspired Systems and Signal Processing, Proceedings; Part of 9th International Joint Conference on Biomedical Engineering Systems and Technologies, BIOSTEC 2016

Publisher: SCITEPRESS

ISBN (Print): 9789897581700

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Quantification of the ionic current contributions to alterations in the action potential repolarization by means of piecewise-linear approximation

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Research group: Computational Biophysics and Imaging Group, Department of Electronics and Communications Engineering, BioMediTech

Contributors: Paci, M., Hyttinen, J., Severi, S.

Number of pages: 4

Pages: 145-148

Publication date: 2015

Host publication information

Title of host publication: Computing in cardiology 2015

Publication series

Name: Computing in Cardiology

Publisher: Long Beach, Calif : IEEEComputer Society

Volume: 42

ISSN (Print): 0276-6574

ISSN (Electronic): 0276-6574

URLs:

<http://www.cinc.org/archives/2015/pdf/0145.pdf>

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Quality evaluation on of contractor's schedule for building renovation

In building and construction projects, the phase schedule developed by the contractor for the bidding phase, or after the contract award, has to be evaluated by owner's consultant for schedule approval. After approval, the phase schedule becomes the baseline for project control process and therefore it becomes very important to both owner and contractor to ensure that contract obligations will be respected. The baseline schedule developed by the contractor is frequently used by project supervisors or construction managers to justify (or deny) a request of time extensions, or to evaluate process efficiency and the possibility of late completion, and therefore can have major consequences in project cost management. In the owner's perspective, three are the main requirements to be fulfilled in a baseline schedule. Firstly, the construction total duration, i.e. contract time requirements about milestones and project completion. Secondly, baseline schedule entails the promised average process production rate that should fulfill contract requirements for progress payments. Thirdly, the construction safety coordination requirement, i.e. the compliance of the schedule with the safety – oriented project schedule developed by the safety coordinator (under the health and safety EU directive). In addition to this, the review of the phase schedule should give evidence of the quality of the schedule itself, i.e. give proof of its validness. In the research behind this paper, a Schedule Health Assessment procedure has been proposed for the evaluation of the schedule quality, and it is suggested to adopt the Schedule Health Assessment approach for the contractor's schedule review and approval. A case study of a renovation building project has been analyzed to test the proposed procedure and

the possibility of using it for contractor's schedule approval in design-bid-build or design – build projects.

General information

Publication status: Published

MoE publication type: A3 Part of a book or another research book

Organisations: Civil Engineering, Research area: Construction Management and Economics, Research group: Digitalization in the real estate and construction sector, Research group: Capacity Development of Water and Environmental Services CADWES, Research group: Real estate development

Contributors: Kähkönen, K., Brandt, J.

Number of pages: 10

Pages: 175-184

Publication date: 1 Aug 2017

Host publication information

Title of host publication: Re-shaping the construction industry

Publisher: ISTeA Italian Society of Science, Technology and Engineering of Architecture; Maggioli Editore

Editors: Ciribini, A., Alaimo, G., Capone, P., Daniotti, B., Dell'Osso, G., Nicoletta, M.

ISBN (Electronic): 978-88-916-2486-4

Research output: Chapter in Book/Report/Conference proceeding › Chapter › Scientific › peer-review

Qualification challenges of footwear and flooring systems

Measurement of body voltage alone can result in erroneous conclusions in qualification of footwear and flooring systems in combination with a person. Measurement uncertainties should be taken into account. We have studied the time dependency and charge generation of some footwear and flooring systems. The most significant inconsistencies of the voltage measurement are discussed in this technical paper.

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Faculty of Biomedical Sciences and Engineering, Cascade Metrology, Sievin Jalkine Oy, Electrostatic Solutions Ltd., Armeka Engineering

Contributors: Viheriäkoski, T., Jokinen, V., Smallwood, J., Korpipää, A., Tamminen, P.

Publication date: 18 Oct 2017

Host publication information

Title of host publication: Electrical Overstress/Electrostatic Discharge Symposium Proceedings 2017, EOS/ESD 2017

Publisher: ESD Association

ISBN (Electronic): 1585372935

ASJC Scopus subject areas: Electrical and Electronic Engineering

Source: Scopus

Source ID: 85037814104

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Pystytäänkö haitallisia ilmanvaihtovikoja havaitsemaan ja poistamaan

General information

Publication status: Published

MoE publication type: B3 Non-refereed article in conference proceedings

Organisations: Department of Civil Engineering, Research group: Real estate development, VTT

Contributors: Heljo, J., Kauppinen, T.

Number of pages: 6

Pages: 325-330

Publication date: 20 Oct 2015

Host publication information

Title of host publication: Rakennusfysiikka 2015. Uusimmat tutkimustulokset ja hyvät käytännön ratkaisut. 20.-22.10.2015, Tampere

Place of publication: Tampere

Publisher: Tampereen teknillinen yliopisto, rakennustekniikan laitos, rakennetekniikka

Editors: Vinha, J., Ruuska, T.

ISBN (Print): 978-952-15-3580-2

Keywords: Double skin facade, Energy efficiency, New renovation concepts, Innovative HVAC, Earth to air heat exchanger

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific

Puuvälipohjien akustiset ominaisuudet

General information

Publication status: Published

MoE publication type: B3 Non-refereed article in conference proceedings

Organisations: Department of Civil Engineering, Research group: Building Acoustics, A-Insinöörit Suunnittelu Oy

Contributors: Latvanne, P., Kylliäinen, M.

Number of pages: 6

Pages: 567-572

Publication date: 22 Oct 2015

Host publication information

Title of host publication: Rakennusfysiikka 2015

Publisher: Tampereen teknillinen yliopisto, rakennustekniikan laitos, rakennetekniikka

ISBN (Print): 978-952-15-3580-2

ASJC Scopus subject areas: Civil and Structural Engineering, Acoustics and Ultrasonics

URLs:

<http://www.tut.fi/cs/groups/public/@I912/@web/@p/documents/liit/x124266.pdf>

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific

Puurunkoisten tuuletettujen yläpohjien kosteustekninen toiminta

General information

Publication status: Published

MoE publication type: B3 Non-refereed article in conference proceedings

Organisations: Department of Civil Engineering, Research group: Building Physics

Contributors: Junttila, H., Laukkarinen, A., Vinha, J.

Number of pages: 6

Pages: 77-82

Publication date: 22 Oct 2015

Host publication information

Title of host publication: Rakennusfysiikka 2015. Uusimmat tutkimustulokset ja hyvät käytännön ratkaisut. 20.-22.10.2015, Tampere.

Place of publication: Tampere

Publisher: Tampereen teknillinen yliopisto, rakennustekniikan laitos, rakennetekniikka

Editors: Vinha, J., Ruuska, T.

ISBN (Print): 978-952-15-3580-2

Publication series

Name: Rakennustekniikan laitos. Rakennetekniikka. Seminaarijulkaisu

No.: 4

ASJC Scopus subject areas: Building and Construction, Civil and Structural Engineering

URLs:

<http://www.tut.fi/cs/groups/public/@I912/@web/@p/documents/liit/x124266.pdf>

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific

Puurakentamisesta potkua alueiden ja kaupunkien kehittämiseen

General information

Publication status: Published

MoE publication type: D2 Article in professional manuals or guides or professional information systems or text book material

Organisations: School of Architecture, Research group: Urban Laboratory

Contributors: Hynynen, A.

Number of pages: 19

Pages: 75-93

Publication date: 2015

Host publication information

Title of host publication: Puu-Hubi. : Perinteestä uusiin innovaatioihin

Publisher: Tampereen teknillinen yliopisto. Arkkitehtuurin laitos

Editors: Hynynen, A., Panu, A., Taanila, T.

ISBN (Print): 978-952-15-3497-3

ISBN (Electronic): 978-952-15-3498-0

URLs:

<http://URN.fi/URN:ISBN:978-952-15-3498-0>

Research output: Chapter in Book/Report/Conference proceeding › Chapter › Professional

Puukerrostalorakentamisen kosteudenhallinta

General information

Publication status: Published

MoE publication type: B3 Non-refereed article in conference proceedings

Organisations: Civil Engineering, Research group: Capacity Development of Water and Environmental Services CADWES , Research group: Building Physics, Tampere University of Technology, Laboratory of Civil Engineering

Contributors: Teriö, O., Penttilä, O., Laukkarinen, A., Musakka, S., Vinha, J.

Number of pages: 6

Pages: 173-178

Publication date: 24 Oct 2017

Host publication information

Title of host publication: Rakennusfysiikka 2017. Uusimmat tutkimustulokset ja hyvät käytännön ratkaisut : 24.-26.10.2017, Tampere

Volume: 1

Place of publication: Tampere

Publisher: Tampereen teknillinen yliopisto, Rakennustekniikka, Rakennusfysiikka

Editors: Vinha, J., Kivioja, H.

ISBN (Print): 978-952-15-4022-6

Publication series

Name: Tampereen teknillinen yliopisto. Rakennustekniikka. Rakennusfysiikka.

ASJC Scopus subject areas: Civil and Structural Engineering, Building and Construction

Bibliographical note

INT=rak,"Penttilä, Olavi"

INT=rak,"Musakka, Sami"

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific

Puukerrostalon työmaavaiheen lämpö- ja kosteusolosuhteiden mittaukset

General information

Publication status: Published

MoE publication type: B3 Non-refereed article in conference proceedings

Organisations: Civil Engineering, Research group: Building Physics, Research group: Capacity Development of Water and Environmental Services CADWES, Laboratory of Civil Engineering, Tampere University of Technology

Contributors: Laukkarinen, A., Musakka, S., Penttilä, O., Teriö, O., Vinha, J.

Number of pages: 6

Pages: 167-172

Publication date: 24 Oct 2017

Host publication information

Title of host publication: Rakennusfysiikka 2017. Uusimmat tutkimustulokset ja hyvät käytännön ratkaisut : 24.-26.10.2017, Tampere

Volume: 1

Place of publication: Tampere

Publisher: Tampereen teknillinen yliopisto, Rakennustekniikka, Rakennusfysiikka

Editors: Vinha, J., Kivioja, H.

ISBN (Print): 978-952-15-4022-6

Publication series

Name: Tampereen teknillinen yliopisto. Rakennustekniikka. Rakennusfysiikka.

ASJC Scopus subject areas: Civil and Structural Engineering, Building and Construction

Bibliographical note

INT=RAK, "Musakka, Sami"

INT=RAK, "Penttilä, Olavi"

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific

Puu-Hubi: Perinteestä uusiin innovaatioihin

Maailmalla on menossa puurakentamisen buumi, jolle ennakoidaan pitkää ikää ja valoisa tulevaisuutta. Kehityksen etulinjassa on saksankielinen Keski-Eurooppa, Ruotsi ja Norja. Myös Kanadassa ja Yhdysvalloissa puurakentamisella on pitkät perinteet ja laajat markkinat. Vahvin muutosajuri puun käytön lisäämiselle on ilmastonmuutos. Suomi on mukana kansainvälisissä sopimuksissa, jotka sitovat meidät hiilidioksidipäästöjen runsaaseen pienentämiseen lähitulevaisuudessa. Mutta vaikka ympäristösopimukset asettavat kovia velvoitteita, ne tarjoavat myös uusia taloudellisia mahdollisuuksia.

Seinäjoen Ammattikorkeakoulun ja Tampereen teknillisen yliopiston yhteistyössä käynnistämä Puu-Hubi-projekti pyrki edistämään eteläpohjalaista puurakentamista. Tavoitteena oli puukerrostalon rakentamisessa vaadittava osaaminen ja tuotetarjonta, sekä näiden myötä kasvava liiketoiminta. Tässä kirjassa esitellään teemoja, joita hankkeen kuluessa kohdattiin, ja jotka tuntuivat tuoreilta. Kirjan tekstit eivät ole "yhdestä puusta", vaan ne rönsyävät omia uomiaan kohti yhteistä aihettamme, suomalaisen puurakentamisen uutta tulemistä.

General information

Publication status: Published

MoE publication type: D4 Published development or research report or study

Organisations: School of Architecture, Research group: Urban Laboratory

Contributors: Hynynen, A. (ed.), Panu, A. (ed.), Taanila, T. (ed.)

Number of pages: 107

Publication date: 2015

Publication information

Publisher: Tampereen teknillinen yliopisto. Arkkitehtuurin laitos

ISBN (Print): 978-952-15-3497-3

ISBN (Electronic): 978-952-15-3498-0

Original language: Finnish

Electronic versions:

puu_hubi

URLs:

<http://URN.fi/URN:ISBN:978-952-15-3498-0>

Bibliographical note

Versio ok 14.12.2015

Research output: Book/Report › Commissioned report › Professional

Public-sector as an Initiator in a Collaborative Innovation Process

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Pori Department, Research group: Business Ecosystems, Networks and Innovations

Contributors: Suominen, A. H., Mäenpää, S., Breite, R.

Number of pages: 12

Publication date: 2015

Host publication information

Title of host publication: The XXVI ISPIM Innovation Conference – Shaping the Frontiers of Innovation Management – Budapest, Hungary, 14-17 June 2015

Publisher: International Society for Professional Innovation Management ISPIM

ISBN (Electronic): 978-952-265-779-4

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Pseudo-Random Sequences in DQ-Domain Analysis of Feedforward Control in Grid-Connected Inverters

Grid-parallel inverters are typically used to connect renewable energy sources to a power grid. The impedance mismatch between the grid and the interfacing circuit can generate harmonic resonances which may lead to reduced power quality. The impedance mismatch can be mitigated by applying an inverter that employs feedforward control. This paper presents a novel DQ-domain technique, based on pseudo-random sequences, for acquiring the impedance information and verifying the effectiveness of the feedforward control. The results can be used for tuning the feedforward control and as a method to perform fast on-line stability analysis of grid-connected systems in the DQ domain.

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Department of Automation Science and Engineering, Department of Electrical Engineering, Research area: Power engineering, Research area: Dynamic Systems, Research area: Measurement Technology and Process Control
Contributors: Roinila, T., Messo, T., Suntio, T., Vilkkio, M.
Number of pages: 6
Pages: 1301-1306
Publication date: 2015

Host publication information

Title of host publication: 17th IFAC Symposium on System Identification SYSID 2015 – Beijing, China, 19–21 October 2015

Publication series

Name: IFAC-PapersOnLine

Volume: 48

No.: 28

ISSN (Print): 2405-8963

ASJC Scopus subject areas: Control and Systems Engineering

Keywords: Feedforward control, Fourier analysis, Frequency-response methods, Inverters, Signal analysis

DOIs:

10.1016/j.ifacol.2015.12.311

Source: Scopus

Source ID: 84988503981

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

Protective Spinel Coatings for Solid Oxide Fuel Cell Interconnectors by Thermal Spray Processes: From Conventional Dry Powder to Novel Solution Precursor Thermal Spraying

Protective coatings are used on ferritic stainless steel interconnectors to prevent the transport of the harmful $\text{CrO}_3(\text{g})$ and $\text{CrO}_2(\text{OH})_2(\text{g})$ compounds in solid oxide fuel cells. These compounds are transported on the triple-phase boundary of the cathode, and electrically reduce back to Cr_2O_3 causing degradation of the cell. The most promising materials to be used as protective coatings are $(\text{Mn},\text{Co})_3\text{O}_4$ spinels. However, in order to provide good protectiveness in long-term use (5 years or more), these coatings should have a dense microstructure, good adhesion with the substrate and good chemical stability at high temperature in an oxidizing atmosphere. Several deposition techniques have been studied, for example various wet-ceramic processes and thin film techniques. However, the studies have shown that the coatings produced with these methods are not dense, and therefore their long-term protectiveness is questionable.

In this study, protective $(\text{Mn},\text{Co})_3\text{O}_4$ and $(\text{Mn},\text{Co},\text{Fe})_3\text{O}_4$ spinel coatings were manufactured with conventional atmospheric plasma spraying (APS) and novel high velocity solution precursor flame spraying (HVSPFS). The aim was to obtain a dense microstructure. Since the HVSPFS process is a novel deposition method, the coating build-up mechanism and materials synthesis were studied more closely. The as-sprayed coatings were oxidized in order to obtain more detailed information about the Cr barrier and electrical properties during the oxidation cycles.

The spinel coatings with a dense microstructure were sprayed using the APS and the HVSPFS processes. The deposition methods caused the as-sprayed coatings to sinter during the oxidation cycles. The sintering was a consequence of the metastable phase structure and the small particle and crystallite size. Due to the dense microstructure and fully recovered spinel phases, the coatings provided a good Cr barrier and electrical properties, even in a relatively harsh environment. It can be stated that $\text{Mn}_{1.5}\text{Co}_{1.5}\text{O}_4$ and $\text{MnCo}_{1.9}\text{Fe}_{0.1}\text{O}_4$ spinel coatings, manufactured either by conventional thermal spraying using agglomerated cermet powder, or by solution precursor thermal spraying, are good candidates for use as protective coatings on metallic interconnectors.

General information

Publication status: Published

MoE publication type: G5 Doctoral dissertation (article)

Organisations: Department of Materials Science, Research group: Surface Engineering

Contributors: Puranen, J.

Number of pages: 81

Publication date: 18 Sep 2015

Publication information

Place of publication: Tampere

Publisher: Tampere University of Technology

ISBN (Print): 978-952-15-3569-7

ISBN (Electronic): 978-952-15-3587-1

Original language: English

Publication series

Name: Tampere University of Technology. Publication

Publisher: Tampere University of Technology
Volume: 1322
ISSN (Print): 1459-2045
Electronic versions:
puranen_1322
URLs:
<http://URN.fi/URN:ISBN:978-952-15-3587-1>

Bibliographical note

Awarding institution: Tampere University of Technology
Version: 16.12.2015
Research output: Book/Report > Doctoral thesis > Collection of Articles

Properties of entropy-based topological measures of fullerenes

A fullerene is a cubic three-connected graph whose faces are entirely composed of pentagons and hexagons. Entropy applied to graphs is one of the significant approaches to measuring the complexity of relational structures. Recently, the research on complex networks has received great attention, because many complex systems can be modelled as networks consisting of components as well as relations among these components. Information-theoretic measures have been used to analyze chemical structures possessing bond types and hetero-atoms. In the present article, we reviewed various entropy-based measures on fullerene graphs. In particular, we surveyed results on the topological information content of a graph, namely the orbit-entropy $I_a(G)$, the symmetry index, a degree-based entropy measure $I_\lambda(G)$, the eccentric-entropy $I_e(G)$ and the Hosoya entropy $H(G)$.

General information

Publication status: Published
MoE publication type: A2 Review article in a scientific journal
Organisations: Computing Sciences, Research group: Predictive Society and Data Analytics (PSDA), Shahid Rajaei Teacher Training University, Swiss Distance University of Applied Sciences
Contributors: Ghorbani, M., Dehmer, M., Emmert-Streib, F.
Publication date: 1 May 2020
Peer-reviewed: Yes

Publication information

Journal: Mathematics
Volume: 8
Issue number: 5
Article number: 740
ISSN (Print): 2227-7390
Original language: English
ASJC Scopus subject areas: Mathematics(all)
Keywords: Automorphism group, Eccentricity, Eigenvalue, Fullerene, Graph entropy
Electronic versions:
mathematics-08-00740
DOIs:
[10.3390/MATH8050740](https://doi.org/10.3390/MATH8050740)
URLs:
<http://urn.fi/URN:NBN:fi:tuni-202007066325>
Source: Scopus
Source ID: 85085615776
Research output: Contribution to journal > Review Article > Scientific > peer-review

Propagation dynamics of ultrabroadband terahertz beams with orbital angular momentum for wireless data transfer

We investigate an approach to short and medium-range wireless communications based on the use of terahertz beams possessing an orbital angular momentum (OAM) that allows for noise-resistant broadband carrier. A theoretical model of the proposed beams generation is developed and numerical predictions are given for propagation and visualization of complex-structured THz beams, including ones carrying a unit topological charge on a large number of spectral components of broadband terahertz radiation. The assessment method which in our case is terahertz pulse time-domain holography allows for analyzing spatio-temporal and spatio-spectral evolution of arbitrary shaped THz wave trains during their propagation in free space and interaction with obstacles.

General information

Publication status: Published
MoE publication type: A4 Article in a conference publication
Organisations: Electrical Engineering, ITMO University, University of Birmingham

Contributors: Kulya, M. S., Sokolenko, B., Gorodetsky, A., Petrov, N. V.
Publication date: 2020

Host publication information

Title of host publication: Broadband Access Communication Technologies XIV
Publisher: SPIE
Editors: Dingel, B. B., Tsukamoto, K., Mikroulis, S.
Article number: 113070J
ISBN (Print): 9781510633773
ISBN (Electronic): 9781510633780

Publication series

Name: Proceedings of SPIE - The International Society for Optical Engineering
Volume: 11307
ISSN (Print): 0277-786X
ISSN (Electronic): 1996-756X
ASJC Scopus subject areas: Electronic, Optical and Magnetic Materials, Condensed Matter Physics, Computer Science Applications, Applied Mathematics, Electrical and Electronic Engineering
Keywords: THz radiation, Vortex beams, wireless data transfer
DOIs:
10.1117/12.2547695

Bibliographical note

jufoid=71479
Source: Scopus
Source ID: 85081176736
Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

Profile extraction and deep autoencoder feature extraction for elevator fault detection

In this paper, we propose a new algorithm for data extraction from time series signal data, and furthermore automatic calculation of highly informative deep features to be used in fault detection. In data extraction elevator start and stop events are extracted from sensor data, and a generic deep autoencoder model is also developed for automated feature extraction from the extracted profiles. After this, extracted deep features are classified with random forest algorithm for fault detection. Sensor data are labelled as healthy and faulty based on the maintenance actions recorded. The remaining healthy data are used for validation of the model to prove its efficacy in terms of avoiding false positives. We have achieved 100% accuracy in fault detection along with avoiding false positives based on new extracted deep features, which outperforms results using existing features. Existing features are also classified with random forest to compare results. Our developed algorithm provides better results due to the new deep features extracted from the dataset compared to existing features. This research will help various predictive maintenance systems to detect false alarms, which will in turn reduce unnecessary visits of service technicians to installation sites.

General information

Publication status: Published
MoE publication type: A4 Article in a conference publication
Organisations: Automation Technology and Mechanical Engineering, Research group: Innovative Hydraulic Automation
Contributors: Mishra, K., Krogerus, T., Huhtala, K.
Number of pages: 8
Pages: 313-320
Publication date: 28 Jul 2019

Host publication information

Title of host publication: 16th International Conference on Signal Processing and Multimedia Applications : SIGMAP 2019, 26-28 July, 2019, Prague, Czech Republic
Volume: 16
Place of publication: Prague, Czech Republic
Publisher: SCITEPRESS
Editor: Callegari, C.
Edition: 2019
ISBN (Print): 978-989-758-378-0
ISBN (Electronic): 978-989-758-378-0
ASJC Scopus subject areas: Computer Science(all)
DOIs:
10.5220/0007802003130320
URLs:
<https://www.scitepress.org/ProceedingsDetails.aspx?ID=0N9+1/B4ih0=&t=1>

<http://www.wikicfp.com/cfp/servlet/event.showcfp?eventid=82467©ownerid=45217>

<http://www.sigmap.icete.org/?y=2019>

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

Projektityöskentelyn kehittäminen yläkoulun matematiikan opetuksessa

Perusopetuksen opetussuunnitelman perusteiden 2014 aikana ovat ilmiölähtöinen oppiminen ja projektiluontoinen työskentely lisääntyneet peruskouluissa merkittävästi. Tässä tutkimuksessa tarkastellaan oppilaan ja opettajan näkökulmasta lähinnä yläkoulun matematiikan opetukseen liitetyn projektityöskentelyn kehittämiskohteita sekä niihin mahdollisia kehittämisehdotuksia. Tutkimusaineistoa on kerätty kyselylomakkeilla ja havainnoinnilla LUMA Suomen Projektioppiminen-kehittämishankkeesta, StarT-projektikiilpailusta ja Teknologiateollisuuden My Tech -ohjelmasta. Tutkimukseen osallistui 365 oppilasta ja 19 opettajaa. Projektityöskentelyn suurimmat haasteet voidaan luokitella oppilaan ja opettajan toimintaan, itse projektiin tai koulutoiminnan puitteisiin liittyviksi. Jokaiseen osa-alueeseen opettaja voi omalla toiminnallaan vaikuttaa.

General information

Publication status: Published

MoE publication type: A1 Journal article-refereed

Organisations: Mathematics, Tampereen yliopisto

Contributors: Viro, I. E., Joutsenlahti, J.

Number of pages: 10

Pages: 90-99

Publication date: 2018

Peer-reviewed: Yes

Publication information

Journal: FMSERA Journal

Volume: 2

Issue number: 1

ISSN (Print): 2489-4583

Original language: Finnish

URLs:

<https://journal.fi/fmsera/article/view/69879>

Research output: Contribution to journal > Article > Scientific > peer-review

Projektioppiminen yläkoulun matematiikassa

General information

Publication status: Published

MoE publication type: D1 Article in a trade journal

Organisations: Department of Mathematics

Contributors: Viro, E., Eriksson, S.

Number of pages: 5

Pages: 1005-1009

Publication date: 2015

Peer-reviewed: Unknown

Publication information

Journal: LUMAT: International Journal on Math, Science and Technology Education

Volume: 3

Issue number: 7

ISSN (Print): 2323-7112

Original language: Finnish

URLs:

<http://luma.fi/lumat/4273>

Research output: Contribution to journal > Article > Professional

Project types and industrial collaboration in project-based learning

Project-based learning is important in engineering education as it makes the students test their skills in a real-life setting. We have organised project-based learning for software engineering students since 1991. Already in the early times, the projects were based on collaboration with near-by companies and other customers. This collaboration with external organisations, called customers in this paper, creates strong links between education and surrounding society.

In this paper, we report the experiences from our project courses. Especially we describe 1) how the courses have helped collaboration between students, teachers and companies, 2) the different categories for topics and goals of the projects.

Based on the analysis, we outline a new project type, a technology exploration project.

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Department of Pervasive Computing, Research area: Software engineering

Contributors: Systä, K., Vuori, M., Järvinen, H., Ahtee, T., Sten, H.

Number of pages: 11

Publication date: 12 Nov 2016

Host publication information

Title of host publication: Proceedings of SEFI 2016 annual conference

Place of publication: Tampere / Brussels

Publisher: European Society for Engineering Education SEFI

Editors: Järvinen, H., Clark, R.

ISBN (Electronic): 9782873520144

ASJC Scopus subject areas: Computer Science(all)

Keywords: project courses, engineering education, innovation, university-industry collaboration

Electronic versions:

[systa-project-types-and-industrial-collaboration](#)

URLs:

<http://sefibenvwh.cluster023.hosting.ovh.net/wp-content/uploads/2017/09/systa-project-types-and-industrial-collaboration-in-project-based-learning-187.pdf>

<http://urn.fi/URN:NBN:fi:tty-201709201899>

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Project control toward lifecycle value at the front end of delivery projects

The lifecycle value of delivery projects is defined in the early phases of the project, and it implies benefits both for the supplier and the customer. Companies increasingly expect value beyond tangible technologies, for example through project-related services. This study develops new knowledge on creating lifecycle value in delivery projects and how lifecycle value creation is controlled in the early phases of the project. An embedded case study with two delivery cases in an engineering firm is conducted, to map the means of controlling the creation of lifecycle value. The results demonstrate that suppliers promote and control lifecycle value particularly through sales argumentation, relationship management, and contracting processes. We contribute by identifying and categorizing the relevant dimensions of project control used for promoting lifecycle value at the front end of delivery projects. This pilot study will pave way toward a broader multiple-case study covering different companies and delivery project types.

General information

Publication status: Published

MoE publication type: D3 Professional conference proceedings

Organisations: Department of Industrial Management, Research group: Center for Research on Operations Projects and Services

Contributors: Martinsuo, M., Vuorinen, L.

Number of pages: 21

Publication date: Aug 2015

Host publication information

Title of host publication: 23rd Nordic Academy of Management Conference : NFF 2015

Publisher: Nordic Academy of Management

Keywords: delivery project, lifecycle value, project control, front end

URLs:

<https://conference.cbs.dk/index.php/NFF2015/NFF2015/schedConf/presentations>

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Professional

Profitability of different li-ion batteries as back-up power in LVDC distribution network

This paper studies the profitability of different lithiumion batteries as back-up power in low voltage direct current (LVDC) network. Battery energy storage can prevent part of interruptions in LVDC network that happen due to failures in medium voltage (MV) network. In the present Finnish regulation model avoiding customer interruptions directly affects distribution network operator's profits by decreasing quality of supply deductions that are used in reasonable return calculations. LVDC technology provides a cost-efficient alternative for replacing low-loaded MV branches of the electricity distribution network. Benefits of LVDC are large power transfer capacity with low voltage, cost saving potential and improvements to reliability and voltage quality [1]. Elenia Oy has had pilot implementations already many years with promising results [2]. The key finding of the paper is that using battery energy storages to avoid customer interruption cost can be financially feasible in many medium voltage branches when the interruption frequency per branch is taken into account and the battery size is optimised based on the power requirement of the branch.

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Department of Electrical Engineering, Research area: Power engineering, Elenia Oy

Contributors: Markkula, J., Vilppo, O., Järventausta, P., Hakala, T., Lähdeaho, T.

Publication date: 2016

Host publication information

Title of host publication: CIRED Workshop 2016

ISBN (Print): 978-1-78561-202-2

ASJC Scopus subject areas: Electrical and Electronic Engineering

DOIs:

10.1049/cp.2016.0787

URLs:

http://www.cired.net/publications/workshop2016/pdfs/CIRED2016_0253_final.pdf

Source: Scopus

Source ID: 85007564317

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Professional knowledge, skills and competencies of the new graduates and the engineering professionals - Comparison of the importance in working-life

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Department of Industrial Management, Policy Academic Engineers and Architects in Finland, TEK

Contributors: Hyötynen, P., Mursu, S., Teini, J.

Publication date: 2014

Host publication information

Title of host publication: SEFI Annual Conference 2014

Place of publication: Brussel

Publisher: European Society for Engineering Education SEFI

ISBN (Print): 978-2-87352-004-5

ASJC Scopus subject areas: Engineering(all), Education

URLs:

<http://www.scopus.com/inward/record.url?scp=84939191998&partnerID=8YFLogxK> (Link to publication in Scopus)

Source: Scopus

Source ID: 84939191998

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Product Upgradability: Towards a Medical Analogy

This paper explored the analogy between the medical area and product design. Many similarities, shared between the genetic mutation permitting human to ensure its survival and the product undergoing the introduction of new technologies to meet the market fluctuation, are found to propose this analogy. From creating genetic reference space to transplant technology into product, fundamental process of survival and evolution will be described and allows the parallel with a product, to understand how the evolution of product respond to future needs. It also ensures the durability of resources in an ecological perspective. We discuss the complexity of establishing the right diagnosis for directing the design to choose the right technology and to enable its future integration into a living product. This uncertainty in the technological maturity but also the integrability of this technology in the current product at first, then in the future will allow its product development. Conclusions for the use of this analogy and the justification to describe "living product" will be drawn.

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: IRTES-M3M, Université de Technologie de Belfort-Montbéliard (UTBM)

Contributors: Chapuis, Y., Demoly, F., Coatanéa, E., Gomes, S.

Number of pages: 8

Pages: 148-155

Publication date: 2014

Host publication information

Title of host publication: ADVANCES IN PRODUCTION MANAGEMENT SYSTEMS: INNOVATIVE AND KNOWLEDGE-BASED PRODUCTION MANAGEMENT IN A GLOBAL-LOCAL WORLD, APMS 2014, PT III

Volume: 440
Publisher: Springer-Verlag, Berlin
Editors: Grabot, B., Vallespir, B., Gomes, S., Bouras, A., Kiritsis, D.
Edition: PART 3
ISBN (Print): 9783662447321

Publication series

Name: IFIP Advances in Information and Communication Technology
Publisher: SPRINGER-VERLAG BERLIN
Volume: 440
ISSN (Print): 1868-4238
ASJC Scopus subject areas: Information Systems and Management
Keywords: Changeable product, DFX, Living product, Proactive engineering, Technology introduction, Upgradability
DOIs:
10.1007/978-3-662-44733-8_19
URLs:
<http://www.scopus.com/inward/record.url?scp=84906932728&partnerID=8YFLogxK> (Link to publication in Scopus)
Source: WOS
Source ID: 000360158500019
Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

Process time importance in the product properties evolvement during extrusion coating of different LDPE grades

Process time in air gap region is one of the most important variables in the coating property development, when the molten polymer is moving from the die exit into the nip region in extrusion coating. Coating property evolvement of different LDPE grades are presented in the paper. The importance of the throughput rate and line speed to the process times is discussed by considering the effect of molecular structure of different polyolefins. The draw down ratio based on the grammage measurements is proposed to use in the practical situations.

General information

Publication status: Published
MoE publication type: A4 Article in a conference publication
Organisations: Materials Science, Research group: Paper Converting and Packaging
Contributors: Suokas, E., Kuusipalo, J.
Number of pages: 9
Pages: 151-159
Publication date: 1 Jan 2018

Host publication information

Title of host publication: 15th TAPPI Advanced Coating Fundamentals Symposium 2018 : Charlotte; United States; 14 April 2018 through 15 April 2018
Publisher: TAPPI Press
ISBN (Electronic): 9781510871885
ASJC Scopus subject areas: Media Technology, Materials Chemistry, Surfaces, Coatings and Films
URLs:
<http://www.scopus.com/inward/record.url?scp=85059262851&partnerID=8YFLogxK> (Link to publication in Scopus)
Source: Scopus
Source ID: 85059262851
Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

Proceedings of VikingPLoP 2013 Conference

This is the proceedings of VikingPLoP 2013 – a record of all papers workshopped during the conference. VikingPLoP is a Nordic conference of pattern languages of programs which took place this year in Horse Inn of Luomajärvi, Ikaalinen, Finland in March 2013. VikingPLoP was organized jointly by Tampere University of Technology and Hillside Europe. VikingPLoP 2013 was also sponsored by Wiley which provided books for the focus group reading session. The conference was organized in Finland for the second time in a row. Previous location in 2012 was in Saariselkä Lapland. In 2013 vikings were moving towards south and chose the Horse Inn in Ikaalinen as the venue as it offered a luxurious opportunity for participants to experience rustic romance, good food, horseback riding, traditional Finnish sauna, the nature, and wilderness tracks. In March the landscape was still covered in snow making the landscape ruggedly beautiful.

The papers in this proceedings book are updated versions of the papers workshopped in the conference. In the beginning, participants submitted their papers for shepherding process. In the shepherding process, the shepherd, an experienced pattern writer, gave ideas and feedback for the author, colloquially known as a sheep. The sheep incorporated this feedback in to her paper. After three iterations of shepherding the paper was discussed at the conference in a writer's workshop. The workshop group gave comments, criticism and praise. After the conference the authors updated their papers according to the workshop feedback.

This process of giving feedback was made possible by having a community of trust. Mutual trust was built by playing non-competitive games and by having social activities. VikingPLOP 2013 focused on patterns and their usage in various fields of expertise. These fields included a wide range of topics from educational patterns to safety patterns and embedded system's software architecture patterns. Bringing people together from various fields of expertise stimulates creativity and new ideas might emerge. These innovations are reflected in the papers in these proceedings. VikingPLOP 2013 was especially a conference for newcomers and over half of the participants were first time PLoP participants.

These proceedings contain 9 papers. In addition, a book reading workshop was arranged with Bob Hanmer who presented his new title Pattern-Oriented Software Architecture for Dummies and discussed it with the participants using video conferencing tools.

General information

Publication status: Published

MoE publication type: D4 Published development or research report or study

Organisations: Department of Pervasive Computing, Research area: Software engineering

Contributors: Eloranta, V. (ed.), Koskinen, J., Leppänen, M. K.

Number of pages: 125

Publication date: 2013

Publication information

Publisher: Tampere University of Technology. Department of Pervasive Computing

ISBN (Print): 978-952-15-3166-8

ISBN (Electronic): 978-952-15-3167-5

Original language: English

Publication series

Name: Tampere University of Technology. Department of Pervasive Computing. Report

Publisher: Tampere University of Technology, Department of Pervasive Computing

Volume: 2

ISSN (Print): 2323-9174

Electronic versions:

proceedings_of_vikingplop_2013_conference

URLs:

<http://URN.fi/URN:ISBN:978-952-15-3167-5>

Bibliographical note

Versio ok 14.12.2015

Research output: Book/Report › Commissioned report › Professional

Proceedings of VikingPLOP 2012 Conference

The papers in this proceedings are updated versions of the papers workshopped in the conference. Participants submitted their papers for shepherding process. In shepherding process, experienced pattern writer gave ideas and feedback for the author, colloquially known as a sheep. The sheep incorporated this feedback in to her paper. After three iterations of shepherding the paper was discussed at the conference in writer's workshop. Workshop group gave comments, criticism and praise. After the conference sheep updated their papers according to the workshop feedback. This process of giving feedback was made possible by having community of trust. Mutual trust was built by playing non-competitive games and by having social activities.

VikingPLOP 2012 focused on patterns and their usage in various fields of expertise. These fields included a wide range of topics from language teaching to embedded system's software architecture. Bringing people together from various fields of expertise, stimulates creativity and new ideas might emerge. These innovations are reflected in the papers in these proceedings. VikingPLOP 2012 was especially a conference for newcomers and over half of the participants were first time PLoP participants.

These proceedings contain 10 papers and description of one focus group. In addition, a shepherding workshop was arranged and updated version of the demo pattern used in this workshop is also presented in the proceedings. The conference had two writer's workshop groups. Papers are organized as follows: in the first part of the proceedings patterns for embedded systems are presented and the second part contains general software related patterns. Finally in the third part, interdisciplinary patterns are included.

General information

Publication status: Published

MoE publication type: D4 Published development or research report or study

Organisations: Department of Pervasive Computing, Research area: Software engineering

Contributors: Eloranta, V. (ed.), Koskinen, J. (ed.), Leppänen, M. (ed.)
Number of pages: 142
Publication date: 2012

Publication information

Publisher: Tampere University of Technology. Department of Software Systems
ISBN (Print): 978-952-15-2943-6
ISBN (Electronic): 978-952-15-2944-3
Original language: English

Publication series

Name: Tampere University of Technology. Department of Software Systems. Report
Publisher: Tampere University of Technology
Volume: 22
ISSN (Print): 1797-836X
Electronic versions:
proceedings_of_vikingplop_2012_conference
URLs:
<http://URN.fi/URN:ISBN:978-952-15-2944-3>

Bibliographical note

Versio ok 14.12.2015
Research output: Book/Report > Commissioned report > Professional

Proceedings of the Detection and Classification of Acoustic Scenes and Events 2016 Workshop (DCASE2016)

General information

Publication status: Published
MoE publication type: C2 Edited books
Organisations: Department of Signal Processing, Research group: Audio research group
Contributors: Virtanen, T. (ed.), Mesaros, A. (ed.), Heittola, T. (ed.), Plumbley, M. D. (ed.), Foster, P. (ed.), Benetos, E. (ed.), Lagrange, M. (ed.)
Number of pages: 119
Publication date: 2016

Publication information

Publisher: Tampere University of Technology. Department of Signal Processing
ISBN (Electronic): 978-952-15-3807-0
Original language: English
Electronic versions:
DCASE 2016 proceedings
URLs:
<http://urn.fi/URN:ISBN:978-952-15-3807-0>
Research output: Book/Report > Anthology > Scientific > peer-review

Proceedings of the CIB World Building Congress 2016: Volume I - Creating built environments of new opportunities

General information

Publication status: Published
MoE publication type: C2 Edited books
Organisations: Department of Civil Engineering, Research area: Construction Management and Economics, Research group: Digitalization in the real estate and construction sector, Research group: Capacity Development of Water and Environmental Services CADWES, Research group: Real estate development
Contributors: Kähkönen, K. (ed.), Keinänen, M. (ed.)
Number of pages: 917
Publication date: 27 May 2016

Publication information

Publisher: Tampere University of Technology. Department of Civil Engineering
Volume: 1
ISBN (Electronic): 978-952-15-3741-7
Original language: English

Publication series

Name: Tampere University of Technology. Department of Civil Engineering. Construction Management and Economics.
Report
Volume: 18
ISSN (Print): 1797-8904
Electronic versions:
WBC16 Vol 1
URLs:
<http://urn.fi/URN:ISBN:978-952-15-3741-7>

Bibliographical note

JUFOID=84376

Research output: Book/Report > Anthology > Scientific > peer-review

Proceedings of the CIB World Building Congress 2016: Volume III - Building Up Business Operations and Their Logic. Shaping Materials and Technologies

General information

Publication status: Published

MoE publication type: C2 Edited books

Organisations: Department of Civil Engineering, Research group: Digitalization in the real estate and construction sector

Contributors: Saari, A. (ed.), Huovinen, P. (ed.)

Number of pages: 743

Publication date: 27 May 2016

Publication information

Publisher: Tampere University of Technology. Department of Civil Engineering

Volume: 3

ISBN (Electronic): 978-952-15-3743-1

Original language: English

Publication series

Name: Tampere University of Technology. Department of Civil Engineering. Construction Management and Economics.
Report

Volume: 18

ISSN (Print): 1797-8904

Electronic versions:

WBC16 Vol 3

URLs:

<http://urn.fi/URN:ISBN:978-952-15-3743-1>

Research output: Book/Report > Anthology > Scientific > peer-review

Proceedings of the CIB World Building Congress 2016: Volume IV - Understanding Impacts and Functioning of Different Solutions

General information

Publication status: Published

MoE publication type: C2 Edited books

Organisations: Department of Civil Engineering, Research group: Capacity Development of Water and Environmental Services CADWES

Contributors: Nenonen, S. (ed.), Junnonen, J. (ed.)

Number of pages: 718

Publication date: 27 May 2016

Publication information

Publisher: Tampere University of Technology. Department of Civil Engineering

Volume: 4

ISBN (Electronic): 978-952-15-3744-8

Original language: English

Publication series

Name: Tampere University of Technology. Department of Civil Engineering. Construction Management and Economics.
Report

Volume: 18

ISSN (Print): 1797-8904

Electronic versions:

WBC16 Vol 4

URLs:

<http://urn.fi/URN:ISBN:978-952-15-3744-8>

Research output: Book/Report > Anthology > Scientific > peer-review

Proceedings of the 26th International Conference on Information Modelling and Knowledge Bases - EJC 2016: June 6-10, 2016, Tampere, Finland.

General information

Publication status: Published

MoE publication type: C2 Edited books

Organisations: Pori Department, Research group: Software Engineering and Intelligent Systems, Christian-Albrechts-University Kiel, Keio University, Japan, Komazawa University

Contributors: Jaakkola, H. (ed.), Thalheim, B. (ed.), Kiyoki, Y. (ed.), Yoshida, N. (ed.)

Publication date: 2016

Publication information

Place of publication: Tampere

Publisher: Tampere University of Technology

ISBN (Electronic): 978-952-15-3747-9

Original language: English

Publication series

Name: Tampere University of Technology, Pori Department Publications

Publisher: Tampere University of Technology

ISSN (Electronic): 2323-8976

URLs:

<http://www.tut.fi/en/ejc/ejc-2016/>

Research output: Book/Report > Anthology > Scientific > peer-review

Proceedings of the 25th International Conference on Information Modelling and Knowledge Bases (EJC 2015), 8-12 June, 2015, Maribor, Slovenia

General information

Publication status: Published

MoE publication type: C2 Edited books

Organisations: Pori Department, Research group: Software Engineering and Intelligent Systems, University of Maribor, Slovenia, Keio University, Japan, Christian-Albrechts-Universität zu Kiel

Contributors: Welzer, T. (ed.), Hölbl, M. (ed.), Kiyoki, Y. (ed.), Thalheim, B. (ed.), Jaakkola, H. (ed.)

Publication date: 2015

Publication information

Place of publication: Maribor, Slovenia

Publisher: University of Maribor, Faculty of Electrical Engineering and Computer Science

ISBN (Electronic): 978-961-248-486-6

Original language: English

Research output: Book/Report > Anthology > Scientific > peer-review

Proceedings of the 1st Transdisciplinary Workplace Research Conference

General information

Publication status: Published

MoE publication type: C2 Edited books

Organisations: Research group: Responsible Construction, Civil Engineering

Contributors: Nenonen, S. (ed.), Salmisto, A. (ed.), Petrulaitiene, V. (ed.)

Number of pages: 64

Publication date: 2018

Publication information

Publisher: Tampere University of Technology. Department of Civil Engineering

ISBN (Print): 978-952-15-4200-9

ISBN (Electronic): 978-952-15-4201-5

Original language: English

Publication series

Name: Tampereen teknillinen yliopisto. Rakennustekniikan laboratorio. Rakennustuotanto ja -talous. Raportti
No.: 26
ISSN (Print): 2489-5717
URLs:
<http://www.twrnetwork.org/wp-content/uploads/2018/10/TWR2018-Proceedings.pdf>
Research output: Book/Report > Anthology > Scientific > peer-review

Probabilistic Mapping of Human Visual Attention from Head Pose Estimation

General information

Publication status: Published
MoE publication type: A1 Journal article-refereed
Organisations: Automation and Hydraulic Engineering, Aalto University School of Electrical Engineering
Contributors: Veronese, A., Racca, M., Pieters, R., Kyrki, V.
Number of pages: 11
Publication date: 30 Oct 2017
Peer-reviewed: Yes

Publication information

Journal: Frontiers in Robotics and AI
Article number: 53
ISSN (Print): 2296-9144
Ratings:
Scopus rating (2017): SNIP 1.479
Original language: English
Electronic versions:
frobt-04-00053
DOIs:
10.3389/frobt.2017.00053
URLs:
<http://urn.fi/URN:NBN:fi:tty-201712142366>
Research output: Contribution to journal > Article > Scientific > peer-review

Probabilistic Framework for Modelling the Evolution of Geomorphic Features in 10,000-Year Time Scale: The Eurajoki River Case

In this paper the long-term evolution of the catchment area of Eurajoki River, situated in Western Finland, is studied. The modelling area, nearly 1000 km² in size, is at present mostly covered by sea. Probabilistic digital elevation model and land uplift model form the basis for the future catchment area modelling. A land uplift model is required due to the ongoing post-glacial rebound especially in the western parts of Finland. The maximum rate of land uplift in Finland is 1 cm per year while in the modelling area the land uplift rate is about 6 mm per year. The digital elevation model and land uplift model have been calculated using Monte Carlo simulation where the uncertainties in the source data have been taken into account. The probabilistic nature of these models enables also the river catchment area and river network analyses probabilistically. The analyses are done for the next 10,000 years in 1000-year intervals and 100 realizations are estimated for each time point. The results show that the catchment area expands towards the west as the land rises. An alternative river branch flowing northwards from the main course will form with a significant probability. Also, a delta area with multiple river branches is expected to form at about 7000 years after present.

General information

Publication status: Published
MoE publication type: A3 Part of a book or another research book
Organisations: Pori Department, Research group: Data-analytics and Optimization
Contributors: Pohjola, J., Turunen, J., Lipping, T., Ikonen, A. T.
Pages: 369-382
Publication date: 2016

Host publication information

Title of host publication: Geospatial Data in a Changing World : Selected papers of the 19th AGILE Conference on Geographic Information Science
Publisher: Springer Verlag
ISBN (Print): 978-3-319-33782-1
ISBN (Electronic): 978-3-319-33783-8

Publication series

Name: Lecture Notes in Geoinformation and Cartography
ISSN (Print): 1863-2246
DOIs:
10.1007/978-3-319-33783-8

Bibliographical note

JUF0ID=82325

Research output: Chapter in Book/Report/Conference proceeding › Chapter › Scientific › peer-review

Proactive vision for strategy making

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Pori Department, Research group: Business Ecosystems, Networks and Innovations

Contributors: Vanharanta, H., Kantola, J.

Number of pages: 8

Pages: 587-594

Publication date: 2015

Host publication information

Title of host publication: 6th International Conference on Applied Human Factors and Ergonomics (AHFE 2015) and the Affiliated Conferences, AHFE 2015

Publisher: Elsevier

Publication series

Name: Procedia Manufacturing

Volume: 3

ISSN (Print): 2351-9789

Electronic versions:

Proactive vision for strategy making

DOIs:

10.1016/j.promfg.2015.07.272

URLs:

<http://urn.fi/URN:NBN:fi:tty-201606064219>

Bibliographical note

EXT="Kantola, Jussi"

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Printed soft-electronics for remote body monitoring

Wearable electronics has emerged into the consumer markets over the past few years. Wrist worn and textile integrated devices are the most common apparatuses for unobtrusive monitoring in sports and wellness sectors. Disposable patches and bandages, however, represent the new era of wearable electronics. Soft and stretchable electronics is the enabling technology of this paradigm shift. It can conform to temporary transfer tattoo and deform with the skin without detachment or fracture. In this paper, we focus on screen-printed soft-electronics for remote body monitoring. We will present a fabrication process of a skin conformable electrode bandage designed for long-term outpatient electrocardiography (ECG) monitoring. The soft bandage is designed to be attached to the patient chest and miniaturized data collection device is connected to the bandage via Micro-USB connector. The fabricated bandage is tested in short exercise as well as continued long-term (72 hours) monitoring during normal daily activities. The attained quality of the measured ECG signals is fully satisfactory for rhythm-based cardiac analysis also during moderate-intensity exercise. After pre-processing, the signals could be used also for more profound morphological analysis of ECG wave shapes.

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Electronics and Communications Engineering, Faculty of Biomedical Sciences and Engineering

Contributors: Mäntysalo, M., Vuorinen, T., Jeyhani, V., Vehkaoja, A.

Number of pages: 7

Publication date: Aug 2017

Host publication information

Title of host publication: Hybrid Memory Devices and Printed Circuits 2017 : SPIE Organic Photonics + Electronics | 6-10 August 2017

Publisher: SPIE

Publication series

Name: SPIE Conference Proceedings

Volume: 10366

ISSN (Print): 0277-786X

ISSN (Electronic): 1996-756X

Electronic versions:

Printed_soft_electronics_for_remote_body_monitoring

DOIs:

10.1117/12.2275606

URLs:

<http://urn.fi/URN:NBN:fi:ty-201801301174>

Bibliographical note

jufoid=71479

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

Printed and organic diodes: devices, circuits and applications

We review the history and current state of the art of diodes fabricated with organic semiconductors and other printable materials. In particular, we look at the integration of printed diodes into circuits and systems for applications, with particular emphasis on rectification, energy harvesting, and negative differential resistance (e.g. tunnel diodes). An overview of solution processed and printable organic and inorganic materials utilised in diodes is provided with an in depth analysis of their physics of operation. Furthermore, it is explained how the diverse array in which printed diodes can be implemented demonstrates their potential in the printed electronics industry.

General information

Publication status: Published

MoE publication type: A2 Review article in a scientific journal

Organisations: Electronics and Communications Engineering, Research group: Laboratory for Future Electronics,

Research group: Wireless Communications and Positioning

Contributors: Kraft, T., Berger, P., Lupo, D.

Number of pages: 19

Publication date: 29 Sep 2017

Peer-reviewed: Yes

Publication information

Journal: Flexible and Printed Electronics

Volume: 2

Issue number: 3

Article number: 033001

ISSN (Print): 2058-8585

Ratings:

Scopus rating (2017): CiteScore 1.6 SJR 0.779 SNIP 1.192

Original language: English

Keywords: printed diodes, Printed electronics, Organic electronics, Energy Harvesting, rectification, tunnel diodes

DOIs:

10.1088/2058-8585/aa8ac3

Research output: Contribution to journal > Review Article > Scientific > peer-review

Principles of designing for situation awareness

High level of situation awareness is a key factor in many domains to ensure correct decision making and actions. Situation awareness has been studied extensively in the aviation and military domains but the research also applies to other domains e.g. power grid operations and managing disturbances of electricity supply. Based on the research design principles have been created in order to help system designers to create better user interfaces for systems used in operational activities. These principles have been applied when designing the situation awareness system concept for managing disturbances of electricity supply.

General information

Publication status: Published

MoE publication type: D4 Published development or research report or study

Organisations: Department of Electrical Engineering, Research area: Power engineering

Contributors: Haapanen, J.

Pages: 29-46

Publication date: 2015

Publication information

Place of publication: Tampere

Publisher: Maanpuolustuskorkeakoulu Sotatekniikan laitos

ISBN (Print): 978-951-25-2720-5

ISBN (Electronic): 978-951-25-2721-2

Publication series

Name: Situational awareness for critical infrastructure protection

Volume: 3

No.: 1

Research output: Working paper › Professional

Preparation and antimicrobial characterization of silver-containing packaging materials for meat

In food technology, antimicrobial packaging materials could inhibit or limit the growth of spoilage bacteria and thus improve the shelf life of packaged products. The present study provides new insights into the preparation and antimicrobial characterization of silver-containing packaging materials and their efficacy against typical meat spoilage bacteria. Antimicrobial efficacy of packaging films produced by coextrusion or liquid flame spray process was determined by bioluminescence imaging and conventional antimicrobial assay. Fresh pork sirloin was packaged in selected films and composition of meat microbiota was analyzed by 16S rRNA amplicon sequencing. Shelf life of meat was not affected by any of the silver-containing packaging films, even though meat microbiota mostly consisted of bacteria that were inhibited or retarded in vitro by nanoscale silver coating. This may be due to different release dynamics of silver ions on meat surfaces compared to the circumstances in the antimicrobial assay or interactions between silver and amino acids.

General information

Publication status: Published

MoE publication type: A1 Journal article-refereed

Organisations: Department of Materials Science, Research group: Paper Converting and Packaging, Department of Chemistry and Bioengineering, Engineering materials science and solutions (EMASS), Urban circular bioeconomy (UrCirBio), University of Helsinki, Department of Food Hygiene and Environmental Health

Contributors: Kuuliala, L., Pippuri, T., Hultman, J., Auvinen, S., Kolppo, K., Nieminen, T., Karp, M., Björkroth, J., Kuusipalo, J., Jääskeläinen, E.

Number of pages: 8

Pages: 53-60

Publication date: 1 Dec 2015

Peer-reviewed: Yes

Publication information

Journal: Food Packaging and Shelf Life

Volume: 6

Article number: 67

ISSN (Print): 2214-2894

Ratings:

Scopus rating (2015): CiteScore 1.6 SJR 0.695 SNIP 0.985

Original language: English

ASJC Scopus subject areas: Food Science, Safety, Risk, Reliability and Quality, Biomaterials, Polymers and Plastics, Microbiology (medical)

Keywords: Active packaging, Antimicrobial film, Bioluminescence, Lactic acid bacteria, Liquid flame spray, Silver nanoparticle

DOIs:

10.1016/j.fpsl.2015.09.004

URLs:

<http://www.scopus.com/inward/record.url?scp=84945244937&partnerID=8YFLogxK> (Link to publication in Scopus)

Bibliographical note

ORG=mol,0.5

ORG=keb,0.5

Source: Scopus

Source ID: 84945244937

Research output: Contribution to journal › Article › Scientific › peer-review

Preliminary results from a study aiming to improve ground investigation data

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Department of Civil Engineering, Research group: Foundation Structures, Research area: Infrastructure Construction

Contributors: Di Buo, B., D'Ignazio, M., Selänpää, J., Länsivaara, T.

Number of pages: 11

Pages: 187-197

Publication date: May 2016

Host publication information

Title of host publication: Proceedings of the 17th Nordic Geotechnical Meeting : Challenges in Nordic Geotechnic 25th-28th of May

Place of publication: Reykjavik

Publisher: Icelandic Geotechnical Society

ISBN (Electronic): 978-9935-24-002-6

URLs:

http://www.ngm2016.com/uploads/2/1/7/9/21790806/022-072-ngm_2016_-_preliminary_results_from_a_study_aiming_to_improve_ground_investigation_data_dibuo_d%E2%80%99ignazio_sel%C3%A4np%C3%A4_I%C3%A4nsivaara.pdf

URLs:

<http://britishgeotech.org/the-17th-nordic-geotechnical-meeting/>

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Practice of project control under different levels of complexity in engineering projects

Different projects require different management practices. Project control has been identified as increasingly relevant as the scope and complexity of the project and project deliverable increases. Earlier research has identified several antecedents of control differences in different projects. However, one central contingency of a project, project complexity, has received little focus in project control discussion. In addition, earlier research has focused on project control particularly in the context of information systems (IS) projects. This study explores the different approaches to project control across projects with different degrees of complexity. A qualitative embedded case study is carried out in an engineering industry firm delivering customer-specific systems and solutions. The results on the three different delivery project cases show, how the relative importance of social clan control and the intensity of control increases with the more complex projects. In addition, the importance of input control, collaborative and multi-directional control and control ambidexterity in complex projects are also highlighted. The study contributes by following a contingency approach to project management research and by obtaining results from a context seldom covered by the project control literature.

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Department of Industrial Management, Research group: Center for Research on Operations Projects and Services

Contributors: Vuorinen, L., Martinsuo, M.

Number of pages: 30

Publication date: 1 Jun 2016

Host publication information

Title of host publication: EURAM (European Academy of Management) conference 2016 : Manageable cooperation? June 1-4, 2016 Paris

Keywords: project complexity, project control, contingency theory

URLs:

<http://www.euram-online.org/annual-conference-2016.html>

Bibliographical note

JUFOID=71900

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Power bases in lead organization network governance form: a multi-level approach

General information

Publication status: Published

Organisations: Pori Department, Research group: Business Ecosystems, Networks and Innovations

Contributors: Suominen, A., Mäenpää, S.

Publication date: 7 Jul 2016

Peer-reviewed: Unknown

Event: Paper presented at European Group for Organizational Studies Colloquium, .

URLs:

http://www.egosnet.org/2016_naples/general_theme

Research output: Other conference contribution › Paper, poster or abstract › Scientific

Power and wavelength scaling using semiconductor disk laser - bismuth fiber MOPA systems

We present a master oscillator power amplifier (MOPA) system that comprises a mode-locked semiconductor disk laser (SDL) emitting at 1.33 μm and a bismuth-doped fiber amplifier. The mode-locked SDL was fabricated by wafer bonding an InP-based gain section with a GaAs-based distributed Bragg reflector (DBR) using (3-Mercaptopropyl)trimethoxysilane. The bismuth-doped fiber amplifier was pumped with a continuous wave SDL emitting at 1.18 μm . The MOPA system produced pulses at a repetition rate of 827 MHz with a pulse energy of 0.62 nJ, which corresponds to an average output power of more than 0.5 W.

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Frontier Photonics, Optoelectronics Research Centre, Research group: Ultrafast and intense lasers,

Research group: Semiconductor Technology and Applications, Ulyanovsk State University, Fiber Optics Research Center, Russian Academy of Sciences

Contributors: Heikkinen, J., Gumenyuk, R., Rantamäki, A., Lyytikäinen, J., Leinonen, T., Zolotovskii, I., Melkumov, M., Dianov, E. M., Okhotnikov, O. G.

Number of pages: 7

Publication date: 2015

Host publication information

Title of host publication: Vertical External Cavity Surface Emitting Lasers (VECSELs) V

Place of publication: BELLINGHAM

Publisher: SPIE

Editor: Guina, M.

Article number: 93490E

ISBN (Print): 9781628414394

Publication series

Name: Proceedings of SPIE

Publisher: SPIE-INT SOC OPTICAL ENGINEERING

Volume: 9349

ISSN (Print): 0277-786X

ASJC Scopus subject areas: Applied Mathematics, Computer Science Applications, Electrical and Electronic Engineering, Electronic, Optical and Magnetic Materials, Condensed Matter Physics

Keywords: Semiconductor disk laser (SDL), vertical-external-cavity surface-emitting laser (VECSEL), modelocking, wafer bonding, bismuth-doped fiber, master oscillator power amplifier (MOPA), SUPERCONTINUUM GENERATION, OUTPUT POWER, PICOSECOND, VECSEL, PULSES, GHZ

DOIs:

10.1117/12.2076805

Source: WOS

Source ID: 000353134900011

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Potentials of web standards for automation control in manufacturing systems

Web standards developed mainly by W3C and OASIS shape general IT domain and its applications. Due to the scale of web applications, the web standards have matured to deal with the typical situations of finding the right node on the network, reconfiguring the routing for messaging, using common standards for representing graphical information and many others. Industrial manufacturing can benefit from the web standards due to the interoperability and simplified application integration. This article reviews the current use of web standards in the industrial automation domain. In addition, the manuscript describes and discusses the potentials of using web standards at all the levels of automation system: from high level web-based user interfaces to the industrial controllers, which are located in the lowest layer of the well known automation pyramid. Aligned with such description, the article presents a framework for Open, Knowledge Driven Manufacturing Execution Systems (OKD-MES), which allows using systematically web standards and technologies in factories

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication
Organisations: Department of Automation Science and Engineering, Research group: Factory automation systems technology, Research area: Manufacturing and Automation
Contributors: Borja Ramis, F., Iarovy, S., Lobov, A., Martinez Lastra, J. L.
Number of pages: 8
Pages: 359-366
Publication date: 2015

Host publication information

Title of host publication: 2015 IEEE European Modelling Symposium
ISBN (Print): 978-1-5090-0206-1
DOIs:

10.1109/EMS.2015.59

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Postmodernismi Suomen rakennusperinnössä

General information

Publication status: Published
MoE publication type: D1 Article in a trade journal
Organisations: School of Architecture, Research group: History of Architecture
Contributors: Koponen, O.
Number of pages: 3
Pages: 72-74
Publication date: 2015
Peer-reviewed: Unknown

Publication information

Journal: Arkkitehti
Volume: 2015
Issue number: 2/2015
ISSN (Print): 0783-3660
Original language: Finnish
Research output: Contribution to journal › Article › Professional

Platform Competences to Enhance Network Effects in Business Ecosystems

General information

Publication status: Published
MoE publication type: A4 Article in a conference publication
Organisations: Pori Department, Research group: Business Ecosystems, Networks and Innovations, Queensland University of Technology QUT, VTT Technical Research Centre of Finland
Contributors: Seppänen, M., Dedehayir, O., Still, K., Valkokari, K., Suominen, A.
Publication date: 8 Dec 2015

Host publication information

Title of host publication: 2015 ISPIM Innovation Summit in Brisbane, Australia - 6-9 December 2015
Publisher: International Society for Professional Innovation Management ISPIM
ISBN (Electronic): 978-1-911136-00-2
Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Plasmonic mode conversion and second harmonic imaging of tilted plasmonic nanocones

General information

Publication status: Published
MoE publication type: A4 Article in a conference publication
Organisations: Physics, Research group: Nonlinear Optics, University of Tübingen
Contributors: Dreser, C., Gollmer, D. A., Bautista, G., Zang, X., Kern, D. P., Kauranen, M., Fleischer, M.
Number of pages: 2
Pages: 356-357
Publication date: 2019

Host publication information

Title of host publication: Proceedings of META 2019, The 10th International Conference on Metamaterials, Photonic Crystals and Plasmonics

Publisher: META Publishing

Publication series

Name: META proceedings
Publisher: META Publishing
ISSN (Electronic): 2429-1390
Electronic versions:

Plasmonic mode conversion and second harmonic imaging of tilted plasmonic nanocones 2019

URLs:

<http://urn.fi/URN:NBN:fi:tuni-202001211445>

URLs:

<https://metapublishing.org/index.php/MP/catalog/book/65>

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Plant-wide optimization of a copper smelter: How to do it in practice?

Optimizing complex industrial processes, such as copper smelting, accurately has proven to be challenging with traditional methods. The process includes combinations of interlinked continuous and batch unit processes and further many of the control actions require manual actions from the process operators. Changing process bottlenecks and other limitations in real life have meant that the process is not necessarily operated optimally. The traditional closed loop Model predictive control (MPC) methods cannot be used in such applications until the level of automation is increased significantly. To unleash the full potential of the smelter and to meet the future demands for sustainability, efficient plant-wide model-based control is needed. In the first phase such tools can be implemented as advisory systems guiding and supporting the human operators in their everyday decisions. Coordinating Optimisation of Complex Industrial Processes, or COCOP, a project born under the European Union's Horizon 2020 and the SPIRE initiative, aims to tackle this challenge. In this paper methods under development in COCOP for optimisation of a copper smelter including plant-wide control and unit process advisory tools, are introduced and discussed. The main focus of the paper is in describing the development work relating to the optimisation of the Peirce-Smith unit process.

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Automation Technology and Mechanical Engineering, Outotec (Finland) Oy, Tampere University

Contributors: Korpi, M., Jansson, J., Pihlasalo, J., Suominen, O., Vilkkö, M.

Number of pages: 12

Pages: 95-106

Publication date: 2019

Host publication information

Title of host publication: Proceedings of the 10th European Metallurgical Conference, EMC 2019

Volume: 1

Publisher: GDMB Verlag GmbH

ISBN (Electronic): 9783940276872

ASJC Scopus subject areas: Metals and Alloys

Keywords: COCOP, Digitalization, Peirce-Smith converting, Plant-wide optimization, Scheduling

URLs:

<http://urn.fi/URN:NBN:fi:tuni-202005205515>

<https://trepo.tuni.fi/handle/10024/122137>

Source: Scopus

Source ID: 85075175701

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Piezoelectric sensitivity measurements of cellulose nanofibril sensors

Piezoelectric sensitivity of cellulose nanofibril (CNF) film sensors was measured using a mechanical shaker and charge amplifier setup. In-house fabricated CNF film sensors showed 5-7 pC/N sensitivity in ambient conditions. The CNF film used here contained randomly oriented fibrils, and the piezoelectric response is expected to increase remarkably after film polarization and fibril alignment. The results obtained in this study suggest that nanocellulose film is a suitable sensor material for applications in various fields such as material sciences, electronics and biomedical diagnostics.

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Department of Automation Science and Engineering, Research area: Microsystems, Research area:

Measurement Technology and Process Control, Integrated Technologies for Tissue Engineering Research (ITTE), Aalto Univ, Aalto University, Sch Chem Technol, Dept Forest Prod Technol, Aalto University

Contributors: Rajala, S., Vuoriluoto, M., Rojas, O., Franssila, S., Tuukkanen, S.
Number of pages: 5
Publication date: 2015

Host publication information

Title of host publication: IMEKO XXI World Congress, Proceedings, August 30 - September 4, 2015, Prague, Czech Republic
Editor: Holub, J.
ISBN (Electronic): 978-80-01-05793-3

Bibliographical note

xa ei tarkistettu

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

Picosecond MOPA with ytterbium doped tapered double clad fiber

The powerful picosecond master oscillator - power amplifier (MOPA) with double clad ytterbium doped tapered fiber as a buster amplifier has been demonstrated in the presented paper. The developed MOPA has 60ps pulses with 0.3mJ pulse energy and 5MW peak power.

General information

Publication status: Published
MoE publication type: A4 Article in a conference publication
Organisations: Research group: Ultrafast and intense lasers, Photonics, Research group: Nanophotonics, Ampliconix Ltd, Institute of Radio Engineering and Electronics of the Russian Academy of Sciences
Contributors: Filippov, V., Vorotynskii, A., Noronen, T., Gumenyuk, R., Chamorovskii, Y., Golant, K.
Number of pages: 6
Publication date: 2017

Host publication information

Title of host publication: Fiber Lasers XIV : Technology and Systems
Volume: 10083
Publisher: SPIE
Article number: 100831H
ISBN (Electronic): 9781510606074

Publication series

Name: Proceedings of SPIE
Publisher: SPIE
No.: 10083
ISSN (Print): 0277-786X
ISSN (Electronic): 1996-756X
ASJC Scopus subject areas: Electronic, Optical and Magnetic Materials, Condensed Matter Physics, Computer Science Applications, Applied Mathematics, Electrical and Electronic Engineering
Keywords: Fiber laser, Picosecond laser, Ultrafast laser
DOIs:
10.1117/12.2252006
Source: Scopus
Source ID: 85019465842
Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

Physical and chemical properties of real exhaust particle emissions from city buses

General information

Publication status: Published
MoE publication type: D3 Professional conference proceedings
Organisations: Department of Physics, Research area: Aerosol Physics, Metropolia University of Applied Science, Metropolia University of Applied Sciences, Helsinki University, Helsinki Region Environmental Services Authority (HSY), Department of Environmental Sciences, Atmospheric Composition Research, Finnish Meteorological Institute
Contributors: Pirjola, L., Dittrich, A., Niemi, J. V., Saarikoski, S., Malinen, A., Kuuluvainen, H., Wihersaari, H., Timonen, H., Kousa, A., Rönkkö, T., Hillamo, R.
Publication date: 2015

Host publication information

Title of host publication: EAC 2015, European Aerosol Conference, 6-11 September, 2015, Milan, Italy

Bibliographical note

AUX=fys,"Wihersaari, Hugo"

Ei ISBN-numeroa

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Professional

Photometric stereo system for detailed analysis of material surfaces

This paper describes a photometric stereo system for the measurement of surface topography. The system provides versatile experimental possibilities due to movable multicolor LEDs, movable camera, and a traveling (xy-)table for the sample. We introduce our measurement setup and present analysis of its performance. Our topography maps correlate well with the contact profilometry reference map, and reveal different details of the surfaces depending on the illumination wavelength and pixel size.

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Department of Automation Science and Engineering, Research area: Dynamic Systems, Research area: Measurement Technology and Process Control, Research area: Microsystems

Contributors: Mettänen, M., Melin, J., Ihalainen, H.

Number of pages: 6

Publication date: 2015

Host publication information

Title of host publication: IMEKO XXI World Congress, Measurement in Research and Industry, Proceedings, August 30 - September 4, 2015, Prague, Czech Republic

ISBN (Print): 978-80-01-05793-3

Electronic versions:

Mettanen_IMEKO_2015_preprint

URLs:

<http://urn.fi/URN:NBN:fi:tty-201705121384>

<https://www.imeko.org/publications/wc-2015/IMEKO-WC-2015-TC2-022.pdf>

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Photo-acoustic Spectroscopy of Resonant Absorption in III-V Semiconductor Nanowires

We show that photo-acoustic spectroscopy allows determination of the nanowire absorbance properties including resonant peak positions and peak broadening due to collective ensemble properties. Furthermore, we demonstrate chiral optical response in asymmetrically Au-coated nanowires.

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Photonics, Research group: ORC

Contributors: Hakkarainen, T., Leahu, G., Petronijevic, E., Belardini, A., Centini, M., Li Voti, R., Koivusalo, E., Rizzo Piton, M., Guina, M., Sibilia, C.

Publication date: 2017

Host publication information

Title of host publication: CLEO: Applications and Technology 2017 : San Jose, California United States 14–19 May 2017

Publisher: The Optical Society; OSA

Article number: JTh2A.48

ISBN (Electronic): 978-1-943580-27-9

DOIs:

10.1364/CLEO_AT.2017.JTh2A.48

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Perspectives on tools and applications supporting co-creation in knowledge work

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Industrial and Information Management, Research group: Knowledge and Learning Research Center, University of Tampere

Contributors: Okkonen, J., Vuori, V.

Number of pages: 8

Pages: 369-376
Publication date: 2017

Host publication information

Title of host publication: Proceedings of the 12th International Forum on Knowledge Asset Dynamics 2017 : 7-9 Jun. 2017, St. Petersburg, Russia
ISBN (Electronic): 978-88-96687-10-9

Publication series

Name: Proceedings IFKAD
ISSN (Print): 2280-787X
URLs:

http://gsom.spbu.ru/en/events/event2017_06_09/

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

Perspective of Social Usability in the Change Processes of an Academic Workplace

General information

Publication status: Published
MoE publication type: A4 Article in a conference publication
Organisations: Department of Civil Engineering
Contributors: Kostiainen, E., Nenonen, S.
Pages: 688-701
Publication date: 2016

Host publication information

Title of host publication: Proceedings of the CIB World Building Congress 2016: Volume II - Environmental Opportunities and Challenges. Constructing Commitment and Acknowledging Human Experiences
Publisher: Tampere University of Technology. Department of Civil Engineering
ISBN (Electronic): 978-952-15-3742-4
URLs:

<http://urn.fi/URN:ISBN:978-952-15-3742-4>

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

Personality's effect on peer assessment ability in case method context

General information

Publication status: Published
MoE publication type: A4 Article in a conference publication
Organisations: Industrial and Information Management, Research group: Cost Management Center, Research group: Business Data Research Group, Research group: Center for Research on Operations Projects and Services, Research group: Center for Innovation and Technology Research
Contributors: Mahlamäki, T., Valkeinen, T., Myllärniemi, J., Hellsten, P., Repo, S.
Number of pages: 5
Pages: 6401-6405
Publication date: 2017

Host publication information

Title of host publication: EDULEARN17 Proceedings. 9th International Conference on Education and New Learning Technologies : 3-5 July, 2017, Barcelona, Spain
Publisher: IATED
ISBN (Electronic): 978-84-697-3777-4

Publication series

Name: Edulearn proceedings
ISSN (Print): 2340-1125
ISSN (Electronic): 2340-1117
DOIs:

[10.21125/edulearn.2017.2455](https://doi.org/10.21125/edulearn.2017.2455)

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

Personal constructs concerning safety and atmosphere

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Pori Department, Department of Industrial Management, Research group: Safety Management and Engineering

Contributors: Porkka, P., Laukkanen, I., Kivistö-Rahnasto, J.

Publication date: Sep 2015

Host publication information

Title of host publication: WOS 8th international conference - Book of Abstracts

ISBN (Print): 978-989-98203-5-7

URLs:

<http://www.wos2015.net/index.asp?pag=tp>

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Performance management practices in construction business - a service recovery perspective

This paper studies how service recovery perspective can be utilized in order to improve performance management practices in construction industry in Finland. The purpose is to redesign service recovery encounters to better handle negative customer experiences when service failure or other problem has occurred. From performance management point of view, the key challenge is to manage negative customer experiences in order to avoid negative impacts on the performance of the company. The analysis focuses on how negative customer encounters can be used as a source of learning and thus, improving customer and employee satisfaction and the whole image of the industry.

Literature on service failure and recovery discusses various components of unsuccessful customer experience, their cognitive elements and ways of reacting to service failures. However, this discussion is separated from the business performance management literature. Theoretically the paper combines methods from service management and performance management and contributes with its holistic approach to the role of service quality in construction business. Empirical data was gathered first by interviewing 16 employees and customer engaging to customer service in 4 construction companies. The purpose was to identify the key pitfalls and practices of service recovery encounters in three main phases of the customer journey: 1) buying and planning a new home, 2) construction period, and 3) living in a new home). After interviews, two workshops in two companies were organized to reflect findings and to improve and create new service recovery encounter practices.

As a result, three performance management practices were identified: 1) guideline for customer recovery encounters, 2) developing systematic service recovery process and related quality metrics, and 3) developing the service oriented attitude and recovery of employees.

General information

Publication status: Published

MoE publication type: B3 Non-refereed article in conference proceedings

Organisations: Department of Information Management and Logistics, Research group: Novi

Contributors: Vuolle, M., Sillanpää, V.

Number of pages: 17

Publication date: 2015

Host publication information

Title of host publication: 8th Conference on Performance Measurement and Management Control

Publisher: The European Institute for Advanced Studies in Management, EIASM

Publication series

Name: Conference on Performance Measurement and Management Control

ISSN (Print): 2295-1660

URLs:

http://www.eiasm.org/frontoffice/event_announcement.asp?event_id=1035

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific

Performance Enhancement Of Optimized Link State Routing Protocol For Health Care Applications In Wireless Body Area Networks

Wireless Body Area Networks (WBAN) refers to the network of wearable sensor devices on a human body. The data gathered from the devices are sent to the server to take some action during an emergency. The collected data has to be successfully routed to reach the destination for an health care applications in WBAN. Hence selecting the routing protocol plays an important role in WBAN. Several researchers have proposed many routing protocols for WBAN. In this work, a novel proactive routing protocol called Energy Aware Power Save Mode Link State is proposed that modifies the existing Optimized Link State Routing protocol. The mathematical model is defined to select the best multi point relay node in a network that considers the power save mode state. The experiment is conducted using network simulator NS-3 and the result shows the substantial network performance metrics improvement in the proposed model compared to the existing.

General information

Publication status: Published
MoE publication type: A4 Article in a conference publication
Organisations: Electronics and Communications Engineering
Contributors: Chetan Kumar, V., Shiva Prakash, S. P., Balandin, S.
Number of pages: 9
Pages: 195-203
Publication date: Nov 2018

Host publication information

Title of host publication: 2018 23rd Conference of Open Innovations Association (FRUCT)
Publisher: IEEE
ISBN (Print): 978-1-5386-6943-3
ISBN (Electronic): 978-9-5268-6536-2
Keywords: Body area networks, Routing protocols, Wireless communication, Peer-to-peer computing, Quality of service, Routing
DOIs:
10.23919/FRUCT.2018.8588070
Source: Bibtex
Source ID: urn:c178e5ef1e338cad17f7c536b89f7cb3
Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Performance comparison of selected wired and wireless networks on chip architectures

In this paper we compare performance intra-core communications in network on chips. We consider two alternative architectures, wired and wireless. The wired one is based on a common bus (ring) with all the cores attached to it. We compare it to the mesh (point-to-point) architecture based on THz wireless links operating in 0.1-0.54 frequency band. Using reference latencies of inter-core communications in modern CPUs we perform an applicability assessment of considered schemes. As performance metrics of interest we consider both delay and capacity. Our results indicate that the latter architecture outperforms the former by a significant margin. The proposed system can be realized implementing directional antennas at all cores and ensuring that cores are placed on a chip such that there is no interference between them.

General information

Publication status: Published
MoE publication type: A4 Article in a conference publication
Organisations: Tampere University of Technology, Department of Electronics and Communications Engineering, P.G. Demidov Yaroslavl State University
Contributors: Komar, M.
Number of pages: 7
Pages: 68-74
Publication date: 3 Jun 2015

Host publication information

Title of host publication: 2015 17TH Conference of Open Innovations Association (FRUCT)

Publication series

Name: Conference of Open Innovations Association (FRUCT)
ISSN (Print): 2305-7254
ASJC Scopus subject areas: Computer Science(all), Electrical and Electronic Engineering
DOIs:
10.1109/FRUCT.2015.7117974

Bibliographical note

INT=elt,"Komar, Maria"
Source: Scopus
Source ID: 84936951198
Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Performance analysis of JPEG Pleno light field coding

Light fields can nowadays be acquired by several methods and devices in the form of light field images, which are at the core of new forms of media technologies. Many research challenges are still open in light field imaging, such as data representation formats, data compression tools, communication protocols, subjective and objective quality of experience measurement metrics and methods. This paper presents a brief overview of the current architecture of the JPEG Pleno light field coding standard under development within the JPEG committee (ISO/IEC JTC1/SC29/WG1). Thereafter, a comparative analysis between the performance of the JPEG Pleno Light Field codec under various modes and configurations and the performance of the considered anchor codecs is reported and discussed.

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Computing Sciences

Contributors: Perra, C., Astola, P., da Silva, E. A., Khanmohammad, H., Pagliari, C., Schelkens, P., Tabus, I.

Publication date: 6 Sep 2019

Host publication information

Title of host publication: Applications of Digital Image Processing XLII

Publisher: SPIE

ISBN (Electronic): 9781510629677

Publication series

Name: Proceedings of SPIE - The International Society for Optical Engineering

Volume: 11137

ISSN (Print): 0277-786X

ISSN (Electronic): 1996-756X

DOIs:

10.1117/12.2528391

Bibliographical note

jufoid=71479

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

Pedestrian Dead Reckoning with Particle Filter for Handheld Smartphone

Commonly used Global Navigation Satellite Systems (GNSS) are inappropriate as Location Based Services (LBS) in indoor environment. Therefore research teams are developing different systems, which can be used as a suitable alternative. One of options is to use Inertial Navigation System (INS) which consists of inertial sensors and mathematic procedures. This concept has been known for a long time, but with arrival of Microelectro Mechanical System (MEMS) INS found wide use. Smartphones with inertial sensors, such as accelerometers and gyroscopes, allow us to use them as input devices for Pedestrian Dead Reckoning (PDR). In this paper we present PDR by using smartphone sensors. They can be classified as low-cost Inertial Measurement Unit (IMU), and have been compared with more precise and expensive Xsens IMU. Accuracy of inertial sensors has increased in the past few years, but they still cannot alone provide proper accuracy because of many negative effects, such as heading drift due to gyroscope bias. Particle Filter (PF) has been successfully used with map constraints to increase the accuracy of proposed location system. Presented results show that low-cost smartphone IMU combined with PF can be applicable as proper navigation system.

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Department of Pervasive Computing, Research area: Computer engineering, Signal Processing Research Community (SPRC), University of Zilina

Contributors: Collin, J., Perttula, A., Parviainen, J., Racko, J., Brida, P.

Number of pages: 7

Publication date: 17 Nov 2016

Host publication information

Title of host publication: 2016 International Conference on Indoor Positioning and Indoor Navigation (IPIN)

Publisher: IEEE

ISBN (Electronic): 978-1-5090-2425-4

Electronic versions:

IPIN_Racko_PostPrint

DOIs:

10.1109/IPIN.2016.7743608

URLs:

<http://urn.fi/URN:NBN:fi:tty-201612224910>

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

Patterns for serverless functions (Function-as-a-Service): A multivocal literature review

[Context] Serverless is a recent technology that enables companies to reduce the overhead for provisioning, scaling and in general managing the infrastructure. Companies are increasingly adopting Serverless, by migrating existing applications to this new paradigm. Different practitioners proposed patterns for composing and managing serverless functions. However, some of these patterns offer different solutions to solve the same problem, which makes it hard to select the most suitable solution for each problem. [Goal] In this work, we aim at supporting practitioners in understanding the different patterns, by classifying them and reporting possible benefits and issues. [Method] We adopted a multivocal literature review process,

surveying peer-reviewed and grey literature and classifying patterns (common solutions to solve common problems), together with benefits and issues. [Results] Among 24 selected works, we identified 32 patterns that we classified as orchestration, aggregation, event-management, availability, communication, and authorization. [Conclusion] Practitioners proposed a list of fairly consistent patterns, even if a small number of patterns proposed different solutions to similar problems. Some patterns emerged to circumvent some serverless limitations, while others for some classical technical problems (e.g. publisher/subscriber).

General information

Publication status: Published
MoE publication type: A4 Article in a conference publication
Organisations: Computing Sciences, Free University of Bolzano-Bozen
Contributors: Taibi, D., El Ioini, N., Pahl, C., Niederkofler, J. R. S.
Number of pages: 12
Pages: 181-192
Publication date: 2020

Host publication information

Title of host publication: CLOSER 2020 - Proceedings of the 10th International Conference on Cloud Computing and Services Science
Volume: 1
Publisher: SCITEPRESS
Editors: Ferguson, D., Helfert, M., Pahl, C.
ISBN (Electronic): 9789897584244
ASJC Scopus subject areas: Computer Science (miscellaneous), Computer Science Applications, Software
Keywords: Cloud, Function as a Service, Serverless, Serverless Functions
Electronic versions:

Patterns for serverless functions 2020

DOIs:

10.5220/0009578501810192

URLs:

<http://urn.fi/URN:NBN:fi:tuni-202008286730>

Source: Scopus

Source ID: 85088373702

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Patterns for controlling chaos in a startup

A growing trend in industrial software engineering is that new software products and information services are developed under conditions of notable uncertainty. This is especially visible in startup enterprises which aim at new kinds of products and services in rapidly changing social web, where potential customers can quickly adopt new behavior. Special characteristics of the startups are lack of resources and funds, and startups may need to change direction fast. All these affect the software engineering practices used in the startups. Unfortunately almost 90 percent of all startups fail and goes bankrupt. There are probably indefinite numbers of reasons why startups fail. Failure might be caused by wrongly chosen software engineering practices or inconsiderate decision making. While there is no recipe for success, we argue that good practices that can help on the way to success can be identified from successful startups. In this paper, we present two patterns that startups can consider when entering the growth phase of the lifecycle.

General information

Publication status: Published
MoE publication type: A4 Article in a conference publication
Organisations: Department of Pervasive Computing
Contributors: Eloranta, V.
Number of pages: 8
Pages: 1-8
Publication date: 10 Apr 2014

Host publication information

Title of host publication: VikingPLoP 2014 Proceedings of the 8th Nordic Conference on Pattern Languages of Programs
Volume: 2014-April
Publisher: Association for Computing Machinery
ISBN (Print): 9781450326605

Publication series

Name: ACM International Conference Proceeding Series
ASJC Scopus subject areas: Human-Computer Interaction, Computer Networks and Communications, Computer Vision and Pattern Recognition, Software

Keywords: Lean start-up, Organizational patterns, Patterns, Software engineering, Start-up

DOIs:

10.1145/2676680.2676682

Source: Scopus

Source ID: 84940028558

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Participatory service design and community involvement in designing future-ready sustainable learning landscapes

The United Nations Sustainable Development Goals (SDGs) work as a new agenda for sustainable development globally. Many if not most of the SDGs can be combined with different levels of education. This paper leans on previous work in Sustainable Education Design (SED), which looked at sustainability from its multifaceted angles with a broad global scope. The context of the study is a campus at a research-intensive Finnish university. The methodology entailed participatory service design approaches. For piloting, one classroom was chosen as a test bed. The data consist of workshops, use walks and structured interviews. The analysis started from identifying KPIs of sustainable learning environment creation, after which these were tested against Sustainable Education Design Criteria described in a manual book earlier. The key findings include nine preliminary alternative KPIs that were merged with previous SED criteria and related SDGs. The alternative KPIs were trialled in the test bed environment. These proposed alternative KPIs can be used as indicators for sustainability, innovation and learning during participatory change processes and in evaluating the outcome.

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Civil Engineering, Research group: Responsible Construction, Helsinki University

Contributors: Sandström, N., Nevgi, A., Nenonen, S.

Publication date: 2 Sep 2019

Host publication information

Title of host publication: SBE 19 - Emerging Concepts for Sustainable Built Environment 22–24 May 2019, Helsinki, Finland

Publisher: IOP Publishing

Publication series

Name: IOP Conference Series: Earth and Environmental Science

Volume: 297

ISSN (Print): 1755-1307

ASJC Scopus subject areas: Environmental Science(all), Earth and Planetary Sciences(all)

Electronic versions:

Sandström_2019_IOP_Conf._Ser._Earth_Environ._Sci._297_012031

DOIs:

10.1088/1755-1315/297/1/012031

URLs:

<http://urn.fi/URN:NBN:fi:tuni-201910153860>

Bibliographical note

jufoid=85001

Source: Scopus

Source ID: 85072832468

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Parameters Affecting the Upcycling of Waste Cotton and PES/CO Textiles

General information

Publication status: Published

MoE publication type: A1 Journal article-refereed

Organisations: Department of Materials Science, Research group: Fibre Materials

Contributors: Vats, S., Rissanen, M.

Number of pages: 12

Pages: 166-177

Publication date: 30 May 2016

Peer-reviewed: Yes

Publication information

Journal: Recycling

Volume: 1

Issue number: 1
ISSN (Print): 2313-4321
Original language: English
Electronic versions:
recycling-01-00166
DOIs:
10.3390/recycling1010166
URLs:
<http://urn.fi/URN:NBN:fi:tty-201605304201>
Research output: Contribution to journal › Article › Scientific › peer-review

Paloturvallisuuden huomiointi ja asenteet nykyaikaisessa älyrakentamisessa

General information

Publication status: Published
MoE publication type: B2 Part of a book or another research book
Organisations: Civil Engineering, Research group: Metal and Light-wight structures, The Finnish National Rescue Association (SPEK)
Contributors: Malaska, M., Aaltonen, A., Lehto, L.
Publication date: 2019

Host publication information

Title of host publication: Spek Puheenvuoroja 6
Place of publication: Helsinki
Publisher: SUOMEN PELASTUSALAN KESKUSJÄRJESTÖ RY.
ISBN (Electronic): 978-951-797-666-4

Publication series

Name: SPEK Puheenvuoroja
Publisher: Suomen Pelastusalan Keskusjärjestö SPEK
ISSN (Electronic): 2242-1653
URLs:
<http://www.spek.fi/loader.aspx?id=395a211f-7323-4b58-888c-f34c34679fae>
Research output: Chapter in Book/Report/Conference proceeding › Chapter › Scientific

Paine-erot Pirkanmaan ja Helsingin julkisissa palvelurakennuksissa

General information

Publication status: Published
MoE publication type: B3 Non-refereed article in conference proceedings
Organisations: Civil Engineering, Research group: Building Physics, Tampere University of Technology, Laboratory of Civil Engineering
Contributors: Kauppinen, A., Kiviste, M., Pirhonen, J., Vinha, J.
Number of pages: 7
Pages: 215-221
Publication date: 24 Oct 2017

Host publication information

Title of host publication: Rakennusfysiikka 2017. Uusimmat tutkimustulokset ja hyvät käytännön ratkaisut : 24-26.10.2017, Tampere
Volume: 1
Place of publication: Tampere
Publisher: Tampereen teknillinen yliopisto, Rakennustekniikka, Rakennusfysiikka
Editors: Vinha, J., Kivioja, H.
ISBN (Print): 978-952-15-4022-6

Publication series

Name: Tampereen teknillinen yliopisto. Rakennustekniikka. Rakennusfysiikka.
ASJC Scopus subject areas: Civil and Structural Engineering
URLs:
http://www.tut.fi/cs/groups/public_news/@l102/@web/@p/documents/liit/x251128.pdf

Bibliographical note

INT=RAK, "Pirhonen, Joni"

OSS-TMM: Guidelines for improving the testing process of open source software

Open Source Software (OSS) products do not usually follow traditional software engineering development paradigms. Specifically, testing activities in OSS development may be quite different from those carried out in Closed Source Software (CSS) development. As testing and verification require a good deal of resources in OSS, it is necessary to have ways to assess and improve OSS testing processes. This paper provides a set of testing guidelines and issues that OSS developers can use to decide which testing techniques make most sense for their OSS products. This paper 1) provides a checklist that helps OSS developers identify the most useful testing techniques according to the main characteristics of their products, and 2) outlines a proposal for a method that helps assess the maturity of OSS testing processes. The method is a proposal of a Maturity Model for testing processes (called OSS-TMM). To show its usefulness, the authors apply the method to seven real-life projects. Specifically, the authors apply the method to BusyBox, Apache Httpd, and Eclipse Test and Performance Tools Platform to show how the checklist supports and guides the testing process of these OSS products.

General information

Publication status: Published

MoE publication type: A3 Part of a book or another research book

Organisations: Università degli Studi Dell'Insubria, Former organisation of the author

Contributors: Morasca, S., Taibi, D., Tosi, D.

Number of pages: 20

Pages: 59-78

Publication date: 28 Feb 2013

Host publication information

Title of host publication: Open Source Software Dynamics, Processes, and Applications

Publisher: IGI Global

ISBN (Print): 1466629371, 9781466629370

ISBN (Electronic): 9781466629387

ASJC Scopus subject areas: Computer Science(all)

DOIs:

10.4018/978-1-4666-2937-0.ch004

URLs:

<http://www.scopus.com/inward/record.url?scp=84944882361&partnerID=8YFLogxK> (Link to publication in Scopus)

Source: Scopus

Source ID: 84944882361

Research output: Chapter in Book/Report/Conference proceeding › Chapter › Scientific › peer-review

Orimattilan Henna

Kurssijulkaisu. Vuoden 2014 yhdyskuntasuunnittelun ammattikurssi 1 opiskelijoiden harjoitustyöt. Kurssin harjoitustöiden teemana oli uuden kaupunginosan suunnittelu Lahti-Kerava -oikoradan varteen. Kurssi ja julkaisu toteutettiin yhteistyössä Orimattilan kaupungin kanssa.

General information

Publication status: Published

MoE publication type: D4 Published development or research report or study

Organisations: School of Architecture

Contributors: Laak, M. (ed.)

Number of pages: 89

Publication date: 2014

Publication information

Publisher: Tampereen teknillinen yliopisto. Arkkitehtuurin laitos

ISBN (Print): 978-952-15-3321-1

ISBN (Electronic): 978-952-15-3322-8

Original language: Finnish

Electronic versions:

orimattilan_henna

URLs:

<http://URN.fi/URN:ISBN:978-952-15-3322-8>

Bibliographical note

Versio ok 16.12.2015

Research output: Book/Report › Commissioned report › Professional

Organic Chromophores in Self-Assembled Monolayers and Supramolecular Arrays

Large aromatic chromophores, e.g. phthalocyanines or perylene derivatives are widely used in modern photonic applications. For these systems, well-organized films of the chromophores are very important. One of the ways to ensure the order on molecular level is to bind the organic dyes covalently to a solid substrate with a suitable anchor group. Expanding the concept, multilayered supramolecular assemblies can be built on surfaces as well.

In the present Thesis various chromophores with a capability to anchor onto a solid surface were prepared. Synthesized molecules were porphyrins, phthalocyanines, and perylene mono- and diimides with different substituents. The anchor-surface pairs were of several types, and the chromophores were attached to a surface by one- or two-step methods.

Two of the perylene monoimide derivatives were found to be a perfect basement for construction of multilayered films. Using a metal-ligand interaction it was possible to prepare stable double layers, as well ten molecules thick stable deeply colored multilayer films. The developed approach is versatile and will allow in future to expand the capabilities of molecular film architecture.

General information

Publication status: Published

MoE publication type: G5 Doctoral dissertation (article)

Organisations: Department of Chemistry and Bioengineering, Research group: Supramolecular photochemistry

Contributors: Sariola-Leikas, E.

Number of pages: 58

Publication date: 20 Nov 2015

Publication information

Publisher: Tampere University of Technology

ISBN (Print): 978-952-15-3600-7

ISBN (Electronic): 978-952-15-3623-6

Original language: English

Publication series

Name: Tampere University of Technology. Publication

Publisher: Tampere University of Technology

Volume: 1334

ISSN (Print): 1459-2045

Electronic versions:

sariola-leikas_1334

URLs:

<http://URN.fi/URN:ISBN:978-952-15-3623-6>

Bibliographical note

Awarding institution: Tampere University of Technology

Versio ok 16.12.2015

Research output: Book/Report > Doctoral thesis > Collection of Articles

Optimizing investment in ESD control

We examine strategies for optimizing investment in ESD protection and trade-offs that can arise. Standard ESD measures require low expertise but may result in unnecessary equipment spend. Tailored EPAs may require higher expertise and greater training. ESD control measures and equipment used with inadequate understanding can fail to yield the potential benefits expected. Optimal ESD control results from understanding ESD threats and control, with effective implementation.

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Department of Electronics and Communications Engineering, Electrostat Solut Ltd, Cascade Metrol

Contributors: Smallwood, J., Tamminen, P., Viheriäkoski, T.

Number of pages: 6

Publication date: 2014

Host publication information

Title of host publication: 2014 Electrical Overstress/Electrostatic Discharge Symposium (EOS/ESD)

Publisher: IEEE COMPUTER SOC

Publication series

Name: Electrical Overstress Electrostatic Discharge Symposium

Publisher: IEEE COMPUTER SOC

ISSN (Print): 0739-5159

Source: WOS

Source ID: 000355792800025

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

Optimization of high strength steel tubular trusses

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Department of Civil Engineering, Research group: Metal and Light-wight structures

Contributors: Tiainen, T., Mela, K., Jokinen, T., Heinisuo, M.

Publication date: 2014

Host publication information

Title of host publication: Eurosteel 2014 7th European conference on steel and composite structures

ISBN (Print): 978-92-9147-121-8

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

Optimal operation of a three camera system on a four-wheel robot

At present the automated moving of a robot is made possible by a complete measurement system including GPS, laser scanners, radars and static cameras. Such approach is reliable but rather expensive. In this paper the optimal operation of a three camera system on a four-wheel robot is studied. The benefit of the dynamic camera system over the complete static measurement system is the reasonable price and the possibility to focus at certain directions.

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Department of Automation Science and Engineering, Research area: Measurement Technology and Process Control, Research area: Dynamic Systems

Contributors: Raunio, J., Ritala, R., Välimäki, T.

Pages: 968-973

Publication date: 2015

Host publication information

Title of host publication: IMEKO XXI World Congress, Fundamental and Applied Metrology, Proceedings, August 31-September 4, 2015, Prague, Czech Republic

ISBN (Print): 978-80-01-05793-3

Bibliographical note

Contribution: organisation=ase ,FACT1=1

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

Optimal operation of a QCS scanner in a paper machine based on the information of QCS and WIS measurements

The scanner is a measuring device which travels over the running paper web in the paper machine. The device simply travels back and forth despite of the stability of the paper making process. However, the back and forth policy is not necessarily the optimal one when the best control performance is required. This paper introduces an optimal operation method for QCS scanner based on the information gathered from both QCS and WIS devices. The optimal operation is based on the optimal path finding algorithm which predicts web quality uncertainties several time steps ahead. The uncertainty estimation is based on the Kalman filter approach which combines the current measurements (QCS and WIS) and the previous estimates. It was noticed that the regular zig-zag scanning is an optimal solution in several cases however the irregular scanning provides more information especially in the highly unstable situations. The developed method could be utilized in scanner control and it would not require major modification to the current systems.

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Department of Automation Science and Engineering, Research area: Dynamic Systems, Research area: Measurement Technology and Process Control

Contributors: Raunio, J., Ritala, R.

Number of pages: 11

Pages: 1-11

Publication date: 14 May 2016

Host publication information

Title of host publication: PaperCon 2016 Conference Proceedings -TAPPI

Place of publication: Cincinnati, USA

Publisher: TAPPI

ISBN (Print): 9781510818873

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Optical Frequency Comb Photoacoustic Spectroscopy

We combine for the first time a mid-infrared optical frequency comb Fourier transform spectrometer with cantilever-enhanced photoacoustic detection and measure high-resolution broadband spectra of the fundamental band of methane in a few milliliter sample volume.

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Physics, Energy Technology and Thermal Process Chemistry, University of Helsinki

Contributors: Sadiq, I., Mikkonen, T., Vainio, M., Toivonen, J., Foltynowicz, A.

Publication date: 1 May 2019

Host publication information

Title of host publication: 2019 Conference on Lasers and Electro-Optics, CLEO 2019 - Proceedings

Publisher: IEEE

ISBN (Electronic): 9781943580576

ASJC Scopus subject areas: Spectroscopy, Industrial and Manufacturing Engineering, Safety, Risk, Reliability and Quality, Management, Monitoring, Policy and Law, Electronic, Optical and Magnetic Materials, Radiology Nuclear Medicine and imaging, Instrumentation, Atomic and Molecular Physics, and Optics

DOIs:

10.23919/CLEO.2019.8749688

Source: Scopus

Source ID: 85069190764

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Optical fiber amplifier with spectral compression elements for high-power laser pulse generation

We report main features of spectral compression of parabolic pulses in nonlinear optical fibers. It is shown that the variational analysis correctly describes evolution of pulse parameters during spectral compression. The model of cascade amplifier system employing spectral compression is developed to achieve superior spectral densities. The proposed configuration is promising as optical pulse preamplifier for operation in the high-energy pulse laser systems.

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Optoelectronics Research Centre, University de Mons, Ulyanovsk State University, Optoelectronic Research Center

Contributors: Fotiadi, A. A., Korobko, D. A., Okhotnikov, O. G., Zolotovskii, I. O.

Publication date: 2016

Host publication information

Title of host publication: Nonlinear Optics and its Applications IV

Volume: 9894

Publisher: SPIE

Article number: 989411

ISBN (Electronic): 9781510601390

Publication series

Name: Proceedings of SPIE

Volume: 9894

ISSN (Print): 0277-786X

ASJC Scopus subject areas: Electronic, Optical and Magnetic Materials, Condensed Matter Physics, Computer Science Applications, Electrical and Electronic Engineering, Applied Mathematics

Keywords: Fiber optics amplifiers, high-power laser pulses, nonlinear spectral compression, phase self-modulation

DOIs:

10.1117/12.2223637

Source: Scopus

Source ID: 84985911601

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Optical amplifiers and lasers based on tapered fiber geometry for power and energy scaling with low signal distortion

We report theoretical and experimental study of tapered double-clad fibers (T-DCF) to be implemented as a gain media in a fiber lasers and amplifiers. We have considered most important properties and features of T-DCF. Various amplifiers and lasers using ytterbium T-DCF are demonstrated.

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Optoelectronics Research Centre, Research group: Ultrafast and intense lasers, Institute of Radio Engineering and Electronics, Russian Academy of Sciences (IRE RAS)

Contributors: Filippov, V., Chamorovskii, Y. K., Golant, K. M., Vorotynskii, A., Okhotnikov, O. G.

Number of pages: 11

Publication date: Feb 2016

Host publication information

Title of host publication: Proceedings of SPIE : Fiber Lasers XIII: Technology, Systems, and Applications

Volume: 9728

Publisher: SPIE

Editor: Ballato, J.

Article number: 97280V-1

Publication series

Name: SPIE conference proceedings

Publisher: SPIE

ISSN (Print): 0277-786X

ISSN (Electronic): 1996-756X

DOIs:

10.1117/12.2218051

Bibliographical note

JUFOID=71479

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Oppivan organisaation kehittäminen osaavaksi organisaatioksi. Tapaustutkimus suomalaisessa teollisuusyhtäyksessä

General information

Publication status: Published

MoE publication type: G4 Doctoral dissertation (monograph)

Organisations: Department of Information Management and Logistics

Contributors: Hagman, S.

Number of pages: 209

Publication date: 22 May 2015

Publication information

Publisher: Tampere University of Technology

ISBN (Print): 978-952-15-3516-1

ISBN (Electronic): 978-952-15-3521-5

Original language: Finnish

Publication series

Name: Tampere University of Technology. Publication

Publisher: Tampere University of Technology

Volume: 1296

ISSN (Print): 1459-2045

Electronic versions:

hagman_1296

URLs:

<http://URN.fi/URN:ISBN:978-952-15-3521-5>

Bibliographical note

Awarding institution: Tampere University of Technology

Versio 16.12.2015

Research output: Book/Report › Doctoral thesis › Monograph

Open knowledge-driven manufacturing & logistics - The eScop approach

General information

Publication status: Published

MoE publication type: C2 Edited books

Organisations: Department of Automation Science and Engineering, Research group: Factory automation systems technology

Contributors: Strzelczak, S. (ed.), Balda, P. (ed.), Garetti, M. (ed.), Lobov, A. (ed.)

Number of pages: 404

Publication date: 2015

Publication information

Place of publication: Warsaw, Poland

Publisher: Warsaw University of Technology Publishing House

ISBN (Print): 978-83-7814-440-3

Original language: English

Research output: Book/Report > Anthology > Scientific > peer-review

On the threshold based neuronal spike detection, and an objective criterion for setting the threshold

In this paper, we investigate the workings of threshold (TH) based spike detection for neuronal extracellular field potential spikes. Thresholding is the most used spike detection method. In general, it is employed by setting the TH as per convention and without considering either the undetected or spurious spikes. In this paper, we provide insight in to the workings of thresholding, and proposed a new objective way to set the TH based on spike count histogram analysis. We illustrate the method with 2D and 3D simulations and analysis of measured data.

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Department of Electronics and Communications Engineering, Research group: Computational Biophysics and Imaging Group, BioMediTech, Integrated Technologies for Tissue Engineering Research (ITTE), BioMediTech

Contributors: Tanskanen, J. M. A., Kapucu, F. E., Hyttinen, J. A. K.

Number of pages: 4

Pages: 1016-1019

Publication date: 1 Jul 2015

Host publication information

Title of host publication: International IEEE/EMBS Conference on Neural Engineering, NER

Publisher: IEEE COMPUTER SOCIETY PRESS

ISBN (Print): 9781467363891

ASJC Scopus subject areas: Artificial Intelligence, Mechanical Engineering

DOIs:

10.1109/NER.2015.7146799

Source: Scopus

Source ID: 84940384726

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

On the Socio-Technical Dependencies in Free/Libre/Open Source Software Projects

During the course of the past two decades, Open Source Software (OSS) development model has lead to a number of projects which have produced software that rivals and in some cases even exceeds the scale and quality of the traditional software projects. Among others, Eclipse, Apache, Linux, and BSD operating system are representative examples of such success stories.

However, OSS project like traditional in-house projects, often pose the potential for enormous problems, whose effects run the gamut from immense cumulative delay through complete breakdown and failure. This situation is evident, as OSS development is a socio-technical endeavor and is non-trivial. Such development occurs within an intensively collaborative process, in which technical prowess must go hand in hand with the efficient coordination and management of a large number of social, inter-personal interactions across the development organization. Furthermore, those social and technical dimensions are not orthogonal. It has been recognized that the structure of a software product and the layout of the development organization working on that product correlate.

Therefore this thesis argue that a comprehensive understanding on the sustainable evolution of OSS projects can be gained through the examination of the mutual influence of social and technical dimensions in OSS development. Thus, the goal of this thesis is the verification and reasoning of the following proposition,

“The evolution of the Open Source Software (OSS) project is constrained by the non-orthogonal evolution of Social and Technical dimensions (often termed as Socio-Technical dependency) of such projects”.

In concrete terms, this thesis investigates and measures empirically the extent to which the two dimensions of OSS projects, social and technical, approximate and influence each other during the evolution of the projects. Perceived insight is then used to build proposals that would provide empirical basis to frame theory around the affirmed proposition.

Moving towards this goal, this thesis proposes models, methods, frameworks and tool supports to measure, assess, and reason the socio-technical dependency within OSS project context. The starting point is to propose a data model to mimic the social and technical dimensions and their inter-relationships. This model is instantiated through the repository data of OSS projects that represent each of these dimensions. Then, methods and a mathematical model are proposed to derive dependency between the two dimensions, and to utilize them in measuring socio-technical dependency quantitatively. These proposals are then put into practice within distinct OSS project contexts to empirically measure and investigate socio-technical dependency. Along the process, frameworks, architectural design and corresponding tool implementations are provided to automate the analysis and visualization of such dependency.

Reported results suggest that high degree of socio-technical congruence can be considered as the implicit underlying principle for building team collaboration and coordination within the developer community of long lived OSS projects. Even being highly distributed community of developers, and mostly using passive communication channels, OSS communities are tied together by maintaining task dependent communication. Such communication is often ad-hoc, adaptive and situated as it cope with rapid and continuous changes in the underlying software.

Additionally, collaboration among projects are significantly influenced by the resembling properties among the projects. Resembling properties (e.g., project domain, size, and programming language) often form a favorable ground, thus creating a stimuli for developers to participate in those projects.

General information

Publication status: Published

MoE publication type: G5 Doctoral dissertation (article)

Organisations: Department of Pervasive Computing, Research area: Software engineering

Contributors: Syeed, M. M. M.

Publication date: 29 May 2015

Publication information

Publisher: Tampere University of Technology

ISBN (Print): 978-952-15-3525-3

ISBN (Electronic): 978-952-15-3533-8

Original language: English

Publication series

Name: Tampere University of Technology. Publication

Publisher: Tampere University of Technology

Volume: 1300

ISSN (Print): 1459-2045

Electronic versions:

mahbubul_1300

URLs:

<http://URN.fi/URN:ISBN:978-952-15-3533-8>

Bibliographical note

Awarding institution: Tampere University of Technology

Versio ok 16.12.2015

Research output: Book/Report › Doctoral thesis › Collection of Articles

On the prospects of full-duplex military radios

In-band full-duplex (FD) operation can be regarded as one of the greatest discoveries in civilian/commercial wireless communications so far in this century. The concept is significant because it can as much as double the spectral efficiency of wireless data transmission by exploiting the new-found capability for simultaneous transmission and reception (STAR) that is facilitated by advanced self-interference cancellation (SIC) techniques. As the first of its kind, this paper surveys the prospects of exploiting the emerging FD radio technology in military communication applications as well. In addition to spectrally efficient two-way data transmission, the STAR capability could give a major technical advantage for armed forces by allowing their radio transceivers to conduct electronic warfare at the same time when they are also receiving or transmitting information signals at the same frequency band. After providing a detailed introduction to FD transceiver architectures and SIC requirements in military communications, this paper outlines and analyzes some potential defensive and offensive applications of the STAR capability.

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Electronics and Communications Engineering, Research group: Wireless Communications and Positioning, Aalto University

Contributors: Riihonen, T., Korpi, D., Rantula, O., Valkama, M.

Publication date: 23 Jun 2017

Host publication information

Title of host publication: 2017 International Conference on Military Communications and Information Systems, ICMCIS 2017

Publisher: IEEE

ISBN (Electronic): 9781538638583

ASJC Scopus subject areas: Computer Networks and Communications, Hardware and Architecture, Information Systems

Electronic versions:

On the Prospects of Full-Duplex Military Radios 2017

DOIs:

10.1109/ICMCIS.2017.7956490

URLs:

<http://urn.fi/URN:NBN:fi:tuni-202002061911>

Source: Scopus

Source ID: 85025684140

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

On the effect of damping on stability of non-conservative systems

Anomalous damping-induced destabilization is investigated in a simple, small system consisting of a double pendulum with springs. Linearized and fully non-linear results are presented.

General information

Publication status: Published

MoE publication type: B3 Non-refereed article in conference proceedings

Organisations: Department of Mechanical Engineering and Industrial Systems, Research area: Applied Mechanics, Tampere University of Technology

Contributors: Jeronen, J., Kouhia, R.

Number of pages: 82

Pages: 77

Publication date: 2015

Host publication information

Title of host publication: Proceedings of the XII Finnish Mechanics Days : Suomen XII mekaniikkapäivien esitelmät

Publisher: Rakenteiden Mekaniikan Seura ry

Editors: Kouhia, R., Mäkinen, J., Pajunen, S., Saksala, T.

ISBN (Print): 978-952-93-5608-9

ISBN (Electronic): 978-952-93-5609-6

URLs:

http://rmseura.tkk.fi/smp_proceedings/SMP12_Proceedings.pdf

Bibliographical note

AUX=mei,"Jeronen, Juha"

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific

On the choice of damage variable in the continuum fatigue model based on a moving endurance surface

This paper considers two different damage formulations for modelling high-cycle fatigue of materials. The underlying fatigue model is formulated within continuum mechanics framework with the concept of a moving endurance surface. Such a model has a unique feature that it allows for the concepts of fatigue limits and damage accumulation during the load history thus avoiding cycle-counting techniques. A Scalar and tensor type of damage variables are utilized with an essentially similar type of damage evolution law. The tensor damage model capable of accounting for damage induced anisotropy is based on the gradient of the endurance surface. The performance of the scalar and tensor damage formulations are compared with different multidimensional stress histories.

General information

Publication status: Published

MoE publication type: B3 Non-refereed article in conference proceedings

Organisations: Department of Mechanical Engineering and Industrial Systems, Research area: Applied Mechanics

Contributors: Saksala, T., Holopainen, S., Kouhia, R.
Number of pages: 6
Pages: 57-62
Publication date: May 2015

Host publication information

Title of host publication: Proceedings of the XII Finnish Mechanics Day
ISBN (Print): 978-952-93-5608-9
ISBN (Electronic): 978-952-93-5608-9
Keywords: high-cycle fatigue modelling, isotropic damage, anisotropic damage, endurance surface, evolution equations
URLs:
http://rmseura.tkk.fi/smp_proceedings/SMP12_Proceedings.pdf
Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific

On service composition - dynamic formation and orchestration of service workflows

Service-oriented approach to system engineering makes engineers to rethink the way to build and maintain a system. Use of Web Service technologies enables to remove rigid connections between software components to reassemble them dynamically at run-time according to the actual needs of applications. Such an approach can in some cases provide additional necessary functionality, which may not have been envisioned at the design time. This chapter presents an approach to orchestration allowing dynamic formation of service hierarchies in in-line with production needs, which allows tracking on all the existing service workflows. Hence the locus of control for the overall system is kept. The use of eScop Manufacturing System Ontology (MSO) for orchestration purposes is also proposed to keep the track on orchestration workflows.

General information

Publication status: Published
MoE publication type: A3 Part of a book or another research book
Organisations: Department of Automation Science and Engineering, Research group: Factory automation systems technology
Contributors: Lobov, A.
Number of pages: 9
Pages: 311-319
Publication date: 2015

Host publication information

Title of host publication: Open Knowledge-Driven Manufacturing and Logistics - The eScop Approach
Publisher: Warsaw University of Technology Publishing House
Editors: Strzelczak, S., Balda, P., Garetti, M., Lobov, A.
ISBN (Print): 978-83-7814-440-3
Research output: Chapter in Book/Report/Conference proceeding > Chapter > Scientific > peer-review

On Predicting Video Quality Expectations of Mobile Users

Mobile network operators are currently seeking for simple but accurate methods to predict the levels of satisfaction for their customers using the on-line multimedia applications, such as YouTube. Even though the ultimate user demands are known to be influenced by multiple factors, there is one clear trend - people require an increasingly higher quality of mobile video services. To this end, modeling the corresponding quality of experience (QoE) constitutes a non-trivial task and calls for a careful balance between the key underlying aspects, while maintaining the overall complexity as low as possible. This should in turn deliver the much needed usability of the resulting model across many real-world scenarios, and in this work we develop a novel QoE prediction model based on our extensive user experience investigation of the YouTube service. Our proposed solution allows network operators to estimate the degrees of video quality and thus predict the associated mobile user expectations in their deployments. The design principles behind our methodology, its accuracy evaluation, as well as the obtained numerical results are reported in the course of this paper.

General information

Publication status: Published
MoE publication type: A4 Article in a conference publication
Organisations: Department of Electronics and Communications Engineering, Research group: Emerging Technologies for Nano-Bio-Info-Cogno, Brno University of Technology
Contributors: Hosek, J., Kovac, D., Uhlir, D., Galinina, O., Andreev, S., Koucheryavy, Y., Ries, M.
Number of pages: 6
Pages: 110-115
Publication date: 2015

Host publication information

Title of host publication: 2015 7th International Congress on Ultra Modern Telecommunications and Control Systems and Workshops (ICUMT)

Publisher: IEEE

ISBN (Print): 978-1-4673-9282-2

DOIs:

10.1109/ICUMT.2015.7382414

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

On Polyglot Programming in the Web

Different programming languages have been designed to solve problems efficiently in different domains. The goal of polyglot programming, a technique where several languages are used in the creation of a single application, is to combine and utilize the best solutions from different programming languages and paradigms in a seamless fashion. In this paper, the authors examine polyglot programming in the context of web applications, where it has been commonly used to create compelling applications, but where there is still considerable potential to improve development in various ways.

General information

Publication status: Published

MoE publication type: A3 Part of a book or another research book

Organisations: Department of Pervasive Computing, Research area: Software engineering, Ada Drive

Contributors: Harmanen, J., Mikkonen, T.

Number of pages: 18

Pages: 102-119

Publication date: 2016

Host publication information

Title of host publication: Modern Software Engineering Methodologies for Mobile and Cloud Environments

Publisher: IGI Global

ISBN (Print): 9781466699168

ISBN (Electronic): 9781466699175

DOIs:

10.4018/978-1-4666-9916-8.ch006

Research output: Chapter in Book/Report/Conference proceeding > Chapter > Scientific > peer-review

Onnistumistekijät valtion tukemissa homekorjaushankkeissa

Kosteus- ja homevaurioiden sekä muiden sisäilmaongelmien korjaaminen on haastavaa. Monet kuntien korjaushankkeet ovat epäonnistuneet poistamaan käyttäjien kokemat sisäilmaongelmat. Usein syynä on, että korjaukset eivät ole riittävän kokonaisvaltaisia tai laadunvarmistus on puutteellista. Yleinen syy suppeisiin korjauksiin ja puutteelliseen laadunvarmistukseen on, että hankkeen suunnittelua ei ole tehty riittävän perusteellisesti. Puutteellinen suunnittelu johtuu usein riittämättömistä kuntotutkimuksista tai siitä, etteivät niissä tehdyt havainnot saati puutteet ole olleet korjaussuunnittelijan tiedossa. Tyypillisesti kuntotutkimusten puuttumiseen, tiedon hukkumiseen ja puutteelliseen hankevalmisteluun on syynä tilaajan osaamattomuus tai joissakin tapauksissa myös poliittinen ja taloudellinen päätöksenteko, johon tässä artikkelissa ei kuitenkaan perehdytä. Väärin valittu toteutustapa, kosteusteknisiä riskejä sisältävä suunnitteluratkaisu, vakavat tietokatkokset, isot yllätykset purku-/korjausvaiheessa, rakentamisvirheet tai huoltotehtävien laiminlyönti tulevat kunnalle huomattavasti kalliimmiksi, kuin perusteellinen kuntotutkimus, huolellinen toteutustapojen vertailu, suunnitelmien ulkopuolinen tarkastus, toteutuksen laadunvarmistus, aktiivinen valvonta ja suunnitelmallinen kiinteistönpito.

General information

Publication status: Published

MoE publication type: B3 Non-refereed article in conference proceedings

Organisations: Department of Civil Engineering, Research group: Service Life Engineering of Structures

Contributors: Marttila, T., Suonketo, J., Kero, P., Annala, P.

Number of pages: 6

Pages: 253-258

Publication date: 20 Oct 2015

Host publication information

Title of host publication: Rakennusfysiikka 2015: Uusimmat tutkimustulokset ja hyvät käytännön ratkaisut, 20-22.10.2015, Tampere

Volume: 4

Place of publication: Tampere

Publisher: Tampereen teknillinen yliopisto, rakennustekniikan laitos, rakennetekniikka

Editors: Vinha, J., Ruuska, T.

Article number: 152

ISBN (Print): 978-952-15-3580-2

URLs:

On Moderate Inversion/Saturation Regions As Approximations to "Reconciliation" Model

The paper proposes analytical definitions of moderate inversion and moderate saturation. These definitions are introduced considering two different series expansions for the function $\ln 2(x)$. The expansions are "matched": the upper limit for convergence of the first series and the lower limit for convergence of the second series define the border and transition from weak to moderate inversion/saturation. The moderate inversion/saturation corresponds to approximation of the function $\ln 2(x)$ by a modified sum of two first terms of the second series. Then, the condition of inversion/saturation is defined by dominance of one term with respect to another. The condition of moderate inversion/saturation is a necessary step in transition from weak to strong inversion/saturation. The introduced definitions correspond to MOS transistor operation physics and eliminate discontinuity in this transition.

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Department of Electronics and Communications Engineering, Research group: RF Integrated Circuits, Univ Alberta, University of Alberta

Contributors: Filanovsky, I., Järvenhaara, J., Tchamov, N.

Publication date: 15 May 2016

Host publication information

Title of host publication: 2016 IEEE Canadian Conference on Electrical and Computer Engineering (CCECE), Vancouver, May 15-18, 2016

Publisher: IEEE

ISBN (Electronic): 978-1-4673-8721-7

DOIs:

10.1109/CCECE.2016.7726696

Bibliographical note

JUF0ID=73287

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

On improvement of transient stage of composite nonlinear feedback control using arbitrary order set point filters

This paper studies the generalization of composite nonlinear feedback (CNF) control using arbitrary order set point filters, which focus on the initial stage of the transient response. The set point filters can be used to provide more performance by shortening the rise and settling times of the control system. Furthermore, the filters operate outside the feedback loop, and hence, they do not sacrifice loop robustness. The new method is illustrated by a benchmark problem found in an open literature. The simulation results show that the proposed method improves the set point response more than 10% in terms of settling time.

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Research area: Information Systems in Automation, Research area: Dynamic Systems, Department of Automation Science and Engineering, Smart Energy Systems (SES)

Contributors: Pyrhönen, V., Koivisto, H.

Number of pages: 6

Pages: 147 - 152

Publication date: 1 Apr 2015

Host publication information

Title of host publication: 2014 IEEE International Conference on Control System, Computing and Engineering (ICCSCE)

Publisher: Institute of Electrical and Electronics Engineers IEEE

ISBN (Print): 978-1-4799-5685-2

Keywords: Composite nonlinear feedback, actuator saturation, high performance, robust control, set point filter, control system synthesis, feedback, nonlinear control systems, transient response

Electronic versions:

On Improvement of Transient Stage of Composite Nonlinear Feedback Control Using Arbitrary Order Set Point Filters
2015

DOIs:

10.1109/ICCSCE.2014.7072705

URLs:

<http://urn.fi/URN:NBN:fi:tuni-201912307143>

On Detecting the Shape of an Unknown Object in an Electric Field

The problem discussed in this paper is detecting the shape of an unknown object in a 2-dimensional static electric field. For simplicity, the problem is defined in a partially rectangular domain, where on a part of the boundary the potential and/or its normal derivative are known. On the other part of the boundary the boundary curve is unknown, and this curve is to be determined. The unknown part of the boundary curve describes the shape of the unknown object.

The problem is defined in the complex plane by an analytic function $w=f(z) = u(x,y)+iv(x,y)$ with the potential u as its real part. Then the inverse function is given as $f^{-1}(w) = x(u,v)+iy(u,v)$, where the functions x and y are harmonic in a rectangle with an unknown boundary condition on one boundary. The alternating-field technique is used to solve the unknown boundary condition.

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Department of Mathematics, Research group: MAT Mathematical and semantic modelling, Research group: MAT Intelligent Information Systems Laboratory

Contributors: Humaloja, J., Hämäläinen, T., Pohjolainen, S.

Publication date: 2016

Host publication information

Title of host publication: Progress in Industrial Mathematics at ECMI 2014

Publisher: Springer International Publishing

Editors: Russo, G., Capasso, V., Nicosia, G., Romano, V.

ISBN (Print): 978-3-319-23412-0

ISBN (Electronic): 978-3-319-23413-7

Publication series

Name: Mathematics in Industry

Publisher: Springer-Verlag

Volume: 22

ISSN (Electronic): 1612-3956

Keywords: free boundary problem, industrial mathematics

Electronic versions:

On Detecting the Shape of an Unknown 2016

DOIs:

10.1007/978-3-319-23413-7

URLs:

<http://urn.fi/URN:NBN:fi:ty-201606014205>

<https://www.springer.com/gp/book/9783319234120>

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

On Design and Development of Super-FRS main tunnel Remote Handling System Concept

The Super Fragment Separator (Super-FRS) main tunnel at the Facility of Antiproton and Ion Research (FAIR) consists of 11 focal planes with vacuum chamber to perform physics experiments. Four of the vacuum chambers at four different focal planes contain activated beamline inserts that requires remote maintenance. The remote maintenance will be performed using automated equipment that can safely conduct remote manipulation on to the activated beamline inserts. In this paper we discuss the conceptual design and development process for the remote handling (RH) system to be used in the Super-FRS main tunnel environment. The RH system for Super-FRS main tunnel is presented here along with conceptual design phase methodology. The main features of the new concept design are to utilize the state of the art of the shelf technologies and products from the industry, which in accordance to Super-FRS needs and requirements to make it more reliable and available during the remote maintenance tasks. The selected design concept are verified with virtual reality simulations and are fulfilling the requirements defined during the concept design phase, including structural, assembly sequence, safety and reliability

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Department of Intelligent Hydraulics and Automation, Research group: Mobile manipulation, GSI Helmholtz Ctr Heavy Ion, FRS Dept, GSI Helmholtz Ctr Heavy Ion, FRS Dept, Super FRS Target Area, GSI Helmholtz Ctr Heavy Ion, FRS Dept, Super FRS Facil

Contributors: Amjad, F., Weick, H., Mattila, J., Kozlova, E., Schloer, C.

Number of pages: 7

Pages: 188-194
Publication date: 2014

Host publication information

Title of host publication: 2014 IEEE 17th International Conference on Intelligent Transportation Systems (ITSC), 8-11 Oct. 2014, Qingdao
Publisher: IEEE
ISBN (Print): 978-1-4799-6078-1
Keywords: Super-FRS, beamline inserts, Remote Handling, FAIR, FRAGMENT SEPARATOR FRS, GSI
DOIs:
10.1109/ITSC.2014.6957689

Bibliographical note

EXT="Amjad, Faraz"
Source: WOS
Source ID: 000357868700047
Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

Observing Hidden Service Directory Spying with a Private Hidden Service Honeynet

Tor's location hidden services (HS) are a tool for anonymous publishing, with the feature that the sites cannot be brought down without taking down the whole Tor network. People run HSs for a multitude of reasons. Some like them to be public, but others want to keep them their existence as private. We have run private unannounced HSs to detect whether the HS directory is spied on. Our results show that the hidden service directory is monitored for new addresses. This paper details the observations made from the scanning activity.

General information

Publication status: Published
MoE publication type: A4 Article in a conference publication
Organisations: Department of Pervasive Computing, Research area: Information security
Contributors: Nurmi, J., Kannisto, J., Vajaranta, M.
Pages: 55-59
Publication date: 4 Aug 2016

Host publication information

Title of host publication: Proceedings of the 11th Asia Joint Conference on Information Security (AsiaJCIS 2016), Fukuoka, Japan, August 4-5, 2016
ISBN (Electronic): 978-1-5090-2285-4
DOIs:
10.1109/AsiaJCIS.2016.31
Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

Observation of local electroluminescent cooling and identifying the remaining challenges

The cooling of a light emitting diode (LED) by photons carrying out more energy than was used to electrically bias the device, has been predicted decades ago.^{1, 2} While this effect, known as electroluminescent cooling (ELC), may allow e.g. fabricating thermophotonic heat pumps (THP) providing higher efficiencies than the existing solid state coolers,³ ELC at powers sufficient for practical applications is still not demonstrated. To study high-power ELC we use double diode structures (DDSs), which consist of a double heterojunction (DHJ) LED and a photodiode (PD) grown within a single technological process and, thus, enclosed in a cavity with a homogeneous refractive index.^{4, 5} The presence of the PD in the structure allows to more directly probe the efficiency of the LED, without the need for light extraction from the system, reducing undesirable losses. Our analysis of experimentally measured I - V curves for both the LED and the PD suggests that the local efficiency of the high-performance LEDs we have fabricated is approximately 110%, exceeding unity over a wide range of injection current densities of up to about 100A/cm². At present the efficiency of the full DDS, however, still falls short of unity, not allowing direct evidence of the extraction of thermal energy from the LED. Here we review our previous studies of DDS for high-power EL cooling and discuss in more detail the remaining bottlenecks for demonstrating high-power ELC in the DDS context: the LED surface states, resistive and photodetection losses. In particular we report our first surface passivation measurements. Further optimization therefore mainly involves reducing the influence of the surface states, e.g. using more efficient surface passivation techniques and optimizing the PD. This combined with the optimization of the DDS layer thicknesses and contact metallization schemes is expected to finally allow purely experimental observation of high-power ELC.

General information

Publication status: Published
MoE publication type: A4 Article in a conference publication
Organisations: Physics, Aalto University
Contributors: Radevici, I., Sadi, T., Tripurari, T., Tiira, J., Ranta, S., Tukiainen, A., Guina, M., Oksanen, J.

Publication date: 2019

Host publication information

Title of host publication: Photonic Heat Engines : Science and Applications

Publisher: SPIE, IEEE

Editors: Seletskiy, D. V., Epstein, R. I., Sheik-Bahae, M.

Article number: 109360A

ISBN (Electronic): 9781510625143

Publication series

Name: Proceedings of SPIE - The International Society for Optical Engineering

Volume: 10936

ISSN (Print): 0277-786X

ISSN (Electronic): 1996-756X

ASJC Scopus subject areas: Electronic, Optical and Magnetic Materials, Condensed Matter Physics, Computer Science Applications, Applied Mathematics, Electrical and Electronic Engineering

Keywords: Double diode structures, Electroluminescent cooling, III-V semiconductors, Quantum efficiency, Surface states
DOIs:

10.1117/12.2505814

Bibliographical note

jufoid=71479

Source: Scopus

Source ID: 85065604697

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Numerical modelling of rock fracture with the embedded discontinuity approach incorporating heterogeneity

In this paper, the embedded discontinuity approach is applied to finite element modeling of rock fracture. A rate-dependent constitutive model based on the embedded displacement discontinuity theory is developed to describe the mode I, mode II and mixed mode fracture of rock in tension and compression. The bulk material is described as linear elastic until reaching the elastic limit. Beyond this limit, a rate-dependent exponential softening law governs the evolution of the embedded displacement jump. The present approach incorporates the rock heterogeneity by random description of the mineral texture of rock. Moreover, the inherent initial microcrack populations of natural rocks are accounted for as randomly oriented embedded discontinuities. Numerical examples demonstrate the model behavior in uniaxial compression and tension. The effect of loading rate and confining pressure is tested as well in 2D numerical simulations. These simulations show that the model captures the main features of rock in confined compression and uniaxial tension. The developed method has the computational efficiency of continuum plasticity models. However, it has an important advantage of accounting for the orientation of introduced microcracks.

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Department of Mechanical Engineering and Industrial Systems, Research area: Applied Mechanics

Contributors: Saksala, T.

Number of pages: 11

Publication date: 2015

Host publication information

Title of host publication: ISRM Congress 2015 Proceedings : Innovations in Applied and Theoretical Rock Mechanics

Publisher: International Society for Rock Mechanics ISRM

Article number: 177

ISBN (Electronic): 978-1-926872-25-4

URLs:

<https://security.gibsongroup.ca/isrm/calendar.php> (Click on Fracture Modelling (PART I) Chair: Frederic Pellet & Derek Martin)

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Numerically Efficient Flow Model for On/Off Valves

General information

Publication status: Published

MoE publication type: B3 Non-refereed article in conference proceedings

Organisations: Department of Intelligent Hydraulics and Automation, Research group: Digital hydraulics

Contributors: Linjama, M., Siivonen, L., Huova, M.

Pages: 164-172
Publication date: Feb 2015

Host publication information

Title of host publication: Proceedings of the Seventh Workshop on Digital Fluid Power
Place of publication: Linz, Austria
Publisher: LCM GmbH
Editors: Scheidl, R., Winkler, B., Kogler, H.
ISBN (Print): 978-3-200-04014-4

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific

Numerical analysis of the behaviour of stainless steel cellular beam in fire

This paper is concerned with the behaviour of stainless steel cellular beams during a fire. Stainless steel has become increasingly popular in recent years for structural applications, mainly due to its excellent corrosion resistance, as well as its other attractive physical and mechanical attributes. During a fire, stainless steel generally retains a higher proportion of their room temperature strength (above temperatures of 550°C) and stiffness (all temperatures) compared with carbon steel. In the current paper, the focus is on the fire behaviour of stainless steel cellular beams. There are no specific design rules available for these members and the carbon steel design rules for cellular beams are typically used with the stainless steel material properties. This work aims to investigate the validity of this approach by analysing the behaviour of stainless steel cellular beams with stiffened webs under fire conditions. A nonlinear finite element (FE) model is developed using the ABAQUS software, and is validated using fire test data. Then, the model is employed to conduct parametric studies in order to determine the most salient factors. Finally, design guidance is provided for stainless steel cellular beams in fire conditions, which consider the most influential geometric and material characteristics.

General information

Publication status: Published
MoE publication type: A4 Article in a conference publication
Organisations: Civil Engineering, Research group: Metal and Light-wight structures, Brunel University London
Contributors: Cashell, K., Malaska, M., Khan, M., Alanen, M., Mela, K.
Number of pages: 6
Pages: 895-900
Publication date: 16 Sep 2019

Host publication information

Title of host publication: Proceedings of Nordic Steel 2019 : CE/papers Special Issue
Volume: 3
Publisher: Wilhelm Ernst und Sohn
Article number: 18.01

Publication series

Name: CE/papers
ISSN (Electronic): 2509-7075
Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Novel Method For Online Stereo Self-Calibration

General information

Publication status: Published
MoE publication type: A4 Article in a conference publication
Organisations: Department of Automation Science and Engineering, Research area: Dynamic Systems, Research area: Measurement Technology and Process Control
Contributors: Melin, J., Ritala, R.
Publication date: 2015

Host publication information

Title of host publication: XXI IMEKO World Congress "Measurements In Research and Industry"
ISBN (Print): 978-80-01-05793-3
Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Novel equipment to simulate hot air heat sealability of packaging materials

General information

Publication status: Published
MoE publication type: A4 Article in a conference publication

Organisations: Materials Science, Research group: Paper Converting and Packaging
Contributors: Lahti, J., Kuusipalo, J., Auvinen, S.
Number of pages: 12
Pages: 237-248
Publication date: 1 Jan 2017

Host publication information

Title of host publication: 16th TAPPI European PLACE Conference 2017
Publisher: TAPPI Press
ISBN (Electronic): 9781510850880
ASJC Scopus subject areas: Media Technology, Chemical Engineering(all), Chemistry(all), Mechanical Engineering, Materials Science(all)
Source: Scopus
Source ID: 85044468996
Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

Novel bio-based materials for active and intelligent packaging

General information

Publication status: Published
MoE publication type: A4 Article in a conference publication
Organisations: Materials Science
Contributors: Lahti, J., Kamppuri, T., Kuusipalo, J.
Number of pages: 1
Publication date: 1 Jan 2017

Host publication information

Title of host publication: 16th TAPPI European PLACE Conference 2017
Publisher: TAPPI Press
ISBN (Electronic): 9781510850880
ASJC Scopus subject areas: Media Technology, Chemical Engineering(all), Chemistry(all), Mechanical Engineering, Materials Science(all)
Source: Scopus
Source ID: 85044445672
Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

Normalization of deviance in the construction industry, a managerial perspective

General information

Publication status: Published
MoE publication type: A4 Article in a conference publication
Organisations: Industrial Engineering and Management, Research group: Center for Research on Project and Service Business (CROPS), London South Bank University (LSBU) and CIB, NTNU Norwegian University of Science and Technology
Contributors: Hajikazemi, S., Ahola, T., Aaltonen, K., Aarseth, W., Andersen, B.
Publication date: Jun 2019

Host publication information

Title of host publication: European Academy of Management Conference 2019, EURAM : 26-28 June, Lissabon, Portugal
ISBN (Electronic): 978-2-9602195-1-7

Publication series

Name: European academy of management annual conference
ISSN (Electronic): 2466-7498
URLs:
<http://www.euramonline.org/annual-conference-2019.html>
Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

Non-resonant enhancement of second-harmonic generation from metal nanoislands coated with dielectric layers

Second-harmonic generation from gold nanoisland films increases with the dielectric TiO₂ coating thickness. This occurs although the plasmon resonance shifts away from the second-harmonic wavelength, due to enhanced non-resonant local fields at the fundamental wavelength.

General information

Publication status: Published

MoE publication type: D3 Professional conference proceedings

Organisations: Photonics, Research group: Nonlinear Optics, Peter The Great St. Petersburg Polytechnic University, University of Eastern Finland, Peter the Great St. Petersburg Polytechnic University

Contributors: Koskinen, K., Scherbak, S., Chervinskii, S., Lipovskii, A., Kauranen, M.

Number of pages: 2

Publication date: 2018

Host publication information

Title of host publication: CLEO : QELS_Fundamental Science 2018

Publisher: OSA

Article number: JTU2A.134

ISBN (Electronic): 978-1-943580-42-2

Electronic versions:

cleous_18_paper_final. Embargo ended: 18/05/19

DOIs:

10.1364/CLEO_AT.2018.JTu2A.134

URLs:

<http://urn.fi/URN:NBN:fi:itty-201806041911>. Embargo ended: 18/05/19

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Professional

Nonperturbative nonlinear optics in liquid crystals

We show that reorientational nematic liquid crystals are an ideal workbench for the investigation of non-perturbative nonlinear optical effects and report light self-steering, power-controlled negative refraction and spontaneous symmetry breaking.

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Department of Physics, Research group: Nonlinear Optics, Research area: Optics, Univ Roma Tre, Roma Tre University, NooEL Nonlinear Opt & OptoElect Lab, University of Southampton, United Kingdom, Univ Porto, Universidade do Porto, Fac Ciencias, Ctr Fis Porto

Contributors: Alberucci, A., Piccardi, A., Kravets, N., Buchnev, O., Pannian, J. C., Assanto, G.

Publication date: 2016

Host publication information

Title of host publication: Laser science 2016

Publisher: Optical Society of America (OSA)

Article number: JW4A.12

ISBN (Print): 978-1-943580-19-4

URLs:

<https://www.osapublishing.org/abstract.cfm?uri=LS-2016-JW4A.12>

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Non-Instantaneous Polarization Dynamics in Resonant Dielectrics

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Optoelectronics Research Centre

Contributors: Hyyti, J., Hofmann, M., Birkholz, S., Bock, M., Das, S. K., Grunwald, R., Hoffmann, M., Nagy, T., Demircan, A., Jupé, M., Ristau, D., Morgner, U., Brée, C., Woerner, M., Elsaesser, T., Steinmeyer, G.

Publication date: 2015

Host publication information

Title of host publication: 2015 European Conference on Lasers and Electro-Optics - European Quantum Electronics Conference

Place of publication: Washington, D.C.

Publisher: Optical Society of America

Article number: EE_5b_2

ISBN (Electronic): 978-1-4673-7475-0

URLs:

http://www.osapublishing.org/abstract.cfm?URI=EQEC-2015-EE_5b_2

Source: Bibtex

Source ID: urn:11581f3548cd9222d9ce827d8dba37e4

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

New value chains to construction: advancing products and services

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Department of Civil Engineering, Research area: Construction Management and Economics, Research group: Digitalization in the real estate and construction sector, Research group: Capacity Development of Water and Environmental Services CADWES, Research group: Real estate development

Contributors: Virtanen, J., Hyyppä, H., Stähle, P., Kalliokoski, S., Kähkönen, K. E., Ahlavuo, M., Launonen, P., Hyyppä, J., Kukko, A., Julin, A.

Number of pages: 12

Pages: 954-965

Publication date: 2016

Host publication information

Title of host publication: Proceedings of the 20th CIB World Building Congress 2016 : Advancing products and services

Volume: V

Publisher: Tampere University of Technology. Department of Civil Engineering

Editor: Achour, N.

ISBN (Electronic): 978-952-15-3745-5

Keywords: value chain, additive manufacturing, 3D measuring, augmented reality, digitalization

URLs:

<http://urn.fi/URN:ISBN:978-952-15-3745-5>

Source: Bibtex

Source ID: urn:a71b2e8aff713ed96c4a2301f007eb7b

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

New tools to help in the recruitment process

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Department of Signal Processing, Research area: Information Technology for Biology and Health, Research area: Intelligence in Machines, Research group: MMDM, Research area: Signal and Information Processing, Pori Department

Contributors: Visa, A., Einolander, J., Vanharanta, H.

Number of pages: 7

Pages: 653-659

Publication date: 2015

Host publication information

Title of host publication: 6th International Conference on Applied Human Factors and Ergonomics (AHFE 2015) and the Affiliated Conferences, AHFE 2015

Publisher: Elsevier

Publication series

Name: Procedia Manufacturing

Volume: 3

ISSN (Print): 2351-9789

DOIs:

[10.1016/j.promfg.2015.07.297](https://doi.org/10.1016/j.promfg.2015.07.297)

Bibliographical note

ORG=sgn,0.5

ORG=pla,0.5

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

New routes from cellulose to textile fiber and ready products

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Department of Materials Science, Research group: Fibre Materials, Aalto University, VTT Tech Res Ctr Finland, VTT Technical Research Center Finland

Contributors: Nousiainen, P., Rissanen, M., Michud, A., Sixta, H., Hummel, M., Setälä, H.

Publication date: 2015

Host publication information

Title of host publication: Proceedings of 15th AUTEX World Textile Conference, June 10-12, 2015, Bucharest, Romania

ISBN (Print): 9786066852760

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

New mechanistic design approach for subgrade rutting of Low Volume Roads

Until recently very few mechanistic design approaches for Low Volume Road (LVR) structures have been available, which is why they have been mostly built based on local experience and traditions. This paper describes a new mechanistic design approach intended for assessing the risk of subgrade rutting of LVRs. It is based essentially on 3D Finite Element Modelling of LVR structures, but the final results of these fairly sophisticated analyses have also been compiled into simple analytical design equations so as to make implementation of the design approach easy enough for everyday practical applications. The description of the theoretical approach is illustrated by a few application examples.

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Department of Civil Engineering, Research area: Infrastructure Construction, Research group: Earth Constructions, Life Cycle Effectiveness of the Built Environment (LCE@BE)

Contributors: Kolisoja, P., Kalliainen, A., Vuorimies, N.

Number of pages: 6

Pages: 301-306

Publication date: 2015

Host publication information

Title of host publication: XVI ECSMGE 2015, 13-17 September 2015 - Edinburgh : Geotechnical engineering for infrastructure and development

ISBN (Print): 978-0-7277-6067-8

Electronic versions:

XVI-ECSMGE-Paper-0561-Kolisoja_et_al

URLs:

<http://urn.fi/URN:NBN:fi:tty-201705121386>

URLs:

<http://xvi-ecsmge-2015.org.uk/>

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

New introductory courses and teacher tutoring: Keys to an efficient beginning for university studies in engineering

Becoming a university student is a big transition for a college student. Everything is

new; places, practicalities, regulations, and the ropes have to be adopted quickly. At the same time, the requirements of working life and need for better generic skills after graduation have been elevated to general discussion.

To meet these challenges, the orientation and beginning of studies in Tampere University of Technology were renewed in 2013. In Faculty of Computing and Electrical Engineering, we tried to achieve better study experience for our students, better study success during first year studies and further bachelor's degree. Our methods were to adopt systematic teacher tutoring and to focus on co-working in smaller student groups as well as combine generic skills to technological skills in two new introduction courses in the beginning of university studies. The courses were planned to give as much support in generic skills development as possible.

Our results have been very promising so far. The amount of ECTS credits as well as passing rates of compulsory courses during the first year have improved. Also the student feedback of the courses has been very good.

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Department of Electronics and Communications Engineering, Research group: Wireless Identification and Sensing Systems Research Group, Teaching and Learning Services, Department of Pervasive Computing, Research area: Computer engineering, Tampere University of Technology

Contributors: Ketola, S., Sipilä, E., Pajarre, E., Takala, J.
Publication date: 12 Sep 2016

Host publication information

Title of host publication: SEFI Annual Conference 2016 : Engineering Education on Top of the World: Industry University Cooperation

ISBN (Print): 9782873520144

Keywords: engineering education

URLs:

http://www.sefi.be/conference-2016/papers/Engineering_Skills/ketola-new-introductory-courses-and-teacher-tutoring-13_a.pdf

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Network archetypes in the network formation phase - case new market entry of Finnish maritime network

A theory of co-opetition in supply networks with specified four archetypes has been proposed in the earlier literature. As the model is not yet exhaustive, this study examines it in a case network in its formation phase. The findings bring new contribution to understanding the model of supply network archetypes and the utility of its four interrelated elements in forming strategic supply networks. The results provide novel evidence that competing situation within network and network organizations' co-opetitive or non-collaborative strategies with competitors, are essential information when forming a network, determining its network level objectives and governance.

General information

Publication status: Published

MoE publication type: D3 Professional conference proceedings

Organisations: Pori Department, Research group: Business Ecosystems, Networks and Innovations

Contributors: Suominen, A., Breite, R.

Number of pages: 10

Publication date: 29 Jun 2015

Host publication information

Title of host publication: 22nd International Annual EurOMA Conference Neuchâtel, Switzerland 28 June – 1 July 2015

ASJC Scopus subject areas: Business, Management and Accounting(all)

Keywords: supply network archetype, co-opetition, network governance model

Bibliographical note

xoa

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Professional

Negotiating water governance: towards cooperation in contentious groundwater recharge projects

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Department of Civil Engineering

Contributors: Kurki, V.

Pages: 91-102

Publication date: 2016

Host publication information

Title of host publication: Proceedings of the CIB World Building Congress 2016: Volume I - Creating built environments of new opportunities

Publisher: Tampere University of Technology. Department of Civil Engineering

ISBN (Electronic): 978-952-15-3741-7

URLs:

<http://urn.fi/URN:ISBN:978-952-15-3741-7>

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Need of Services and Understanding of Service Providers in Water and Sanitation: A Case of Ethiopia

Water and sanitation services are basic requirements for the development of a nation. The provision of these services should necessarily be arranged by the national government through policies, and long-term and short-term plans. Moreover, follow-up of the implementation of principle in policies and plans will determine the service level on the ground. This paper is intended to explore gaps in the policy-making and implementation in the areas of water supply in Ethiopia. Review of Ethiopian water sector policy, universal access plans, growth and transformation plans and other literature are employed to achieve the objective of this paper. Moreover, the experiences of the first author that he acquired during data

collection for his doctoral study are taken into account to draw conclusions. Hence, the study shows that standards set at the federal level fail to consider the actual situation on the ground and the experts at implementation level are to interpret some aspects of the policy ambiguously. Therefore, this paper recommends the policy-makers and higher officials to consult the people in charge of putting policies in effect to have contextualized and work for uniform desired- output. Service providers need to understand the notion of the receiving community in order to provide the services that satisfy the users.

General information

Publication status: Published
MoE publication type: A4 Article in a conference publication
Organisations: Department of Civil Engineering
Contributors: Behailu, B. M., Mattila, H.
Number of pages: 10
Pages: 431-440
Publication date: 2016

Host publication information

Title of host publication: Proceedings of the CIB World Building Congress 2016 Volume IV : Understanding impacts and functioning of different solutions
Publisher: Tampere University of Technology
Editors: Nenonen, S., Junnonen, J.
ISBN (Print): 978-952-15-3744-8
URLs:
https://tutcris.tut.fi/portal/files/6186967/WBC16_Vol_4.pdf
URLs:
<http://urn.fi/URN:ISBN:978-952-15-3744-8>
Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

NB-IoT for D2D-enhanced content uploading with social trustworthiness in 5G systems

Future fifth-generation (5G) cellular systems are set to give a strong boost to the large-scale deployment of Internet of things (IoT). In the view of a future converged 5G-IoT infrastructure, cellular IoT solutions such as narrowband IoT (NB-IoT) and device-to-device (D2D) communications are key technologies for supporting IoT scenarios and applications. However, some open issues still need careful investigation. An example is the risk of threats to privacy and security when IoT mobile services rely on D2D communications. To guarantee efficient and secure connections to IoT services involving exchange of sensitive data, reputation-based mechanisms to identify and avoid malicious devices are fast gaining ground. In order to tackle the presence of malicious nodes in the network, this paper introduces reliability and reputation notions to model the level of trust among devices engaged in an opportunistic hop-by-hop D2D-based content uploading scheme. To this end, social awareness of devices is considered as a means to enhance the identification of trustworthy nodes. A performance evaluation study shows that the negative effects due to malicious nodes can be drastically reduced by adopting the proposed solution. The performance metrics that proved to benefit from the proposed solution are data loss, energy consumption, and content uploading time.

General information

Publication status: Published
MoE publication type: A1 Journal article-refereed
Organisations: Electronics and Communications Engineering, Universita degli Studi di Reggio Calabria, Peoples' Friendship University of Russia
Contributors: Militano, L., Orsino, A., Araniti, G., Iera, A.
Publication date: 8 Jul 2017
Peer-reviewed: Yes

Publication information

Journal: Future Internet
Volume: 9
Issue number: 3
Article number: 31
ISSN (Print): 1999-5903
Ratings:
Scopus rating (2017): CiteScore 1 SJR 0.219 SNIP 0.684
Original language: English
ASJC Scopus subject areas: Computer Networks and Communications
Keywords: 5G systems, D2D communications, Internet of things, NB-IoT, Trustworthiness
Electronic versions:
NB-IoT for D2D-Enhanced Content Uploading with Social Trustworthiness in 5G Systems

DOIs:

10.3390/fi9030031

URLs:

<http://urn.fi/URN:NBN:fi:tty-201708041652>

Bibliographical note

INT=elt,"Orsino, Antonino"

Source: Scopus

Source ID: 85022204929

Research output: Contribution to journal › Article › Scientific › peer-review

Natural Gas Engine Emission Reduction by Catalysts

In order to meet stringent emission limits, after-treatment systems are increasingly utilized in natural gas engine applications. In this work, two catalyst systems were studied in order to clarify how the catalysts affect, e.g. hydrocarbons, NO_x and particles present in natural gas engine exhaust. A passenger car engine modified to run with natural gas was used in a research facility with possibilities to modify the exhaust gas properties. High NO_x reductions were observed when using selective catalytic reduction, although a clear decrease in the NO_x reduction was recorded at higher temperatures. The relatively fresh methane oxidation catalyst was found to reach reductions greater than 50% when the exhaust temperature and the catalyst size were sufficient. Both the studied catalyst systems were found to have a significant effect on particulate emissions. The observed particle mass reduction was found to be due to a decrease in the amount of organics passing over the catalyst. However, especially at high exhaust temperatures, high nanoparticle concentrations were observed downstream of the catalysts together with higher sulphate concentrations in particles. This study contributes to understanding emissions from future natural gas engine applications with catalysts in use.

General information

Publication status: Published

MoE publication type: A1 Journal article-refereed

Organisations: Department of Physics, Research area: Aerosol Physics, Finnish Meteorological Institute, Helsinki, VTT Technical Research Centre of Finland, Atmospheric Composition Research, Finnish Meteorological Institute, Dinex Ecocat Oy, Dinex Ecocat Oy, Catalyst Res

Contributors: Lehtoranta, K., Murtonen, T., Vesala, H., Koponen, P., Alanen, J., Simonen, P., Rönkkö, T., Timonen, H., Saarikoski, S., Maunula, T., Kallinen, K., Korhonen, S.

Number of pages: 10

Pages: 142-152

Publication date: Jun 2017

Peer-reviewed: Yes

Early online date: 23 Dec 2016

Publication information

Journal: Emission Control Science and Technology

Volume: 3

Issue number: 2

ISSN (Print): 2199-3629

Ratings:

Scopus rating (2017): CiteScore 2.3 SJR 0.731 SNIP 1.449

Original language: English

DOIs:

10.1007/s40825-016-0057-8

Research output: Contribution to journal › Article › Scientific › peer-review

Nano-structured optical fibers made of glass-ceramics, and phase separated and metallic particle-containing glasses

For years, scientists have been looking for different techniques to make glasses perfect: fully amorphous and ideally homogeneous. Meanwhile, recent advances in the development of particle-containing glasses (PCG), defined in this paper as glass-ceramics, glasses doped with metallic nanoparticles, and phase-separated glasses show that these "imperfect" glasses can result in better optical materials if particles of desired chemistry, size, and shape are present in the glass. It has been shown that PCGs can be used for the fabrication of nanostructured fibers—a novel class of media for fiber optics. These unique optical fibers are able to outperform their traditional glass counterparts in terms of available emission spectral range, quantum efficiency, non-linear properties, fabricated sensors sensitivity, and other parameters. Being rather special, nanostructured fibers require new, unconventional solutions on the materials used, fabrication, and characterization techniques, limiting the use of these novel materials. This work overviews practical aspects and progress in the fabrication and characterization methods of the particle-containing glasses with particular attention to nanostructured fibers made of these materials. A review of the recent achievements shows that current technologies allow producing high-optical quality PCG-fibers of different types, and the unique optical properties of these nanostructured fibers make them prospective for applications in lasers, optical communications, medicine, lighting, and other areas of science and industry.

General information

Publication status: Published

MoE publication type: A2 Review article in a scientific journal

Organisations: Physics, Research group: Photonics Glasses, Université Côte d'Azur, Ecole Centrale de Nantes, PSL Research University

Contributors: Veber, A., Lu, Z., Vermillac, M., Pigeonneau, F., Blanc, W., Petit, L.

Number of pages: 29

Publication date: 2019

Peer-reviewed: Yes

Publication information

Journal: Fibers

Volume: 7

Issue number: 12

ISSN (Print): 2079-6439

Ratings:

Scopus rating (2019): CiteScore 2.7 SJR 0.442 SNIP 1.036

Original language: English

ASJC Scopus subject areas: Ceramics and Composites, Civil and Structural Engineering, Biomaterials, Mechanics of Materials

Keywords: Fabrication, Glass, Glass-ceramics, Metallic nanoparticles, Optical fibers, Optical properties, Phase-separation

Electronic versions:

fibers-07-00105-v2

DOIs:

10.3390/fib7120105

URLs:

<http://urn.fi/URN:NBN:fi:tuni-202001171373>

Source: Scopus

Source ID: 85076893292

Research output: [Contribution to journal](#) › [Review Article](#) › [Scientific](#) › [peer-review](#)

Nanoscale barrier coating on BOPP packaging film by ALD

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Department of Materials Science, Research group: Paper Converting and Packaging

Contributors: Lahti, J.

Number of pages: 13

Pages: 493-505

Publication date: 2016

Host publication information

Title of host publication: TAPPI PLACE Conference 2016: Exploring New Frontiers

Publisher: TAPPI Press

ISBN (Electronic): 9781510823563

ASJC Scopus subject areas: Media Technology, Mechanical Engineering, Materials Science(all), Chemistry(all), Chemical Engineering(all)

Source: Scopus

Source ID: 84981736600

Research output: [Chapter in Book/Report/Conference proceeding](#) › [Conference contribution](#) › [Scientific](#) › [peer-review](#)

Nanocellulose as a Piezoelectric Material

Cellulose-based nanomaterials, which are generally known as nanocelluloses, are interesting renewable biomaterials which have potential applications for example in material science, electronics and biomedical engineering and diagnostics. Cellulose has a strong ability to form lightweight, highly porous and entangled networks that make nanocellulose suitable as substrate or membrane material. Recently, also studies related to piezoelectric behavior of nanocellulose have been published. The piezoelectricity of wood was proposed already in 1955 by Eiichi Fukada, but only very slightly studied since then. Here, we show the experimental evidence of significant piezoelectric activity of different types of nanocellulose films. Wood-based cellulose nanofibril (CNF) and cellulose nanocrystals (CNC) films, and bacterial nanocellulose (BC) films have been studied. The recent results suggest that nanocellulose is a potential bio-based piezoelectric sensor material.

General information

Publication status: Published

MoE publication type: A3 Part of a book or another research book
Organisations: Faculty of Biomedical Sciences and Engineering, Nokia Technologies
Contributors: Tuukkanen, S., Rajala, S.
Number of pages: 14
Pages: 1-14
Publication date: 29 Aug 2018

Host publication information

Title of host publication: Piezoelectricity - Organic and Inorganic Materials and Applications
Publisher: InTech Open Access Publisher
ISBN (Electronic): 978-953-51-6209-4
Electronic versions:

61113

DOIs:

10.5772/intechopen.77025

URLs:

<http://urn.fi/URN:NBN:fi:tty-201809052276>

Research output: Chapter in Book/Report/Conference proceeding > Chapter > Scientific > peer-review

MYSTERY SHOPPERS RECOGNISING KNOWLEDGE SHARING BARRIERS IN HIGHER EDUCATION

This study focuses on the knowledge sharing barriers in the space between learning and teaching in higher education as reported by mystery shoppers. There is surprisingly little context-specific research on learning and teaching in a knowledge intensive community like a university from the perspective of knowledge management (KM). Discussing learning and teaching within KM is based on considering students controversially as customers or stakeholders. Thus including them more meaningfully in assessing and developing teaching practices, or knowledge flow, seems justified. The specific aim of this paper is to first recognise possible knowledge sharing barriers and then categorize such barriers emerging from the material into three larger domains, namely, individual barriers, technological barriers and organisational barriers.

There were 45 students from all faculties participating in a mystery shopper project in a Finnish university of technology. They observed their learning experience for six weeks in order to supplement data from other sources, to add a student voice on the process of developing learning and teaching in higher education.

The research approach represents qualitative content analysis in which knowledge-sharing barriers were recognised from the qualitative mystery shopper data. The results identify teaching practises that contribute to creating knowledge sharing barriers. More detailed and almost real-time contextual activity sampling is suggested as a method for further study and also an avenue for instant feedback for teaching staff. The results will provide data on current knowledge practices and learning processes in a technical university in Finland.

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Language Centre, Department of Information Management and Logistics, Research group: Novi, University of Tampere

Contributors: Tukiainen, M., Helander, N., Mäkinen, M.

Publication date: 16 Nov 2015

Host publication information

Title of host publication: ICERI2015 Proceedings : 8th annual International Conference of Education, Research and Innovation Seville (Spain). 16th - 18th of November, 2015.

ISBN (Electronic): 978-84-608-2657-6

URLs:

<https://iati.ed.org/iceri/>

Bibliographical note

ORG=kie,0.5

ORG=tlo,0.5

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

Mykkäelokuvakauden elokuvateatterien huoneakustiikka

General information

Publication status: Published

MoE publication type: B3 Non-refereed article in conference proceedings

Organisations: Department of Civil Engineering, Research group: Building Acoustics, Tampere University of Technology, University of Turku

Contributors: Saarelainen, J., Kylliäinen, M., Hupaniittu, O.
Number of pages: 6
Pages: 83-88
Publication date: 1 Sep 2015

Host publication information

Title of host publication: Akustiikkapäivät 2015
Place of publication: Kuopio
Publisher: Akustinen seura

Publication series

Name: Akustiikkapäivät
ISSN (Print): 1236-8202
ASJC Scopus subject areas: Acoustics and Ultrasonics
URLs:
http://www.akustinenseura.fi/wp-content/uploads/2015/09/AP2015_Paperin_palautus_7.pdf
Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific

Muuttuvat ajotilanteet aiheuttavat uudentyyppisiä ajoneuvojen hiukkaspäästöjä

General information

Publication status: Published
MoE publication type: D1 Article in a trade journal
Organisations: Department of Physics, Research area: Aerosol Physics
Contributors: Karjalainen, P.
Number of pages: 4
Pages: 28-31
Publication date: 12 Oct 2015
Peer-reviewed: Unknown

Publication information

Journal: Ympäristö ja terveys
Volume: 46
Issue number: 6
ISSN (Print): 0358-3333
Original language: Finnish
Research output: Contribution to journal > Article > Professional

Muovipäällysteisten lattioiden vaurioituminen kosteuden vaikutuksesta

General information

Publication status: Published
MoE publication type: A4 Article in a conference publication
Organisations: Civil Engineering, Research group: Concrete and Bridge Structures, Materials Science and Environmental Engineering, Research group: Service Life Engineering of Structures, Research area: Structural Engineering
Contributors: Leivo, V., Sarlin, E., Suonketo, J., Pikkuvirta, J., Pentti, M.
Number of pages: 6
Pages: 383-388
Publication date: 14 Mar 2019

Host publication information

Title of host publication: Sisäilmastoseminaari 2019: 14.3.2019 : Sisäilmayhdistys raportti 37
Publisher: SIY SISÄILMATIETO OY
ISBN (Electronic): 978-952-5236-49-1

Publication series

Name: SIY Raportti
Publisher: SIY Sisäilmätieto Oy
No.: 37
ISSN (Electronic): 1237-1866
URLs:
https://www.sisailmautiset.fi/Sisailmastoseminaari_2019.pdf

Bibliographical note

INT=ceng,"Pikkuvirta, Jussa"

Multiwavelength surface contouring from phase-coded diffraction patterns

We propose a new algorithm for absolute phase retrieval from multiwavelength noisy phase coded diffraction patterns in the task of surface contouring. A lensless optical setup is considered with a set of successive single wavelength experiments. The phase masks are applied for modulation of the multiwavelength object wavefronts. The algorithm uses the forward and backward propagation for coherent light beams and sparsely encoding wavefronts which leads to the complex-domain block-matching 3D filtering. The key-element of the algorithm is an original aggregation of the multiwavelength object wavefronts for high-dynamic-range profile measurement. Numerical experiments demonstrate that the developed approach leads to the effective solutions explicitly using the sparsity for noise suppression and high-accuracy object profile reconstruction.

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Signal Processing, Research group: Computational Imaging-CI, ITMO University

Contributors: Katkovnik, V., Shevkunov, I., Petrov, N. V., Eguiazarian, K.

Publication date: 1 Jan 2018

Host publication information

Title of host publication: Unconventional Optical Imaging 2018. Strasbourg, France

Publisher: SPIE

Article number: 106771B

ISBN (Print): 978-1-5106-1880-0

Publication series

Name: Proceedings of SPIE - The International Society for Optical Engineering

Volume: 10677

ISSN (Electronic): 0277-786X

ASJC Scopus subject areas: Electronic, Optical and Magnetic Materials, Condensed Matter Physics, Computer Science Applications, Applied Mathematics, Electrical and Electronic Engineering

Keywords: absolute phase retrieval, discrete optical signal processing, Multiwavelength phase retrieval, phase imaging, surface contouring

Electronic versions:

multiwavelength-surface-contouring_last

DOIs:

10.1117/12.2306127

URLs:

<http://urn.fi/URN:NBN:fi:tuni-202001231493>

Source: Scopus

Source ID: 85052446644

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Multi-wavelength mid-IR light source for gas sensing

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Photonics, Research group: Semiconductor Technology and Applications, VTT Technical Research Ctr. of Finland Ltd., Institute of Electronic Materials Technology, Vaisala Oyj, GasSecure AS, VIGO System S.A.

Contributors: Karioja, P., Alajoki, T., Cherchi, M., Ollila, J., Harjanne, M., Heinilehto, N., Suomalainen, S., Viheriälä, J., Zia, N., Guina, M., Buczyński, R., Kasztelanic, R., Kujawa, I., Salo, T., Virtanen, S., Kluczynski, P., Sagberg, H., Ratajczyk, M., Kalinowski, P.

Publication date: 20 Feb 2017

Host publication information

Title of host publication: Proc. SPIE 10110 : Photonic Instrumentation Engineering IV

Volume: 10110

Publisher: SPIE

Article number: 101100P

ISBN (Print): 9781510606616

ISBN (Electronic): 9781510606623

Publication series

Name: Proceedings of SPIE
Volume: 10110
ISSN (Print): 0277-786X
ISSN (Electronic): 1996-756X
DOIs:

10.1117/12.2249126

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Multi-site delamination analysis using virtual crack closure technique for a composite aircraft wing flap

In this study, we investigate the application of virtual crack closure technique (VCCT) for a multi-site delamination damage in the F-18 Hornet fighter aircraft's wing flap. The work focuses on the interaction between multiple delamination sites at different ply interfaces. The effects of numerical analysis parameters, such as energy release rate tolerance, on the criticality of the delamination and on the delamination growth are also studied.

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Materials Science, Research group: Plastics and Elastomer Technology, Aalto University

Contributors: Jokinen, J., Kanerva, M., Saarela, O.

Publication date: Sep 2018

Host publication information

Title of host publication: 31st Congress of the International Council of the Aeronautical Sciences (Proceedings) : Belo Horizonte, Brazil September 9-14, 2018

Publisher: ICAS Press

ISBN (Electronic): 978-3-932182-88-4

Keywords: Multi-site damage, Finite element analysis, Fighter aircraft, Flap

URLs:

<https://www.icas.org/>

https://www.icas.org/Papers_previous_congresses.html

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Multiple facets of innovation and business ecosystem research: the foci, methods and future agenda

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Department of Industrial Management, Research group: Center for Innovation and Technology Research

Contributors: Aarikka-Stenroos, L., Peltola, T., Rikkiev, A., Saari, U.

Pages: 1-33

Publication date: 19 Jun 2016

Host publication information

Title of host publication: XXVII ISPIM Innovation Conference 2016 : Porto, 19-22 June, 2016

ISBN (Electronic): 978-952-265-929-3

URLs:

<http://search.proquest.com/docview/1803692429?pq-origsite=gscholar>

Source: Bibtex

Source ID: urn:de0e11bb8d4f01574e47a23803543bc1

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Multi-Objective Optimization of Fin Array Heat Sinks

A method is presented to determine the temperature field of an electronics cooling heat sink. The method is based on calculation of heat conduction in a solid numerically with the finite volume method and on solving fluid convection from analytical equations. The model is suitable for forced and natural convection heat sinks, and it uses solutions of a parallel plate channel for the friction factor and the convection Nusselt number. The validity of the method is verified by comparing its results to measured data and to CFD calculations. After verification, two practical multi-objective optimization examples are given. The first one, an industrial application, is a forced convection heat sink composed of nine heat generating components at the base plate. Then, natural convection optimization is performed on a reference array with two components. In both cases, mass is minimized, the other criterion being the maximum temperature for forced convection case, and the heat sink outer volume for natural convection case.

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Department of Mechanical Engineering and Industrial Systems, Research area: Design, Development and LCM, Research area: Applied Mechanics

Contributors: Lampio, K., Karvinen, R.

Number of pages: 4

Publication date: 21 Nov 2016

Host publication information

Title of host publication: Thermic 2016 : 22nd international workshop Thermal investigations of ICs and Systems

Publisher: IEEE

ISBN (Print): 978-1-5090-5450-3

ISBN (Electronic): 978-1-5090-5451-0

DOIs:

10.1109/THERMINIC.2016.7749070

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

Multilag Frequency Estimation for High-Order BOC Signals in the Acquisition Stage

In the context of global navigation satellite systems, this paper addresses the problem of refining the Doppler frequency estimation provided in the acquisition stage for high-order binary offset carrier (BOC) signals in post-correlation. The refinement of Doppler frequency must be done because the estimation obtained from the acquisition stage is not usually accurate enough to track the signal in the tracking stage. In this work, we only use the cross-ambiguity function (CAF) created in the acquisition stage to perform the refinement. A least squares estimator has been already applied to mitigate this problem. We propose a new technique, referred to as multilag least squares estimator, which improves the performance of the least squares estimator by exploiting the autocorrelation shape of high-order BOC signals. Moreover, the Cramer-Rao bound and the expected Cramer-Rao bound are derived as benchmark to compare the performance of the least squares and multilag least squares estimators.

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Electronics and Communications Engineering, Research group: Wireless Communications and Positioning, Universidad Autónoma de Barcelona, Universitat Autònoma de Barcelona, Spain

Contributors: Gomez Casco, D., Lohan, E., Lopez-Salcedo, J. A., Seco-Granados, G.

Publication date: 2017

Host publication information

Title of host publication: 2016 8th ESA Workshop on Satellite Navigation Technologies and European Workshop on GNSS Signals and Signal Processing (NAVITEC)

Publisher: IEEE

ISBN (Electronic): 978-1-5090-3885-5

Electronic versions:

Navitec2016

DOIs:

10.1109/NAVITEC.2016.7849325

URLs:

<http://urn.fi/URN:NBN:fi:tty-201802141231>

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

Multi-factor authentication: A survey and challenges in V2X applications

Today, the digitalization strides tremendously on all the sides of the modern society. One of the enablers to keep this process secure is the authentication. It touches many different areas of the connected world including payments, communications, and access right management. This manuscript attempts to shed the light on the authentication systems' evolution towards Multi-factor Authentication (MFA) from Singlefactor Authentication (SFA) and through Two-factor Authentication (2FA). Particularly, MFA is expected to be utilized for the user and vehicle-to-everything (V2X) interaction which is selected as descriptive scenario. The manuscript is focused on already available and potentially integrated sensors (factor providers) to authenticate the occupant from inside the vehicle. The survey on existing vehicular systems suitable for MFA is given. Finally, the MFA system based on reversed Lagrange polynomial, utilized in Shamir's Secret Sharing (SSS), was proposed to enable flexible in-car authentication. The solution was further extended covering the cases of authenticating the user even if some of the factors are mismatched or absent. The framework allows to qualify the missing factor and authenticate the user without providing the sensitive biometric data to the verification entity. The proposed is finally compared to conventional SSS.

General information

Publication status: Published
MoE publication type: A4 Article in a conference publication
Organisations: Electronics and Communications Engineering
Contributors: Ometov, A., Bezzateev, S.
Number of pages: 8
Pages: 129-136
Publication date: 1 Nov 2017

Host publication information

Title of host publication: 2017 9th International Congress on Ultra Modern Telecommunications and Control Systems and Workshops (ICUMT)
Publisher: IEEE
ISBN (Electronic): 978-1-5386-3435-6
Keywords: Authentication, Automobiles, Cryptography, Face recognition, Sensors
Electronic versions:
Multi-factor Authentication A Survey and Challenges 2017
DOIs:
10.1109/ICUMT.2017.8255200
URLs:
<http://urn.fi/URN:NBN:fi:tuni-202002262381>

Bibliographical note

jufoid=72315
Source: Bibtex
Source ID: urn:d029c16a781f7c10c219ff994ff0c362
Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Multicarrier modulation for HF communications

High-frequency (HF) communications can be flexibly realized using multicarrier modulation techniques. This paper compares the performance of three widely utilized MCM techniques, namely, orthogonal frequency-division multiplexing (OFDM), filter bank multicarrier/offset-QAM (FBMC/OQAM), and filtered multitone (FMT) in HF communications. The performance of these systems is simulated using commonly adopted HF-channel models. It is shown that the simulated uncoded bit-error rate of OFDM is slightly better than that of FBMC/OQAM and FMT. However, with pilot based channel estimation FMT outperforms FBMC/OQAM and OFDM systems in achievable coded frame error rate in case of selective channel models.

General information

Publication status: Published
MoE publication type: A4 Article in a conference publication
Organisations: Department of Electronics and Communications Engineering, Research group: Wireless Communications and Positioning, Kyynel Oy
Contributors: Yli-Kaakinen, J., Renfors, M., Tuomivaara, H.
Number of pages: 7
Publication date: 2016

Host publication information

Title of host publication: 2016 International Conference on Military Communications and Information Systems (ICMCIS)
Publisher: IEEE
ISBN (Print): 9781509017775
DOIs:
10.1109/ICMCIS.2016.7496542
Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Multiaxial magneto-mechanical modelling of electrical machines with hysteresis

General information

Publication status: Published
MoE publication type: A4 Article in a conference publication
Organisations: Department of Electrical Engineering, Research area: Power engineering, Department of Mechanical Engineering and Industrial Systems, Research area: Applied Mechanics, Aalto University
Contributors: Rasilo, P., Aydin, U., Singh, D., Martin, F., Kouhia, R., Belahcen, A., Arkkio, A.
Publication date: 2016

Host publication information

Title of host publication: Proceedings of the 8th IET International Conference on Power Electronics, Machines and Drives, PEMD 2016

Publisher: IET, The Institution of Engineering and Technology

ISBN (Print): 978-1-78561-188-9

Electronic versions:

Rasilo2016

DOIs:

10.1049/cp.2016.0183

URLs:

<http://urn.fi/URN:NBN:fi:tty-201612204886>

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Moving toward integrated solutions in project-based firms: Changes in sales practices

Effective solution sales is one prerequisite for successful solution business in project-based firms. Little is known about how sales practices should be developed, particularly at the operational level. The purpose of this study is to identify changes in sales practices when firms move towards integrated solutions. A qualitative case study was conducted in two project-based manufacturing firms, using data from interviews with sales and service managers. Five main change categories were identified including changes in the organizational structure, complexity of offering, customer-orientation, sales network and sales routines. The study shows that sales practices should change at all stages of project marketing from detecting the potential projects to finalizing the contract. The study proposes a more extended role for sales and service personnel during project marketing and the project life cycle. The identified changes help project-based firms to develop their sales models and to promote their solution business.

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Industrial and Information Management, Research group: Center for Research on Operations Projects and Services

Contributors: Momeni, K., Martinsuo, M.

Number of pages: 30

Publication date: 21 Jun 2018

Host publication information

Title of host publication: Proceedings of EURAM18 European Academy of Management conference 2018

Publisher: European Academy of Management, EURAM

ISBN (Electronic): 978-2-9602195-0-0

Publication series

Name: EURAM conference

ISSN (Print): 2466-7498

Keywords: Project business, solution selling, project sales, project-based firm

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Moving manufacturing back: a content-based literature review

The purpose of this research is to systematically review and analyze the state-of-the-art of research on the backshoring, reshoring, and insourcing of manufacturing, published in peer-reviewed international scientific journals. We identify 21 articles from 2005 to 2015. The content analysis identifies 23 factors that influence the decision to move manufacturing back, and which we categorize in 8 clusters. We also analyze the content with respect to research methodology, industry type, and firm size. Furthermore, we provide suggestions for further research on the phenomenon of moving manufacturing back in a research agenda.

General information

Publication status: Published

MoE publication type: D3 Professional conference proceedings

Organisations: Department of Industrial Management, University of Southern Denmark, Lund University

Contributors: Stentoft, J., Olhager, J., Heikkilä, J., Thoms, L.

Publication date: Jun 2015

Host publication information

Title of host publication: 22nd EurOMA Conference : Operations management for sustainable competitiveness

Place of publication: Neuchatel, Switzerland

URLs:

<http://www.euroma2015.org/>

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Professional

Morphology Development, Structure and Dielectric Properties of Biaxially Oriented Polypropylene

This paper outlines our recent study on effects of cast film extrusion and biaxial orientation on the morphological development and dielectric performance of biaxially oriented polypropylene (PP) films based on two capacitor-grade isotactic PP (iPP) raw materials. Results on polymorphic composition, melting behavior, microstructure and dielectric properties are reported. Morphological development during film manufacturing is found to have a profound effect on film structure and dielectric characteristics. Formation of structural defects was traced back to $\beta \rightarrow \alpha$ crystal transformation upon biaxial stretching.

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Electrical Energy Engineering, Research area: Power engineering, Research group: High voltage engineering, Borealis Polyolefine GmbH, VTT Tech Res Ctr Finland, VTT Technical Research Center Finland

Contributors: Rytöluoto, I., Ritamäki, M., Gitsas, A., Pasanen, S., Lahti, K.

Number of pages: 6

Publication date: 18 Jun 2017

Host publication information

Title of host publication: 25th Nordic Insulation Symposium on Materials, Components and Diagnostics

Publication series

Name: Proceeding of the Nordic Insulation Symposium

No.: 25

ISSN (Electronic): 2535-3969

Electronic versions:

n2017-s03p01_Rytoluoto

URLs:

<https://www.ntnu.no/ojs/index.php/nordis/article/view/2359/2200>

<http://urn.fi/URN:NBN:fi:tty-201710031980>

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

Monolithic GaInNAsSb/GaAs VECSEL emitting at 1550 nm

We report the first monolithic GaAs-based vertical external-cavity surface-emitting laser (VECSEL) operating at 1550 nm. The VECSEL is based on a gain mirror which was grown by plasma-assisted molecular beam epitaxy and comprises 8 GaInNAsSb/GaAs quantum wells and an AlAs/GaAs distributed Bragg reflector. When pumped by an 808 nm diode laser, the laser exhibited an output power of 80 mW for a mount temperature of 16 °C.

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Optoelectronics Research Centre, Research group: Semiconductor Technology and Applications, Frontier Photonics

Contributors: Korpijärvi, V., Kantola, E. L., Leinonen, T., Guina, M.

Publication date: 2015

Host publication information

Title of host publication: SPIE conference proceedings

Volume: 9349

Publisher: SPIE

Article number: 93490D

ISBN (Print): 9781628414394

ASJC Scopus subject areas: Applied Mathematics, Computer Science Applications, Electrical and Electronic Engineering, Electronic, Optical and Magnetic Materials, Condensed Matter Physics

Keywords: dilute nitride, diode-pumped lasers, GaInNAsSb, semiconductor disk lasers, Semiconductor lasers, vertical external cavity surface emitting lasers

DOIs:

10.1117/12.2077517

Source: Scopus

Source ID: 84925652903

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

Monitoring urban air quality with a diffusion charger based electrical particle sensor

Abstract Urban air contains considerable amounts of harmful gaseous substances and aerosol particles. In this study, a recently introduced diffusion charger based PPS-M particle sensor (Pegasor Oy, Tampere, Finland) was evaluated for outdoor air quality measurements in urban environment. The PPS-M particle sensor was used in two stationary air quality measurement stations, one located in the roadside environment and the other in residential area, and in a mobile laboratory. The sampling of urban aerosol to the PPS-M sensor was performed without any pre-conditioning of aerosol. The sensor response to PM_{2.5} varied between the measurements, being between 7 and 30 fA/($\mu\text{g}/\text{m}^3$) depending on the aerosol source. The highest PM_{2.5} response was observed in the roadside study for exhaust particles while the lowest PM_{2.5} response was observed for large long range transported aerosol particles having relatively large mean particle size. The sensor signal was found to produce very linear response, with only minimal deviation, to the lung deposited particle surface area concentration (from 4.5 to 6 fA/($\mu\text{m}^2/\text{cm}^3$)) and to the condensation sink of urban air particles (from 1.0×10^4 to 1.2×10^4 fA cm³). The sensor response to particle number concentration was defined to be 0.0044 fA/(1/cm³) in roadside environment. In this environment, the signal was found to correlate also with NO and NO₂ concentrations of roadside air due to the same origin of particulate and gaseous pollutants. Similar correlation between NO_x and the PPS-M signal was not observed in residential area.

General information

Publication status: Published

MoE publication type: A1 Journal article-refereed

Organisations: Department of Physics, Department of Signal Processing, Research area: Aerosol Physics, Urban circular bioeconomy (UrCirBio)

Contributors: Järvinen, A., Kuuluvainen, H., Niemi, J., Saari, S., Dal Maso, M., Pirjola, L., Hillamo, R., Janka, K., Keskinen, J., Rönkkö, T.

Publication date: 2015

Peer-reviewed: Yes

Early online date: 2014

Publication information

Journal: Urban Climate

Volume: 14

Issue number: 3

ISSN (Print): 2212-0955

Ratings:

Scopus rating (2015): CiteScore 2.4 SJR 0.879 SNIP 1.005

Original language: English

Keywords: Particle sensor, Urban air quality, Traffic emissions, Instrument comparison

DOIs:

10.1016/j.uclim.2014.10.002

Bibliographical note

ORG=fys,0.5

ORG=sgn,0.5

Source: RIS

Source ID: urn:C09F5E550C75A3945CB60BFFC830456C

Research output: Contribution to journal > Article > Scientific > peer-review

Moisture and building processes in Finland

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Department of Civil Engineering, Research group: Capacity Development of Water and Environmental Services CADWES

Contributors: Teriö, O., Hämäläinen, J., Uotila, U., Sorri, J., Saari, A.

Number of pages: 11

Pages: 907-917

Publication date: 2016

Host publication information

Title of host publication: Proceedings of the 20th CIB World Building Congress 2016: Volume I - Creating built environments of new opportunities. (Tampere University of Technology. Department of Civil Engineering. Construction Management and Economics. Report; Vol. 18).

Volume: I

Place of publication: Tampere

Publisher: Tampere University of Technology. Department of Civil Engineering

Editors: Kähkönen, K., Keinänen, M.
ISBN (Electronic): 978-952-15-3741-7
Keywords: construction site, drying, energy, heating, moisture
URLs:
https://tutcris.tut.fi/portal/files/6186667/WBC16_Vol_1.pdf

Bibliographical note

INT=ark,"Hämäläinen, Jari"

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Moduulirakentaminen: Teräskennoteknologian mahdollisuudet

General information

Publication status: Published

MoE publication type: D4 Published development or research report or study

Organisations: Department of Civil Engineering, Research group: Capacity Development of Water and Environmental Services CADWES

Contributors: Sorri, J. (ed.)

Number of pages: 114

Publication date: 2013

Publication information

Publisher: Tampereen teknillinen yliopisto. Rakennustekniikan laitos

ISBN (Print): 978-952-15-3035-7

ISBN (Electronic): 978-952-15-3036-4

Original language: Finnish

Publication series

Name: Tampereen teknillinen yliopisto. Rakennustekniikan laitos. Rakennustuotanto ja -talous. Raportti

Publisher: Tampereen teknillinen yliopisto

Volume: 14

ISSN (Print): 1797-8904

Electronic versions:

[moduulirakentaminen_teraskennoteknologian_mahdollisuudet](#)

URLs:

<http://URN.fi/URN:ISBN:978-952-15-3036-4>

Bibliographical note

Versio ok 16.12.2015

Research output: Book/Report › Commissioned report › Professional

Modelling the stressed skin effect by using shell elements with meta-material model

It is a well-known fact that the so-called stressed skin design results in ca. 10-20 % mass and cost savings in a typical steel hall structures. The potential of this design method is however, too often disregarded due to e.g. rather complex and limited existing design rules and instructions. In this paper, a method for determination of generalized elastic parameters is proposed, so that the stressed skin can be modelled in the general finite element software using existing elements and material parameters. With the proposed method, structural designer can take advantage of the stressed skin design in the context of basic design tools as Autodesk Robot or RFEM.

General information

Publication status: Published

MoE publication type: A1 Journal article-refereed

Organisations: Civil Engineering, Sorvimo Optimointipalvelut Oy

Contributors: Pajunen, S., Hautala, J., Heinisuo, M.

Number of pages: 10

Pages: 20-29

Publication date: 2019

Peer-reviewed: Yes

Publication information

Journal: Magazine of Civil Engineering

Volume: 86

Issue number: 2

ISSN (Print): 2071-4726

Ratings:

Scopus rating (2019): CiteScore 3.7 SJR 0.598 SNIP 2.176

Original language: English

ASJC Scopus subject areas: Civil and Structural Engineering, Building and Construction

Keywords: Corrugated sheet, Diaphragm, Stressed skin

Electronic versions:

03-1

DOIs:

10.18720/MCE.86.3

URLs:

<http://urn.fi/URN:NBN:fi:tty-201909022051>

Bibliographical note

EXT="Heinisuo, M."

Source: Scopus

Source ID: 85068566348

Research output: Contribution to journal › Article › Scientific › peer-review

Modelling new particle formation and growth using combined power law and log-normal distribution model

General information

Publication status: Published

MoE publication type: D3 Professional conference proceedings

Organisations: Department of Physics, Research area: Aerosol Physics

Contributors: Olin, M., Dal Maso, M.

Publication date: 8 Sep 2015

Host publication information

Title of host publication: EAC 2015, European Aerosol Conference

Place of publication: Milan, Italy

Publisher: Italian Aerosol Society

ASJC Scopus subject areas: Pollution

URLs:

<http://www.eac2015.it/> (Conference website)

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Professional

Modelling and Simulation of Radial Spruce Compression to Optimize Energy Efficiency in Mechanical Pulping

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Department of Mechanical Engineering and Industrial Systems, Department of Automation Science and Engineering, Research area: Dynamic Systems, Research area: Measurement Technology and Process Control

Contributors: Moilanen, C., Björkqvist, T., Ovaska, M., Koivisto, J., Miksic, A., Engberg, B., Salminen, L., Saarenrinne, P., Alava, M.

Number of pages: 18

Pages: 53-70

Publication date: 26 Sep 2016

Host publication information

Title of host publication: 2016 International Mechanical Pulping (IMPC) Conference Proceedings, Monday, September 26 - Wednesday, September 28, Jacksonville, Florida, USA

Place of publication: USA

Publisher: TAPPI

Article number: 1.3

ISBN (Print): 978-1-59510-250-7

ISBN (Electronic): 978-1-59510-250-7

Electronic versions:

Modelling and simulation of radial spruce compression

URLs:

<http://urn.fi/URN:NBN:fi:tty-201708281835>

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Modeling the utilization of a multi-tenant band in 3GPP LTE system with Licensed Shared Access

Fueled by the rapid growth of mobile services, the actual demand for efficient sharing of available but underutilized frequency spectrum puts pressure on the responsible players (ITU, ETSI) to rethink the feasible ways of allocating wireless spectrum. Today, the LSA regulatory framework is considered to be an important enabler for optimized spectrum sharing between the incumbent and the LSA licensee (e.g., mobile network operator). At any point of time, the frequency bands can be utilized by only a single party, and the spectrum owner has priority in its usage at all times. In this paper, we introduce a mathematical and a system model for the multi-tenant band within the 3GPP LTE cellular network. As the main output of this work, the obtained numerical results for one multi-tenant band are produced. Said band is assumed to be intolerant to traffic delay and our results include the blocking probability as well as the mean downlink TX power of the eNodeB.

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Department of Electronics and Communications Engineering, Research group: Emerging Technologies for Nano-Bio-Info-Cogno

Contributors: Gudkova, I., Markova, E., Masek, P., Andreev, S., Hosek, J., Yarkina, N., Samouylov, K., Koucheryavy, Y.

Number of pages: 5

Pages: 119-123

Publication date: 1 Oct 2016

Host publication information

Title of host publication: 2016 8th International Congress on Ultra Modern Telecommunications and Control Systems and Workshops (ICUMT)

Publisher: IEEE

ISBN (Electronic): 978-1-4673-8818-4

Keywords: Bit rate, Markov processes, Mathematical model, Numerical analysis, Probability distribution, Quality of service
DOIs:

10.1109/ICUMT.2016.7765343

Source: Bibtex

Source ID: urn:5604995b3f78fcd357c6ed1ead1d8558

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

Modeling the process of dynamic resource sharing between LTE and NB-IoT services

The Internet of Things (IoT) undergoes fundamental changes, expanding its infrastructure with more advanced and mobile devices. As the IoT develops, the existing cellular communication technologies often do not provide sufficient coverage while modern IoT terminals are often expensive and characterized by a short battery life. To address these issues, in Release 13 (LTE Advanced Pro) published in 2016, 3GPP consortium has proposed the Narrow-Band IoT (NB-IoT) technology as an efficient way to provide a wide range of new capabilities and services in a wireless cellular network. Having specified three operational regimes, 3GPP did not provide guidelines on the way resource sharing has to be done between LTE and NB-IoT traffic. In this paper, the in-band NB-IoT service model is presented, where a certain amount of LTE radio resources are exclusively allocated to LTE and NB-IoT users while the rest are shared between them. We analyze the proposed system for performance metrics of interest including NB-IoT and LTE session drop probabilities and resource utilization.

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Electronics and Communications Engineering, Research group: Emerging Technologies for Nano-Bio-Info-Cogno, Peoples' Friendship University of Russia, Russian Academy of Sciences, Department of Applied Probability and Informatics, Institute of Informatics Problems

Contributors: Begishev, V., Samuylov, A., Moltchanov, D., Samouylov, K.

Number of pages: 12

Pages: 1-12

Publication date: 2017

Host publication information

Title of host publication: Distributed Computer and Communication Networks - 20th International Conference, DCCN 2017, Proceedings

Publisher: Springer Verlag

ISBN (Print): 9783319668352

Publication series

Name: Communications in Computer and Information Science

Volume: 700

ISSN (Print): 1865-0929

ASJC Scopus subject areas: Computer Science(all)

Keywords: Analytical model, Internet of things, NB-IoT (narrow band IoT), Resource sharing, Session drop probability
DOIs:

10.1007/978-3-319-66836-9_1

Source: Scopus

Source ID: 85029718143

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Modeling of Age-Dependent Failure Tendency from Incomplete Data

This paper addresses modeling of age-dependent failure rates from incomplete data that includes interval-censored failure ages. Two estimators for cumulative failure rates are presented: a simple non-parametric estimator and a maximum-likelihood method based on the gamma distribution and the non-homogeneous Poisson process. The maximum-likelihood fit of familiar parametric models (e.g., the power law) to the available field data from an aircraft component was far from satisfactory, so a special three-parameter model function had to be worked out. The maximum-likelihood estimate obtained is then used for repeated random generation of different data sets akin to the field data. This way the effect of data set size, censoring rate, and randomness on the non-parametric estimate can be analyzed to get practical appraisals.

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Department of Mechanical Engineering and Industrial Systems, Research area: Life-cycle Management,

Research group: Käyttövarmuuden suunnittelu ja kunnossapito

Contributors: Hagmark, P., Laitinen, J.

Number of pages: 11

Pages: 449-459

Publication date: 2014

Host publication information

Title of host publication: Engineering Asset Management 2011 : Proceedings of the Sixth World Congress on Engineering Asset Management

Place of publication: London

Publisher: Springer-Verlag London Limited

Editors: Lee, J., Ni, J., Sarangapani, J., Mathew, J.

ISBN (Print): 978-1-4471-4993-4

Publication series

Name: Lecture Notes in Mechanical Engineering

ISSN (Print): 2195-4356

DOIs:

10.1007/978-1-4471-4993-4_40

Source: Bibtex

Source ID: urn:d7b891dd2fe21c5e9c101c432e092e18

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Model for efficient development of security audit criteria

Cyber-attacks have grown in importance to become a matter of national security. A growing number of states and organisations around the world have been developing defensive and offensive capabilities for cyber warfare. Security criteria are important tools for defensive capabilities of critical communications and information systems (CIS). Various criteria have been developed for designing, implementing and auditing CIS. However, the development of criteria is inadequately supported by currently available guidance. The relevant guidance is mostly related to criteria selection. The abstraction level of the guidance is high. This may lead to inefficient criteria development work. In addition, the resulting criteria may not fully meet their goals. To ensure efficient criteria development, the guidance should be supported with concrete level implementation guidelines. This paper proposes a model for efficient development of security audit criteria. The model consists of criteria design goals and concrete implementation guidelines to achieve these goals. The model is based on the guidance given by ISACA and on the criteria development work by FICORA, the Finnish Communications Regulatory Authority. During the years 2008-2017, FICORA has actively participated in development and usage of three versions of Katakri, the Finnish national security audit criteria. The paper includes a case study that applies the model to existing security criteria. The case study covers a review of the criteria composed of the Finnish VAHTI-instructions. During the review, all supported design goals and implementation guidelines of the model were scrutinised. The results of the case study indicate that the model is useful for reviewing existing criteria. The rationale is twofold. First, several remarkable shortcomings were identified. Second, the identification process was time-efficient. The results also suggest that the model would be useful for criteria under development. Addressing the identified shortcomings during the development phase would have made the criteria more efficient, usable and understandable.

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Pervasive Computing, Univ of Oulu, Population Register Centre, Finnish Communications Regulatory Authority

Contributors: Kelo, T., Eronen, J., Rousku, K.

Number of pages: 9

Pages: 244-252

Publication date: 2018

Host publication information

Title of host publication: Proceedings of the 17th European Conference on Cyber Warfare and Security, ECCWS 2018

Publisher: Curran Associates

ISBN (Electronic): 9781911218852

ASJC Scopus subject areas: Information Systems, Information Systems and Management, Safety, Risk, Reliability and Quality

Keywords: Audit, Criteria, Katakri, Security, VAHTI

Source: Scopus

Source ID: 85050826806

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Model-Driven Development of Control Applications: On Modeling Tools, Simulations and Safety

Control systems are required in various industrial applications varying from individual machines to manufacturing plants and enterprises. Software applications have an important role as an implementation technology in such systems, which can be based on Distributed Control System (DCS) or Programmable Control System (PLC) platforms, for example. Control applications are computer programs that, with control system hardware, perform control tasks. Control applications are efficient and flexible by nature; however, their development is a complex task that requires the collaboration of experts and information from various domains of expertise.

This thesis studies the use of Model-Driven Development (MDD) techniques in control application development. MDD is a software development methodology in which models are used as primary engineering artefacts and processed with both manual work and automated model transformations. The objective of the thesis is to explore whether or not control application development can benefit from MDD and selected technologies enabled by it. The research methodology followed in the thesis is the constructive approach of design science.

To answer the research questions, tools are developed for modeling and developing control applications using UML Automation Profile (UML AP) in a model-driven development process. The modeling approach is developed based on open source tools on Eclipse platform. In the approach, modeling concepts are kept extendable. Models can be processed with model transformation techniques that plug in to the tool. The approach takes into account domain requirements related to, for example, re-use of design. According to assessment of industrial applicability of the approach and tools as part of it, they could be used for developing industrial DCS based control applications.

Simulation approaches that can be used in conjunction to model-driven development of control applications are presented and compared. Development of a model-in-the-loop simulation support is rationalized to enable the use of simulations early while taking into account the special characteristics of the domain. A simulator integration is developed that transforms UML AP control application models to Modelica Modeling Language (ModelicaML) models, thus enabling closed-loop simulations with ModelicaML models of plants to be controlled. The simulation approach is applied successfully in simulations of machinery applications and process industry processes.

Model-driven development of safety applications, which are parts of safety systems, would require taking into account safety standard requirements related to modeling techniques and documentation, for example. Related to this aspect, the thesis focuses on extending the information content of models with aspects that are required for safety applications. The modeling of hazards and their associated risks is supported with fault tree notation. The risk and hazard information is integrated into the development process in order to improve traceability. Automated functions enable generating documentation and performing consistency checks related to the use of standard solutions, for example. When applicable, techniques and notations, such as logic diagrams, have been chosen so that they are intuitive to developers but also comply with recommendations of safety standards.

General information

Publication status: Published

MoE publication type: G5 Doctoral dissertation (article)

Organisations: Department of Automation Science and Engineering, Research area: Information Systems in Automation

Contributors: Vepsäläinen, T.

Number of pages: 115

Publication date: 5 Jun 2015

Publication information

Publisher: Tampere University of Technology
ISBN (Print): 978-952-15-3528-4
ISBN (Electronic): 978-952-15-3536-9
Original language: English

Publication series

Name: Tampere University of Technology. Publication
Publisher: Tampere University of Technology
Volume: 1303
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Electronic versions:
vepsalainen_1303
URLs:
<http://URN.fi/URN:ISBN:978-952-15-3536-9>

Bibliographical note

Awarding institution: Tampere University of Technology
Version: 16.12.2015
Research output: Book/Report > Doctoral thesis > Collection of Articles

Model-based cosimulation for industrial wireless networks

Wireless communications technology has the potential to provide major benefits in lowering the cost and increasing the efficiency of factory automation (FA) systems. However, design of FA systems that employ wireless networks involves stringent constraints on real-time performance and reliability, and requires the assessment of and experimentation with complex interactions among process control, factory topology construction (layout and connectivity of subsystems, such as machines, rails, etc.), and wireless communication. In this paper, we introduce a novel simulation framework to support such assessment and experimentation in the design of next-generation FA systems. Our simulation framework employs model-based design principles to enhance design reliability, and enable systematic and efficient integration of control, topology, and network modeling aspects. We demonstrate the utility of our framework through a case study that involves topology design and scalability analysis for a large class of FA systems. Our results demonstrate the ability of the proposed framework to provide insights on complex design trade-offs, while the underlying model-based features enhance efficient and reliable system-level integration.

General information

Publication status: Published
MoE publication type: A4 Article in a conference publication
Organisations: Pervasive Computing, University of Maryland, National Institute of Standards and Technology, Department of Electrical and Computer Engineering
Contributors: Geng, J., Li, H., Liu, Y., Liu, Y., Kashef, M., Candell, R., Bhattacharyya, S. S.
Number of pages: 10
Pages: 1-10
Publication date: 3 Jul 2018

Host publication information

Title of host publication: WFCS 2018 - 2018 14th IEEE International Workshop on Factory Communication Systems
Publisher: IEEE
ISBN (Electronic): 9781538610664
ASJC Scopus subject areas: Electrical and Electronic Engineering, Industrial and Manufacturing Engineering
DOIs:
[10.1109/WFCS.2018.8402343](https://doi.org/10.1109/WFCS.2018.8402343)

Bibliographical note

jufoid=83653
Source: Scopus
Source ID: 85050017916
Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

Model-Based Approach for Change Propagation Analysis in Requirements

The need for support related to the complexity management of systems engineering problems, specifically for requirements management and changes is especially necessary during the early stages of the systems engineering process. Indeed, these stages have a tremendous impact on the overall outcome of a project. If not anticipated at early stages, changes in requirements are leading to changes in the design and in the later implementation stages, resulting in an unexpected increase in costs (monetary, time, etc.). The framework proposed in this article for requirements change prediction consists of a three steps process. First, requirements are modeled using SysML with predefined relationships.

Second, all the relationships between requirements in the SysML model are transformed into an adjacency matrix also named DSM. A higher order Dependency Structure Matrix is applied; this matrix-based methodology allows support in the prediction of which requirements will be affected after a change in a specific requirement. Third, the change propagation path is visualized. Using this framework, it is possible to predict the possible propagation of changes in requirements. In addition, it is also possible to identify the requirements that can be reused. This can help to save the time and cost for developing a new system.

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Aalto Univ, Aalto University, Sch Engn, Dept Engn Design & Prod, Aalto Univ, Aalto University, Aalto Univ Finland, Dept Engn Design & Prod, Sch Engn

Contributors: Nonsiri, S., Coatanea, E., Bakhouya, M., Mokammel, F.

Number of pages: 7

Pages: 497-503

Publication date: 2013

Host publication information

Title of host publication: 2013 IEEE International Systems Conference (SysCon)

Publisher: IEEE

ISBN (Print): 978-1-4673-3107-4

Publication series

Name: Systems Conference (SysCon), 2013 IEEE International

Keywords: Requirements management, Change propagation, SysML, higher order DSM

DOIs:

10.1109/SysCon.2013.6549928

URLs:

<http://ieeexplore.ieee.org/lpdocs/epic03/wrapper.htm?arnumber=6549928>

<http://www.mendeley.com/research/modelbased-approach-change-propagation-analysis-requirements>

Source: WOS

Source ID: 000326754400078

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

Mining smart meter data - Case Finland

Smart meters collect a lot of data on customer level electricity consumption and this, together with other data sources e.g. environmental information and public open data, provides an excellent basis for data mining. As a part of a recent smart grid project conducted in Finland, several different ways of mining smart meter data were studied. The project brought advances in customer classification and clustering, load profiling, spatial load analytics, behaviour change detection and load forecasting.

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Department of Electrical Engineering, Research area: Power engineering, Ita-Suomen yliopisto

Contributors: Mutanen, A., Niska, H., Järventausta, P.

Publication date: 2016

Host publication information

Title of host publication: CIRED Workshop 2016

Publisher: Institution of Engineering and Technology

ISBN (Print): 978-1-78561-202-2

ASJC Scopus subject areas: Electrical and Electronic Engineering

Electronic versions:

CIRED2016_0120_final

DOIs:

10.1049/cp.2016.0776

URLs:

<http://urn.fi/URN:NBN:fi:tty-201809252340>

Source: Scopus

Source ID: 85007521225

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

Mid-Infrared Sources for Ultra-Broadband Cavity Enhanced Spectroscopy

We developed an all-fiber based supercontinuum source spanning from 900 to 3700 nm. We performed incoherent broadband cavity enhanced absorption spectroscopy using that source and were able to detect multicomponent simultaneously.

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Department of Physics, Research area: Optics, Research group: Nonlinear Fiber Optics, Research group: Applied Optics

Contributors: Amiot, C. G., Ryczkowski, P., Aalto, A., Toivonen, J., Genty, G.

Number of pages: 2

Publication date: Oct 2016

Host publication information

Title of host publication: Frontiers in Optics 2016

Publisher: OSA

Article number: FTh5A.3

ISBN (Electronic): 978-1-943580-19-4

URLs:

<https://www.osapublishing.org/abstract.cfm?URI=FiO-2016-FTh5A.3>

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Microrobotic system for multi-rate measurement of bio-based fibres Z-directional bond strength

The core content of this study is micro-testing of microscale objects - an emerging application area for microrobotics - where microrobotics has been used in paper industry for measuring properties at the single fibre level. Pulp and paper scientists are interested to have experimental data of single fibre-fibre bond strength distribution of paper/board products in different loading modes and rates. Meeting this demand is quite challenging since the system should be able to measure the bond strength i) in the individual fibre level, ii) in different loading modes, and iii) in different loading rates. The current methods of measurement do not satisfy all these three requirements. Among the four different loading modes, the Z-directional behaviour of paper/board products is a matter of high significance for papermaking and paper converting companies. The Z-directional properties influence compressive properties, and accordingly the performance of structural paper/board products. According to the literature, there is not any reported method to facilitate the measurement of Z-directional strength at the single fibre level in different loading rates. This paper reports an in-depth study of a measurement method for experimental evaluation of Z-directional individual fibre-fibre bond strength in multiple loading rates using microrobotics and a Polyvinylidene fluoride (PVDF) film microforce sensor. The results from the measurement system are promising. In summary, the first concept for multi-rate measurement of Z-directional bond strength at the individual fibre level is developed during this work which has a high practical impact on the fibre characterization research field.

General information

Publication status: Published

MoE publication type: A1 Journal article-refereed

Organisations: Department of Automation Science and Engineering, Research area: Microsystems, Research area: Measurement Technology and Process Control

Contributors: Latifi, S. K., Saketi, P., Kallio, P.

Number of pages: 14

Pages: 13-26

Publication date: 24 May 2015

Peer-reviewed: Yes

Publication information

Journal: Journal of Micro-Bio Robotics

Volume: 10

Issue number: 1

Article number: 1

ISSN (Print): 2194-6418

Ratings:

Scopus rating (2015): CiteScore 1.4 SJR 0.423 SNIP 1.004

Original language: English

ASJC Scopus subject areas: Engineering(all)

Keywords: Microrobotics , Micro-testing , Multi-rate microforce sensing, Polyvinylidene fluoride (PVDF) , Z-directional strength

DOIs:

10.1007/s12213-015-0080-9

Microrobotic platform with integrated force sensing microgrippers for characterization of fibrous materials: Case study on individual paper fibers

Mechanical characterization of micro-scale fibrous materials determines the key parameters which affect the quality of products such as composites, textile and paper. The current laboratory tests are mainly based on bulk measurements. This thesis introduces a microrobotic platform to handle and to characterize micro-scale fibers (MF), with the dimensions of few micrometers to hundreds of micrometers, at individual fiber level. The platform facilitates handling and specimen preparation of micro-scale fibrous material. A major challenge in mechanical characterization of MF is lack of proper force sensing microgrippers in the market. MF do not need a lot of force to manipulate, but their ultimate tensile strength is high and relatively large forces are required to perform a micro-tensile test. In this thesis, three force sensing microgrippers are developed and they are integrated into the mentioned microrobotic platform. Two of them are developed to measure the bonding forces between individual pulp fibers, normal to the bonded area (Z-direction) and parallel to the bonded area (shear-mode). Their force sensing solution is based on bending polyvinylidene fluoride (PVDF) films and their force range is up to 10mN. The third one, with the force range of 20mN, is developed to perform micro-tensile tests on MF. It uses a microspring and a magnetic encoder to measure the force. The force range of this force sensing microgripper can easily be increased by changing its microspring to a stiffer one. This feature makes the proposed force sensing approach adaptable to a wide range of MF. Even though pulp and paper fibers are used as a case study in this thesis, the applications of microrobotic solutions presented here are not limited to pulp and paper fibers for the following reason: pulp and paper fibers are natural fibers with random morphology, therefore if a microrobotic solution is capable of handling these morphologically challenging fibers, it is easily adaptable to synthetic fibers which have uniform morphology. The prototypes of all three force sensing microgrippers are calibrated and their performance are validated.

General information

Publication status: Published

MoE publication type: G4 Doctoral dissertation (monograph)

Organisations: Department of Automation Science and Engineering, Research area: Information Systems in Automation, Research area: Microsystems, Research area: Measurement Technology and Process Control

Contributors: Saketi, P.

Number of pages: 116

Publication date: 21 Jul 2015

Publication information

Place of publication: Tampere

Publisher: Tampere University of Technology

ISBN (Print): 978-952-15-3545-1

ISBN (Electronic): 978-952-15-3550-5

Original language: English

Publication series

Name: Tampere University of Technology. Publication

Publisher: Tampere University of Technology

Volume: 1309

ISSN (Print): 1459-2045

Electronic versions:

saketi_1309

URLs:

<http://URN.fi/URN:ISBN:978-952-15-3550-5>

Bibliographical note

Awarding institution: Tampere University of Technology

Versio ok 16.12.2015

Research output: Book/Report › Doctoral thesis › Monograph

Micro-parenchymal patterns for breast cancer risk assessment

We evaluated small radiological regions of the parenchymal tissue in mammograms-micro-parenchymal (MP) patterns-for breast cancer risk assessment. We adapted path based analysis, a computer vision technique, in order to build a model of the distribution of MP patterns in mammograms from a training population sample. Subsequently, the model was utilized to infer the level of risk of individual women based on the distribution of MP patterns in test mammograms. We validated our method using a pilot case/control study with 114 women diagnosed with cancer and 114 healthy controls matched by age, screening year and mammographic system. Experiments with 5-fold cross validation showed a statistically significant positive association between the MP-based risk scores and breast cancer risk with an OPERA (odds per standard deviation of the risk score) value of 1.66 (p-value <0.001) and an area under the receiver operating characteristic curve (AUC) of 0.653. Results retain their statistical significance after adjusting for visual and quantitative breast densities, widely known imaging biomarkers for breast cancer risk. This work provides experimental evidence that there are specific

MP patterns identifiable as cues of breast cancer and prompt the validation of these results in larger datasets.

General information

Publication status: Published

MoE publication type: A1 Journal article-refereed

Organisations: Computing Sciences, Research group: Vision, Universidad Industrial de Santander

Contributors: Pertuz, S., Sassi, A., Karivaara-Makela, M., Holli-Helenius, K., Laaperi, A., Rinta-Kiikka, I., Arponen, O., Kämäräinen, J.

Number of pages: 11

Publication date: Oct 2019

Peer-reviewed: Yes

Publication information

Journal: Biomedical Physics & Engineering Express

Volume: 5

Issue number: 6

Article number: 065008

ISSN (Print): 2057-1976

Ratings:

Scopus rating (2019): CiteScore 1.5 SJR 0.317 SNIP 0.648

Original language: English

Keywords: breast cancer, mammography, risk assessment, texture analysis, parenchymal patterns, MAMMOGRAPHIC DENSITY, TEXTURE ANALYSIS, CLASSIFICATION

DOIs:

10.1088/2057-1976/ab42f4

Bibliographical note

EXT="Pertuz, Said"

Source: WOS

Source ID: 000487561400008

Research output: Contribution to journal > Article > Scientific > peer-review

Mezhdunarodnaya konferencia po pozicionirovaniyu i navigacii vnutri pomeshhenij

General information

Publication status: Published

MoE publication type: B1 Article in a scientific magazine

Organisations: Department of Automation Science and Engineering, Research area: Dynamic Systems, Research group:

Positioning

Contributors: Piche, R. A.

Pages: 122-124

Publication date: 2015

Peer-reviewed: No

Publication information

Journal: Giroskopiya I Navigatsiya

Volume: 88

Issue number: 1

ISSN (Print): 0869-7035

Original language: Russian

Research output: Contribution to journal > Article > Scientific

Method of data compression for traffic monitoring

In this paper a problem of compressing data containing information on basic parameters of network traffic is considered. Six test sets with different types of network traffic for known monitoring tool Wireshark are formed. Analysis of compression efficiency for these datasets by widely used archivers is carried out. It is shown that the main part of memory in compressed data relates to timestamps. A method for compressing timestamps that consists in delta calculation, Burrows-Wheeler transform (BWT), distance coding (DC) and recursive group coding (RGC) at the final stage is proposed. It is demonstrated that the use of RGC at the final stage provides more efficient coding compared to known methods. It is also shown that the proposed method of timestamps coding produces about twice larger compression ratio than WinRAR.

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Department of Signal Processing, Research group: Algebraic and Algorithmic Methods in Signal Processing AAMSP, Research group: Computational Imaging-CI, Signal Processing Research Community (SPRC)

Contributors: Kozhemiakina, N., Lukin, V., Ponomarenko, N., Akulynichev, A., Astola, J., Egiazarian, K.
Number of pages: 4
Pages: 153-156
Publication date: 14 Dec 2015

Host publication information

Title of host publication: 2015 2nd International Scientific-Practical Conference Problems of Infocommunications Science and Technology, PIC S and T 2015 - Conference Proceedings
Publisher: IEEE
ISBN (Print): 9789669751928
ASJC Scopus subject areas: Computer Science (miscellaneous), Computer Science Applications
Keywords: Burrows-Wheeler transform, data compression, distance coding, traffic monitoring and analysis tools
DOIs:
10.1109/INFOCOMMST.2015.7357299
Source: Scopus
Source ID: 84962870220
Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Menetelmä parvekelasien ääneneristävyyden mitoittamiseksi liikennemelualueilla

General information

Publication status: Published
MoE publication type: B3 Non-refereed article in conference proceedings
Organisations: Department of Civil Engineering, Research group: Building Acoustics
Contributors: Kovalainen, V., Kylliäinen, M.
Number of pages: 6
Pages: 617-622
Publication date: 22 Oct 2015

Host publication information

Title of host publication: Rakennusfysiikka 2015
Publisher: Tampereen teknillinen yliopisto, rakennustekniikan laitos, rakennetekniikka
ISBN (Print): 978-952-15-3580-2
ASJC Scopus subject areas: Civil and Structural Engineering, Acoustics and Ultrasonics
Keywords: acoustics, noise control
URLs:
<http://www.tut.fi/fi/tietoa-yliopistosta/laitokset/rakennustekniikka/tutkimus/rakennetekniikka/rakennusfysiikka/rakennusfysiikkaseminaarit/index.htm>
Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific

Meeting radical change: SMEs and innovation capabilities and strategic foresight

General information

Publication status: Published
MoE publication type: A4 Article in a conference publication
Organisations: Pori Department, Research group: Business Ecosystems, Networks and Innovations, University of Örebro Business School, University of Exeter Business School, Tampere Univ Technol, Tampere University of Technology
Contributors: Aramo-Immonen, H., Bessant, J., Heinonen, T., Öberg, C., Trifilova, A.
Publication date: 16 Jun 2015

Host publication information

Title of host publication: The Proceedings of the XXVI ISPIM Conference – Shaping the Frontiers of Innovation Management, Budapest, Hungary on 14-17 June 2015
Publisher: International Society for Professional Innovation Management ISPIM
ISBN (Print): 978-952-265-779-4
Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Meeting of Vernacular and Modern Architecture in Urbino: Giancarlo De Carlo and reading of the context

General information

Publication status: Published
MoE publication type: B2 Part of a book or another research book
Organisations: School of Architecture, Research group: History of Architecture

Contributors: Koponen, O.
Number of pages: 4
Pages: 26-29
Publication date: 2015

Host publication information

Title of host publication: Italian Vernadoc 2015 – Amandola : Studying Italia and its architecture. The first 10 VERNADOC-years

Place of publication: Helsinki

Publisher: Suomen ICOMOS, kansanrakentamisen komitea

Editor: Mattila, M.

ISBN (Print): 978-952-67465-9-3

Research output: Chapter in Book/Report/Conference proceeding › Chapter › Scientific

MECSELS with direct emission in the 760 nm to 810 nm spectral range: A single- and double-side pumping comparison and high-power continuous-wave operation

We compared single-side pumping (SSP) and double-side pumping (DSP) of a semiconductor membrane external-cavity surface-emitting laser (MECSEL). The MECSEL's active region was based on a 4×3 AlGaAs quantum well (QW) structure. This structure was embedded between two silicon carbide (SiC) wafer pieces that were used as transparent intra-cavity (IC) heat spreaders creating a symmetrical cooling environment. The MECSEL structure targeted emission at 780nm and was operated at 20°C heat sink temperature. Via DSP the differential efficiency was improved from 31.9% to 34.4 %. The laser threshold was reduced from 0.79 W to 0.69 W of absorbed pump power while the maximum output power was increased from 3.13 W to 3.22 W. The DSP configuration enabled these improvements by a reduced thermal resistance of the gain element by 9 %. The MECSEL operated at a fundamental Gaussian TEM₀₀ mode profile and the beam quality was measured to be $M^2 < 1.09$. We further demonstrate a maximum tuning range from 767 nm to 811 nm. A similar active region with about half the thickness (2×3 AlGaAs QWs) was investigated using the DSP configuration and first results are presented here. 500-µm-thick sapphire IC heat spreaders were used instead of SiC. The output power exceeded 0.5W and the emission was spectrally located around 770 nm.

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Physics

Contributors: Kahle, H., Penttinen, J. P., Phung, H. M., Rajala, P., Tukiainen, A., Ranta, S., Guina, M.

Publication date: 2019

Host publication information

Title of host publication: Vertical External Cavity Surface Emitting Lasers (VECSELS) IX

Publisher: SPIE, IEEE

Editor: Keller, U.

Article number: 109010D

ISBN (Electronic): 9781510624443

Publication series

Name: Proceedings of SPIE - The International Society for Optical Engineering

Volume: 10901

ISSN (Print): 0277-786X

ISSN (Electronic): 1996-756X

ASJC Scopus subject areas: Electronic, Optical and Magnetic Materials, Condensed Matter Physics, Computer Science Applications, Applied Mathematics, Electrical and Electronic Engineering

Keywords: AlGaAs, DBR-free, MECSEL, Near infra-red, Thermal management, Thermal resistance, VECSEL

DOIs:

10.1117/12.2512111

Bibliographical note

INT=phys,"Rajala, Patrik"

jufoid=71479

Source: Scopus

Source ID: 85066635597

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Mechanisms of disruptive technological change: Case studies in transformation of traditional industries

The purpose of the manuscript is to use grounded theory building method to investigate three industry contexts that show disruptive innovations based in digital technologies that change the dynamics in industry competition. Specifically, we investigate the mechanisms of disruption in these cases and seek common features of change. Our analysis builds on mechanisms as detecting actors, their properties, and start- and end-states of the system under change and activities of

the actors that bring about the change. Our analysis shows common themes that are exhibited throughout all the cases. One of these mechanisms is de-coupling of traditional value chain activities. These de-coupling mechanisms are driven by the formation of innovation ecosystems rather than traditional value chains. This is further accelerated by the emergence of platforms and digital technologies at large. We propose, based on our results, some fundamental mechanisms that are driving industry transformation due to digitalization. We also discuss managerial and theoretical implications of our results in detail.

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Industrial and Information Management, Research group: Center for Innovation and Technology Research

Contributors: Sommarberg, M., Mäkinen, S.

Number of pages: 10

Pages: 1-10

Publication date: 1 Dec 2017

Host publication information

Title of host publication: Proceedings in 2017 Portland International Conference in Management and Engineering

(PICMET) : (PICMET) 9-13 July 2017

Publisher: IEEE

ISBN (Electronic): 978-1-890843-36-6

DOIs:

10.23919/PICMET.2017.8125297

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Measurements of particulates and gas phase precursors emissions from fresh ship plumes during the Big Glenn 2014 Campaign

General information

Publication status: Published

MoE publication type: D3 Professional conference proceedings

Organisations: Department of Physics, Research area: Aerosol Physics, University of Gothenburg

Contributors: Kuuluvainen, H., Faxon, C., Psichoudaki, M., Thomson, E. S., Eriksson, A., Kristensson, A., Svenningsson, B., Mellqvist, J., Salo, K., Hallquist, M.

Publication date: 2015

Host publication information

Title of host publication: EAC 2015, European Aerosol Conference, 6-11 September, 2015, Milan, Italy

Bibliographical note

ISBN kysytty, HO.

Ei ole, HO.

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Professional

Measurements of impact force excitation on wooden floors

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Civil Engineering, Research group: Metal and Light-wight structures, Materials Science, Research group:

Tribology and Machine Elements, Research group: Building Acoustics, Research group: Structural Mechanics

Contributors: Lietzen, J., Miettinen, J., Kylliäinen, M., Pajunen, S.

Number of pages: 6

Pages: 1617-1622

Publication date: May 2018

Host publication information

Title of host publication: Proceedings of the 11th European Congress and Exposition on Noise Control Engineering, Euronoise 2018, May 27-31 2018, Hersonissos, Crete, Greece : Reduce Noise to Improve Life, Crete, May 27-31, 2018

Place of publication: Hersonissos, Crete, Greece

Publisher: European Acoustic Association EAA

Article number: 272.161

Publication series

Name: Proceedings : European Conference on Noise Control

ISSN (Electronic): 2226-5147

URLs:

<http://www.euronoise2018.eu/component/contentbuilder/details/11/304/euronoise-2018-17-6-predicting-vibration-impact-structure-borne-sound-in-buildings?Itemid=256&start=0>

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

Measurement of the Temporal Coherence of Supercontinuum Light

We experimentally measure, for the first time, the second-order temporal coherence of supercontinuum pulses from the time-resolved interference fringes observed at the output of a Michelson interferometer using cross-correlation frequency-resolved optical gating.

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Department of Physics, Research area: Optics, Research group: Nonlinear Fiber Optics, Institute of Photonics, Institut FEMTO-ST, Université de Franche-Comté, Institut FEMTO-ST, UMR 6174 CNRS-Université de Franche-Comté

Contributors: Närhi, M., Genty, G., Amiot, C., Dutta, R., Friberg, A. T., Dudley, J. M., Turunen, J.

Publication date: 2015

Host publication information

Title of host publication: 2015 European Conference on Lasers and Electro-Optics - European Quantum Electronics Conference

Publisher: OSA

Article number: EE_3_1

ISBN (Print): 978-1-4673-7475-0

Keywords: supercontinuum, coherence

URLs:

https://www.osapublishing.org/abstract.cfm?uri=EQEC-2015-EE_3_1

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

Mean and variability in RNA polymerase numbers are correlated to the mean but not the variability in size and composition of Escherichia coli cells

Cell morphology differs with cell physiology in general and with gene expression in particular. We investigate the degree to which these relationships differ with medium richness. Using Escherichia coli cells with fluorescently tagged β' subunits, flow cytometry, and statistical analysis, we study at the single-cell level the correlation between parameters associated to cell morphology and composition (FSC, SSC, and Width channels) and GFP tagged RNA polymerase (RNAP) levels (FITC channel). From measurements in three media differing in richness (M63, LB, and TB) and, thus, cell growth rates, we find that the mean and cell-to-cell variability in RNAP levels are correlated to the mean values of FSC, SSC, and/or Width. Further, in all growth conditions considered, RNAP levels are positively correlated to FSC, SSC, and Width at the single-cell level, with the correlation decreasing for increasing medium richness. Overall, the results suggest that the mean and cell-to-cell variability in levels of RNAP, a master regulator of gene expression, are correlated to the mean values of the parameters assessing the cellular morphology and composition, as measured by flow cytometry, but they do not correlate to the degree of variability of these parameter values.

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Research group: Laboratory of Biosystem Dynamics-LBD, BioMediTech, Department of Chemistry and Bioengineering

Contributors: Almeida, B., Chauhan, V., Kandavalli, V., Ribeiro, A.

Number of pages: 8

Pages: 226-233

Publication date: 2019

Host publication information

Title of host publication: BIOINFORMATICS 2019 - 10th International Conference on Bioinformatics Models, Methods and Algorithms, Proceedings; Part of 12th International Joint Conference on Biomedical Engineering Systems and Technologies, BIOSTEC 2019

Publisher: SCITEPRESS

Editors: De Maria, E., Gamboa, H., Fred, A.

ISBN (Electronic): 9789897583537

ASJC Scopus subject areas: Biomedical Engineering, Electrical and Electronic Engineering

Keywords: Cell-to-cell Variability, Flow Cytometry, RNA Polymerase, Single-cell Biology, Statistical Analysis

DOIs:

10.5220/0007456102260233

Source: Scopus

Source ID: 85064697521

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Maximally Flat Property and Bandwidth Enhancing by Transfer Function Zeroes IEEE-NewCAS France

The paper describes an extension, at the approximation level, of shunt-peaking technique to increase the filter/amplifier bandwidth. The frequency dependent square modulus of transfer function is multiplied by a polynomial of squared frequency. Using a standard procedure of restoration one finds the new transfer function which is the result of multiplication of initial transfer function by the zeros defined by this polynomial of squared frequency. This new transfer function is characterized by a faster step-transient response of smaller delay and lower overshoot in comparison with initial function which did not include the zeros. An example of sixth order Butterworth filter is considered to demonstrate the modifications of step-transient response depending on the number of zeros. The procedure can also result in pole-zero cancellation simplifying the transfer function for given step-transient response.

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Electronics and Communications Engineering

Contributors: Filanovsky, I., Tchamov, N.

Publication date: 25 Jun 2017

Host publication information

Title of host publication: 2017 15th IEEE International New Circuits and Systems Conference (NEWCAS)

Publisher: IEEE

ISBN (Electronic): 978-1-5090-4991-2

DOIs:

10.1109/NEWCAS.2017.8010113

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Matkalla joustaviin asuinympäristöihin

General information

Publication status: Published

MoE publication type: D2 Article in professional manuals or guides or professional information systems or text book material

Organisations: School of Architecture, Research group: ASUTUT

Contributors: Kotilainen, S.

Number of pages: 4

Pages: 10-13

Publication date: 31 Mar 2015

Host publication information

Title of host publication: Joustavat asuinympäristöt : 10 visiota aikaa kestävään kaupunkiasumiseen

Volume: 16

Place of publication: Tampere

Publisher: Tampereen teknillinen yliopisto. Arkkitehtuurin laitos

Article number: 1

ISBN (Print): 978-952-15-3476-8

ISBN (Electronic): 978-952-15-3477-5

Publication series

Name: Housing Design

Publisher: Tampere University of Technology. School of Architecture.

Volume: 16

URLs:

<http://URN.fi/URN:ISBN:978-952-15-3477-5>

Research output: Chapter in Book/Report/Conference proceeding › Chapter › Professional

Mathematical Parametrisation of Irradiance Transitions Caused by Moving Clouds for PV System Analysis

Irradiance transitions caused by moving clouds can have considerable negative effects on the operation of photovoltaic (PV) systems. They may lead to failures in maximum power point tracking causing extra losses and to mismatch power losses due to partial shading. Further, they can cause significant fluctuations in the output power of PV systems.

This paper presents a method to parametrise irradiance transitions caused by moving clouds based on a mathematical model of the transitions. Irradiance transitions were parametrised by four variables: shading strength, shape related parameter b , speed and direction of movement which have no correlation with each other. The applicability of the parametrisation method in PV system analysis was demonstrated by simulations. The simulation results show that the developed parametrisation method is suitable for long-term PV system analysis.

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Department of Electrical Engineering, Research area: Power engineering

Contributors: Lappalainen, K., Valkealahti, S.

Number of pages: 5

Pages: 1485-1489

Publication date: 2016

Host publication information

Title of host publication: 32nd European Photovoltaic Solar Energy Conference and Exhibition (32nd EU PVSEC), 20–24 June, 2016, Munich, Germany

ISBN (Electronic): 3-936338-41-8

DOIs:

10.4229/EUPVSEC20162016-5AO.8.4

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

MathCheck: a tool for checking math solutions in detail

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Department of Mathematics, Research group: MAT Computer Science and Applied Logics

Contributors: Valmari, A., Kaarakka, T.

Publication date: Sep 2016

Host publication information

Title of host publication: SEFI 2016 Annual Conference Proceedings : Engineering Education on Top of the World: Industry University Cooperation

Publisher: European Society for Engineering Education SEFI

ISBN (Print): 9782873520144

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

Massive Open Online Research: An approach to deal with wicked problems

Humans are hardwired as problem-solvers. Professional education, in particular, enables us to solve complex problems. Even decades ago, we could safely send a crew to the moon and back. A moon-bound project is a very challenging and complex problem, but it is a tame one. The problem is clearly defined and the challenge becomes how to find the best solution. As the world and issues become more interconnected, there is a different type of problem in the horizon - 'wicked' problems. A wicked problem is normally complex and challenging, but differs from the 'tame' problem because there is no agreement in terms of problem definition. A wicked problem does not allow for the 'choice' of best solution. Solutions tend to only mitigate the problem and sometimes generate unpredictable consequences. For instance, climate change is an issue that requires a level of ingenuity that cannot be achieved by a limited group of people, regardless how brilliant they are. It cannot be addressed by our dominant scientific, reductionist, discipline-based, and proprietary approach either. This paper proposes Massive Online Open Research (MOOR) as a better approach to deal with wicked problems. In terms of organization, this paper includes a literature review on online collaboration, focusing on the dynamics of knowledge creation and innovation. Selected open online research initiatives are used to contextualize the literature review. Based on the literature review and real cases, a MOOR framework is presented and discussed. Limitations and opportunities for future research are also included.

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Department of Industrial Management, Research group: Center for Innovation and Technology Research, Kwantlen Polytechnic University

Contributors: Machado, M., Verghese, G., Peltola, T.

Number of pages: 7

Pages: 236-242

Publication date: 10 Oct 2014

Host publication information

Title of host publication: PICMET 14 Conference, Portland International Center for Management of Engineering and Technology : Infrastructure and Service Integration

Place of publication: Portland

Publisher: The Institute of Electrical and Electronics Engineers, Inc.

Article number: 6921178

ISBN (Print): 9781890843304

ASJC Scopus subject areas: Management of Technology and Innovation, Strategy and Management, Transportation
URLs:

<http://www.scopus.com/inward/record.url?scp=84910125519&partnerID=8YFLogxK> (Link to publication in Scopus)

Source: Scopus

Source ID: 84910125519

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Markov Chain Monte Carlo Estimation of Stochastic Volatility Models with Finite and Infinite Activity Lévy Jumps: Evidence for Efficient Models and Algorithms

A financial model plays a key role in the valuation and risk management of financial derivatives, and it serves as an important tool for investors to measure the risk exposure of their portfolios and make predictions and decisions. However, the popular affine stochastic volatility models without jumps, such as the Heston model, have been questioned in the finance literature in terms of their appropriateness for modelling stock prices and pricing derivatives. Many alternative model specifications have been proposed in recent decades, including the specification of non-affine variance dynamics and the inclusion of Lévy jumps. However, the complexity introduced by further model specifications leads to poor probabilistic properties, and hence most popular estimation methods are not applicable. The Bayesian estimation method is among the few that work. In this thesis, I discuss the role of new model specifications and investigate the performance of Bayesian estimation methods. First, I use an extensive empirical data set to study how the use of infinite-activity Lévy jumps in stock returns and variance improves model performance. The stock returns and variance are driven by diffusions and different Lévy jumps, including the finite-activity compound Poisson jump and infinite-activity Variance Gamma and Normal Inverse Gaussian (NIG) jumps. Moreover, the non-affine linear variance process is compared to the affine square-root stochastic process. With the conventional Markov Chain Monte Carlo (MCMC) algorithms, including the Gibbs sampler and Metropolis-Hastings (MH) methods, and the Damien-Wakefield-Walker method to cope with complicated posteriors, eighteen different model specifications are estimated using the joint information of the S&P 500 index and the VIX index for 1996 – 2009. There is clear evidence that in terms of the goodness of fit and option pricing performance, a relatively parsimonious model with infinite-activity NIG jumps in returns and non-affine variance dynamics is particularly competitive. In the second part of the thesis, I examine the performance of advanced MCMC algorithms. The efficiency of the MH algorithm has been questioned because of its slow mixing speed, especially in the presence of high dimensions and a strong dependence between model parameters and state variables. Generally, a class of algorithms seeks to improve the MH by constructing more effective proposals, and another combines the MCMC with the Sequential Monte Carlo algorithms. To investigate, I first conduct simulation studies to compare the estimation performance of seven advanced Bayesian estimation methods against the MH. Specifically, I use the affine Heston model, the affine Bates model, and an affine model with NIG return jumps, and examine whether the different jump structures affect the estimation results. Second, I estimate the non-affine model with NIG return jumps using the joint information of the S&P 500 index and the VIX for 2002–2005 with selected algorithms that perform well in the simulation studies. The results of the simulation and empirical studies are mixed about the performance of the algorithms. The Fast Universal Self-tuned Sampler algorithms are particularly competitive in generating virtually independent samples and achieving the fastest mixing with a fixed number of MCMC runs, and their performance is stable regardless of the model specifications. However, they are computationally expensive. The computational costs of the Particle Markov Chain Monte Carlo (PMCMC) methods are much cheaper and also efficient in mixing, and they perform best when estimating the models without jumps/with NIG jumps in the simulation studies, as well as in the fit to the VIX in the empirical studies. However, the PMCMC methods are more vulnerable to model specifications than the other algorithms; in particular, the rare large compound Poisson jumps in the Bates model significantly reduce the acceptance rate and worsen the estimation performance of the PMCMC methods.

General information

Publication status: Published

MoE publication type: G4 Doctoral dissertation (monograph)

Organisations: Department of Industrial Management, Research group: Financial Engineering

Contributors: Yang, H.

Number of pages: 107

Publication date: 13 Nov 2015

Publication information

Publisher: Tampere University of Technology

ISBN (Print): 978-952-15-3597-0

ISBN (Electronic): 978-952-15-3617-5

Original language: English

Publication series

Name: Tampere University of Technology. Publication

Publisher: Tampere University of Technology

Volume: 1331

ISSN (Print): 1459-2045

Electronic versions:

yang_1331

URLs:

<http://URN.fi/URN:ISBN:978-952-15-3617-5>

Bibliographical note

Awarding institution: Tampere University of Technology

Version: 16.12.2015

Research output: Book/Report > Doctoral thesis > Monograph

Manipulating Superparamagnetic Microparticles with an Electromagnetic Needle

Selective, precise, and high-throughput manipulation of individual superparamagnetic microparticles has profound applications in performing location-tailored in vitro biomedical studies. The current techniques for manipulation of microparticles allow only a single particle in the manipulation workspace, or simultaneous transportation of multiple microparticles in batches. In this work, a method based on a robotized electromagnetic needle for manipulation of individual superparamagnetic microparticles within a microparticle population is introduced. By automatically controlling the highly localized magnetic field of the needle, a single microparticle is selectively picked when its neighboring particle is few micrometers away. Supported by the nanometer resolution of the robotic positioner, particles are placed at sub-micrometer precision. This manipulation technique allows the creating of arbitrary patterns, sorting of microparticles based on size and morphology, and transporting of individual microparticles in 3D space. Therefore, this approach has the potential to enable more deterministic and quantitative microanalysis and microsynthesis using superparamagnetic microparticles.

General information

Publication status: Published

MoE publication type: A1 Journal article-refereed

Organisations: Faculty of Biomedical Sciences and Engineering, Research group: Micro and Nanosystems Research Group, Research group: Bioinspired Materials and Robotics (BMR)

Contributors: Cenev, Z., Zhang, H., Sariola, V., Rahikkala, A., Liu, D., Santos, H. A., Zhou, Q.

Publication date: 2017

Peer-reviewed: Yes

Publication information

Journal: Advanced Materials Technologies

Volume: 3

Issue number: 1

Article number: 1700177

ISSN (Print): 2365-709X

Ratings:

Scopus rating (2017): CiteScore 2.4 SJR 1.241 SNIP 1.001

Original language: English

Electronic versions:

admt201700177

DOIs:

[10.1002/admt.201700177](https://doi.org/10.1002/admt.201700177)

URLs:

<http://urn.fi/URN:NBN:fi:ty-201712212482>

Research output: Contribution to journal > Article > Scientific > peer-review

Managing software engineering competences with domain ontology for customer and team profiling and training

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Pori Department, Research group: Software Engineering and Intelligent Systems, Tallinn University of Technology, Tallinn, Estonia

Contributors: Robal, T., Ojastu, D., Kalja, A., Jaakkola, H.

Number of pages: 7

Pages: 1369 - 1376
Publication date: 2015

Host publication information

Title of host publication: PICMET '15 : Proceedings, Management of the Technology Age, August 2 - 6, 2015
Place of publication: Portland, Oregon, USA
Publisher: PICMET
Editor: Kocaoglu, D.
ISBN (Electronic): 978-1-890843-32-8
DOIs:

10.1109/PICMET.2015.7273171

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Managing intellectual liabilities by service recovery

Purpose – The paper studies intangible liabilities in a practical management setting with an overall aim to develop better managerial practices to avoid depreciation of organizations' intangible assets.

Design/methodology/approach – Empirical examination of the studied phenomenon was carried out in construction industry. Empirical data was gathered in two phases. First, 16 persons engaged to customer service in four construction companies were interviewed. The purpose was to identify intangible liabilities. After the interviews, two workshops in two companies were organized to reflect findings and to improve and develop organizations' service recovery practices.

Originality/value – The novelty value of the suggested approach lies in cross-disciplinary consideration of customer experience as an antecedent of various processes that may have negative impact on organizations' intellectual capital, and further on performance. The paper conceptualizes the hidden renewal capability of contradictory and negative customer experiences by analyzing their potential implications on IC, especially in relational capital.

Practical implications – Contributions of the paper relate to its practical research approach and focus on relational liabilities. The paper provides new understanding about intellectual liabilities within a certain industrial context and discusses more generalizable aspects to be considered in managing intellectual capital.

Keywords – Intellectual liabilities, Intellectual capital, Service recovery, Customer satisfaction

Paper type – Academic Research Paper

General information

Publication status: Published
MoE publication type: A4 Article in a conference publication
Organisations: Industrial and Information Management, Research group: Knowledge and Learning Research Center,
Research group: Business Data Research Group, University of Tampere
Contributors: Laihonen, H., Sillanpää, V., Vuolle, M.
Number of pages: 14
Pages: 1570-1583
Publication date: 9 Jun 2017

Host publication information

Title of host publication: Proceedings IFKAD 2017, 12th International Forum on Knowledge Asset Dynamics : Knowledge Management in the 21st Century: Resilience, Creativity and Co-creation, 7-9 Jun 2017, St. Petersburg, Russia.
Publisher: IKAM - Institute of Knowledge Asset Management
Editors: Schiuma, G., Spender, J., Garvilova, T.
ISBN (Electronic): 978-88-96687-10-9

Publication series

Name: Proceedings IFKAD
ISSN (Print): 2280-787X
ASJC Scopus subject areas: Business, Management and Accounting(all)
Keywords: Intellectual liabilities, Intellectual capital, Service recovery, Customer satisfaction
URLs:

http://www.ifkad.org/Proceedings/2017/papers/264_IFKAD2017.pdf

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Managing different types of changes during the lifecycle of a complex delivery project

Delivery projects are a way for a project contractor to solve a customer's need by delivering a customer-specific tailored solution. The success of these delivery projects is focal for both the project contractor and the customer. One way for the project contractor to promote the success of a delivery project is to plan the project well and to follow a project

management methodology. However, despite the planning efforts and project management methodologies, various changes typically take place throughout the project lifecycle. There can be changes both compared to the plans and to the project management methodology and this article focuses on both types of changes and change management in delivery projects. The findings of a case study research reveal, how changes take place throughout the lifecycle of a delivery project, how there are external and internal reasons behind the changes and how both change management activities and improvisational actions are taken by project personnel to manage the changes. The findings also highlight the customer's role as a source for changes and the different personnel's role in performing either the change management activities or the improvisational actions. The findings of the study are discussed in relation to the literature on changes and change management in projects and to the literature on improvisation in projects.

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Industrial and Information Management, Research group: Center for Research on Operations Projects and Services

Contributors: Vuorinen, L., Martinsuo, M.

Number of pages: 33

Publication date: Jun 2017

Host publication information

Title of host publication: The 2017 European Academy of Management (EURAM) Conference : Glasgow, Scotland, 21-24 June, 2017.

Publisher: EURAM

URLs:

<http://euramonline.org/annual-conference-2017-2.html>

<http://euramonline.org/annual-conference-2016/faq-conference-16.html>

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Managing Cultural Knowledge in Project Execution

The purpose of this study was to explore the factors through which the project implementation phase could be enhanced by cultural knowledge. The importance of studying this subject is that the exploitation of cultural knowledge (Hofstede & Hofstede 2005, Schwartz 1999, Ng et al. 2006, Hall 1976, Lewis 2006) and competence (Koskinen 2001) is still limited in the constantly increasing project-based business (Turner 1999, Arto et al. 2011, PMBOK 2004) in the international field. Two objectives exist in this study: understanding project complexity through the main challenges in project implementation and evaluating the impacts of the cultural factors behind them. We propose the multiple case study approach (Eisenhard & Graebner 2007, Yin 2014). The prominence of cultural knowledge in project implementation is difficult to determine, so the research design has exploratory features. Case project A was implemented in Sub-Saharan Africa and Case project B in the Near East. Interviewed managers worked either from distance and only visited the target country periodically or represented the perspective of an operational level manager working in the host country. The main cultural challenges that occurred in the projects are defined by these interviewees. This methodology gives evidence of the main challenges in the two case projects and clarifies the multiplicity of cultural issues in the project context. The importance of the subject was highlighted and the interviewed managers demonstrated that cultural knowledge can offer benefits. Numerous studies exist concerning the challenges in the project business (Deresky 2014, Turner 1999). The outcomes of the research stressed the uniqueness of projects and the situational need for cultural knowledge. The results highlighted the pervasive nature of culture in the international playing field. Companies are obliged to adjust their operations according to environments with multifaceted requirements. National cultures not only prevail within the borders of geographical areas, but are also reflected in company procedures. Therefore, their overall impact needs to be considered in international projects.

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Pori Department, Research group: Business Ecosystems, Networks and Innovations, Department of Information Management and Logistics, Research group: Novi, Managing digital industrial transformation (mDIT), University of Calabria

Contributors: Aramo-Immonen, H., Hietaoja, H., Jussila, J. J., Ammirato, S.

Number of pages: 12

Pages: 1085-1096

Publication date: 2015

Host publication information

Title of host publication: 10th International Forum on Knowledge Asset Dynamics, IFKAD 2015, Bari, Italy : Culture, Innovation and Entrepreneurship: connecting the knowledge dots

Volume: 10

Place of publication: Bary

Publisher: IKAM Centro Studi & Ricerche

ISBN (Electronic): 978-88-96687-07-9

Keywords: Project management, Cultural Knowledge, Project execution, Developing country, Multicultural projects

Bibliographical note

ORG=pla,0.5

ORG=tlo,0.5

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Management and Planning Under Complexities of Metro Construction

Nowadays, the majority of construction projects can be considered as complex and ambiguous endeavours. Each kind of construction project has its own characteristics and complexities whereas then specific management approaches and solutions are needed. Regarding the rapid development of cities, underground constructions at urban regions, such as metro construction, have been largely used for extending daily human life into underground spaces. Therefore, the recognition of the complex elements of a metro construction can play a significant role in its management and planning. The aim of this study is to investigate these complexities in subway construction. This may develop the possibility of high predictability for these challenges. As metro projects are also urban underground projects, both internal and external issues are studied and their impacts on project management are discussed. It is concluded that exceptional differences in the managing and planning of these constructions is that combined internal and external complexities are carried out simultaneously.

General information

Publication status: Published

MoE publication type: A1 Journal article-refereed

Organisations: Department of Civil Engineering

Contributors: Khosravi, M., Kähkönen, K.

Number of pages: 7

Pages: 415-421

Publication date: 2015

Peer-reviewed: Yes

Publication information

Journal: Procedia Economics and Finance

Volume: 21

ISSN (Print): 2212-5671

Original language: English

Keywords: Complexities, construction management, construction planning, metro construction, underground construction.

DOIs:

10.1016/S2212-5671(15)00194-X

Bibliographical note

EXT="Khosravi, Mahdi"

Source: RIS

Source ID: urn:CC947509283DD701C463455CFB0539A5

Research output: Contribution to journal › Article › Scientific › peer-review

Management accounting in managerial work: engaging facts and feelings in decision making

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Department of Industrial Management, Research group: Cost Management Center

Contributors: Saukkonen, N., Laine, T., Suomala, P.

Publication date: 15 Jun 2016

Host publication information

Title of host publication: Proceedings of the Manufacturing Accounting Research Conference 2016 : Lisbon, Portugal, June 15-17, 2016

Publisher: European Institute for Advanced Studies in Management EIASM

Publication series

Name:

ISSN (Print): 2295-1709

Name: Proceedings of the Manufacturing Accounting Research Conference

URLs:

http://www.eiasm.org/frontoffice/event_announcement.asp?event_id=1155#4716

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Management accounting and new service development under servitization: literature review and case studies

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Department of Industrial Management, Research group: Cost Management Center, Scuola Superiore Sant'Anna, Istituto di Management, Pisa, Italy

Contributors: Tenucci, A., Laine, T.

Publication date: 15 Jun 2016

Host publication information

Title of host publication: Proceedings of the Manufacturing Accounting Research Conference 2016 : Lisbon, Portugal, June 15-17, 2016

URLs:

http://www.eiasm.org/frontoffice/event_announcement.asp?event_id=1155#4716

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Making the cloud work for software producers: Linking architecture, operating cost and revenue

Cloud migration is concerned with moving an on-premise software system into the cloud. In this paper, we focus on software producers adopting the cloud to provide their solutions to enterprise customers. Their challenge is to migrate a software product, developed in-house and traditionally delivered on-premise, to an Infrastructure-as-a-Service or Platform-as-a-Service solution, while also mapping an existing traditional licensing model on to a cloud monetization model. The analysis of relevant cost types and factors of cloud computing generate relevant information for the software producers when deciding to adopt cloud computing, and defining software pricing. We present an integrated framework for informing cloud monetization based on operational cost factors for migrating to the cloud and test it in a real-life case study. Differences between basic virtualization of the software product and using fully cloud-native platform services for re-architecting the product in question are discussed.

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Pervasive Computing, Dublin City University, Free University of Bolzano-Bozen, Human-Centered Technology (IHTE)

Contributors: Rosati, P., Fowley, F., Pahl, C., Taibi, D., Lynn, T.

Number of pages: 12

Pages: 364-375

Publication date: 2018

Host publication information

Title of host publication: CLOSER 2018 - Proceedings of the 8th International Conference on Cloud Computing and Services Science

Publisher: SCITEPRESS

ISBN (Electronic): 9789897582950

ASJC Scopus subject areas: Computer Science (miscellaneous), Software, Computer Science Applications

Keywords: Architecture migration, Cloud migration, Monetization, Software producer, Total cost of ownership

DOIs:

10.5220/0006679303640375

Source: Scopus

Source ID: 85048894202

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Maanvastaisten seinien lämpö- ja kosteustekninen toiminta

General information

Publication status: Published

MoE publication type: B3 Non-refereed article in conference proceedings

Organisations: Civil Engineering, Research group: Building Physics, Tampere University of Technology, Laboratory of Civil Engineering

Contributors: Laukkarinen, A., Heiskanen, R., Vinha, J.

Number of pages: 6

Pages: 71-76
Publication date: 24 Oct 2017

Host publication information

Title of host publication: Rakennusfysiikka 2017. Uusimmat tutkimustulokset ja hyvät käytännön ratkaisut : 24.-26.10.2017, Tampere
Volume: 1
Place of publication: Tampere
Publisher: Tampereen teknillinen yliopisto, Rakennustekniikka, Rakennusfysiikka
Editors: Vinha, J., Kivioja, H.
ISBN (Print): 978-952-15-4022-6

Publication series

Name: Tampereen teknillinen yliopisto. Rakennustekniikka. Rakennusfysiikka.
ASJC Scopus subject areas: Civil and Structural Engineering, Building and Construction

Bibliographical note

INT=rak,"Heiskanen, Roosa"

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific

LTE Performance Analysis Using Queuing Systems with Finite Resources and Random Requirements

Heavy traffic load in current LTE networks calls for effective radio resource allocation methods and tools for performance evaluation. In this work, we provide an analytical framework for LTE resource allocation in terms of queuing theory. We consider a multiservice queuing system with a finite amount of resources of several types, and allow the customers occupy a random amount of resources upon their arrival. Random resource requirements lead to more accurate performance evaluation compared to conventional multiservice models. For the considered model, we prove that the stationary probability distribution has a multiplicative form. Our findings are illustrated with a numerical example.

General information

Publication status: Published
MoE publication type: A4 Article in a conference publication
Organisations: Department of Electronics and Communications Engineering, Research group: Emerging Technologies for Nano-Bio-Info-Cogno
Contributors: Naumov, V., Samouylov, K., Yarkina, N., Sopin, E., Andreev, S., Samuylov, A.
Number of pages: 4
Pages: 100-103
Publication date: 2015

Host publication information

Title of host publication: 2015 7th International Congress on Ultra Modern Telecommunications and Control Systems and Workshops (ICUMT)
Publisher: IEEE
ISBN (Print): 978-1-4673-9282-2
DOIs:
10.1109/ICUMT.2015.7382412
Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

LTE indoor MIMO performances field measurements

Long-term evolution (LTE) and multiple input multiple output (MIMO) have earned reputations to be a cutting-edge technology, which can boost significantly wireless communication performances. The paper aims at providing LTE MIMO performances in indoor environments and, therefore, guidelines for network operators can be proposed. Medium access control throughput (MAC TP) and some system parameters in LTE network that are linked with MAC TP, such as Channel Quality Indicator (CQI), Modulation and Coding Scheme (MCS), Ranking Indicator (RI), Pre-coding Matrix Indicator (PMI), as well as MIMO utilization, are analysed. Effects of indoor propagation, Line of Sight (LoS), No-line of Sight (NLoS), strong and weak signal levels on Signal to Noise Ratio (SNR) strength and MIMO utilization are clarified. In this paper, the performances of MIMO transmission mode over transmit diversity (TxDiv, Multiple Input-Single Output-MISO) and single antenna (Single Input Multiple Output-SIMO) modes are also analyzed and compared at overall manner and at channel-specific manners.

General information

Publication status: Published
MoE publication type: A4 Article in a conference publication
Organisations: Tampere University of Technology, Department of Electronics and Communications Engineering, Department of Electronics and Communication Engineering, Electrical and Electronics Engineering Department, Department of Electric-Electronics Engineering, Ho Chi Minh City University of Technology, Industrial University of Ho Chi Minh City, Ho Chi Minh City University of Food Industry

Contributors: Nguyen-Thanh, D., Le-Tien, T., Bui-Thu, C., Le-Thanh, T.
Number of pages: 6
Pages: 84-89
Publication date: 17 Feb 2015

Host publication information

Title of host publication: International Conference on Advanced Technologies for Communications
Publisher: IEEE
ISBN (Print): 9781479969555
ASJC Scopus subject areas: Computer Networks and Communications, Hardware and Architecture, Software
Keywords: Field measurements, LTE, MIMO, MISO, OFDM, Rayleigh channel, Rician channel
DOIs:
10.1109/ATC.2014.7043361

Bibliographical note

INT=elt,"Nguyen-Thanh, Duc"
Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

LTCC-Based Multi-Electrode Arrays for 3D in Vitro Cell Cultures

Current technologies to monitor neuronal cultures in vitro are based on 2-dimensional (2D) multi-electrode arrays and cell cultures. The complexity of actual high-level neurobiological systems requires 3-dimensional (3D) cultures and 3D electrode arrays to improve our understanding of such systems. The realization calls for smart multilayer and packaging technology. Our approach uses low-temperature cofired ceramics (LTCC) for the design of a 3-dimensional multi-electrode array (3D MEA). An LTCC multilayer board with gold electrodes forms the basis of the system. The layout of the 3D MEA is designed to fit into widely used measurement adapters for 2D signal recordings, enabling data processing identical to that of established chips. Design and manufacturing of the new 3D device as a basic tool for the investigation of 3D cell cultures are described. Features of thick-film gold electrodes are characterized by means of microscopic and spectroscopic tools complemented with complex impedance measurements. Possible biological applications for in vitro electrophysiological measurements were evaluated based on cell cultures of primary neurons, seeded directly to the chip surface. It was shown that activity can be measured over six months.

General information

Publication status: Published
MoE publication type: A1 Journal article-refereed
Organisations: Department of Electronics and Communications Engineering, Research group: Computational Biophysics and Imaging Group, BioMediTech, Integrated Technologies for Tissue Engineering Research (ITTE), TU Ilmenau, Technische Universitat Ilmenau, Inst Mikro & Nanotechnologien MacroNano, ETH, Swiss Federal Institute of Technology Zurich, Inst Biomed Engrn, Lab Biosensors & Bioelect
Contributors: Bartsch, H., Himmerlich, M., Fischer, M., Demko, L., Hyttinen, J., Schober, A.
Number of pages: 10
Pages: 315-324
Publication date: Dec 2015
Peer-reviewed: Yes

Publication information

Journal: Journal of Ceramic Science and Technology
Volume: 6
Issue number: 4
ISSN (Print): 2190-9385
Ratings:
Scopus rating (2015): CiteScore 0.9 SJR 0.237 SNIP 0.44
Original language: English
Keywords: Low-temperature cofired ceramics (LTCC), three-dimensional hybrid multi-electrode array (3D MEA), in vitro cell culture, thick-film gold electrode, primary neuron culture, GROWTH
DOIs:
10.4416/JCST2015-00056
Source: WOS
Source ID: 000367422100010
Research output: Contribution to journal > Article > Scientific > peer-review

Low-cost 3D lidar for the mapping of autonomous mobile work machine

Autonomous mobile work machines need the capability of sensing and mapping the surrounding area. Machines can utilize several sensors such as laser scanners and cameras for this purpose. The challenge in their use is the relatively high price compared to the value of mobile work machines, and the sensitivity of sensors to harsh operating conditions. This paper presents a low-cost 3D LIDAR for the sensing and mapping of autonomous work machine, which is based on

2D laser scanner and electric motor drive that rotates the scanner. The 2D laser scanner provides range and intensity values from the measured plane and the controller of electric motor provides the rotation angle and rotation speed of the scanner. By combining these values together with navigation data of the machine, 3D point cloud of the surrounding area can be created. This paper presents the development of hardware and control system for the rotating of the 2D laser scanner. Their integration to autonomous mobile work machine and example of mapping results are also presented.

General information

Publication status: Published

MoE publication type: B3 Non-refereed article in conference proceedings

Organisations: Department of Intelligent Hydraulics and Automation, Research group: Fluid power automation in mobile machines, Tampere University of Technology

Contributors: Kolu, A., Rajapolvi, K., Hyvönen, M., Multanen, P., Huhtala, K.

Number of pages: 10

Publication date: 2015

Host publication information

Title of host publication: Proceedings of the Fourteenth Scandinavian International Conference on Fluid Power, SICFP15. May 20-22, 2015. Tampere, Finland

ISBN (Electronic): 978-952-15-3530-7

Keywords: Autonomous mobile machine, Mobile robotics, 3D LIDAR, CANopen, Measurement data time synchronization
URLs:

<http://URN.fi/URN:ISBN:978-952-15-3530-7>

Bibliographical note

AUX=iha,"Rajapolvi, Kimmo"

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific

Long-term monitoring of acute wound healing from beneath the primary wound dressings

Our group has developed a quasimonopolar bioimpedance measurement-based method and a measurement system to determine the status of wound healing. So far, we have shown that the bioimpedance method is a prospective tool for assessment of wound healing by monitoring the healing of both acute wounds and venous ulcers at discrete time points. The objective of this study was to demonstrate that the method is capable for monitoring wound healing also long-term while the wound is covered by the primary dressings. For this purpose we arranged a follow-up study of a single acute wound. The purpose-built multi-electrode dressing was applied on the wound and left under the primary dressings until the complete re-epithelization was achieved. The bioimpedance of the wound and surrounding skin area was measured regularly during a 120 hours study. Based on the results, we can confirm that the method applies for long-term monitoring of acute wound healing without necessity to remove the primary dressings.

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Faculty of Biomedical Sciences and Engineering, Research group: Physiological Measurement Systems and Methods Group, BioMediTech, CutoSense Ltd.

Contributors: Kekonen, A., Bergelin, M., Eriksson, J., Vesa, M., Johansson, M., Viik, J.

Number of pages: 4

Publication date: Oct 2018

Host publication information

Title of host publication: 2018 16th Biennial Baltic Electronics Conference (BEC)

Publisher: IEEE

ISBN (Print): 978-1-5386-7313-3

ISBN (Electronic): 978-1-5386-7312-6

Keywords: Electrodes, Wounds, Impedance, Skin, Biomedical measurement, Monitoring, Bioimpedance, bioimpedance beneath dressing, healing, longterm wound monitoring, multi-electrode

DOIs:

10.1109/BEC.2018.8600956

Source: Bibtex

Source ID: urn:054660b869151d1efd2f9613e80b4431

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

Long-term effects of purchasing: fact or fiction?

Long-term approach to evaluate the performance of purchasing over its entire life-cycle is challenging. It is especially hard to determine the relationship between the early purchasing actions and the long-term consequences of acquiring complex product-service combinations with a long life-cycle. We carried out an interview study with four companies to explore how the long-term purchasing perspective is perceived in different business environments. The results indicate that practices to create long-term consequences of purchasing activities take many different forms. The study highlights practices of the

purchasing function when aiming at creating long-term effects of purchasing.

General information

Publication status: Published

MoE publication type: D3 Professional conference proceedings

Organisations: Department of Industrial Management, Research group: Center for Research on Operations Projects and Services

Contributors: Heikkilä, J., Jääskeläinen, A., Thitz, O.

Publication date: 2016

Host publication information

Title of host publication: Proceedings of 25th IPSERA 2016 conference, 20-23.3.2016, Dortmund, Germany.

Publisher: International Purchasing and Supply Education and Research Association IPSERA

Electronic versions:

paper 102

URLs:

<http://urn.fi/URN:NBN:fi:tty-201708211694>

URLs:

<http://www.ipsera2016.lfo.tu-dortmund.de/welcome-to-ipsera-2016/> (Link to conference web-page)

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Professional

Local narratives in the long term water conflicts: Case of Turku Region in Finland

General information

Publication status: Published

MoE publication type: A2 Review article in a scientific journal

Organisations: Civil Engineering

Contributors: Juuti, P. S., Kurki, V., Rajala, R.

Pages: 39-49

Publication date: May 2017

Peer-reviewed: Yes

Publication information

Journal: Ympäristöhistoria: Finnish Journal of Environmental History

Volume: 2017

Issue number: 1

ISSN (Print): 1799-6953

Original language: English

URLs:

http://www.uta.fi/yky/tutkimus/historia/projektit/iehg/Ymparistohistoria/2017_1.html

Research output: Contribution to journal › Review Article › Scientific › peer-review

Linear and nonlinear light beam propagation in chiral nematic liquid crystal waveguides

We employ a thick layer of chiral nematic liquid crystals to demonstrate the evolution of a one-dimensional (1D) higher-order guided mode into a beam self-confined in both transverse dimensions at various wavelengths. We also report the experimental observation of higher-order modes guided by soliton-induced waveguides in chiral nematic liquid crystals.

General information

Publication status: Published

MoE publication type: A1 Journal article-refereed

Organisations: Department of Physics, Politechnika Warszawska, University of Warsaw, Aerosol Physics Laboratory, Nonlinear Optics and OptoElectronics Lab, University "Roma Tre"

Contributors: Laudyn, U. A., Kwaśny, M., Jung, P. S., Trippenbach, M., Assanto, G., Karpierz, M. A.

Number of pages: 3

Pages: 11-13

Publication date: 2016

Peer-reviewed: Yes

Publication information

Journal: Photonics Letters of Poland

Volume: 8

Issue number: 1

ISSN (Print): 2080-2242

Ratings:

Scopus rating (2016): CiteScore 0.9 SJR 0.197 SNIP 0.272
Original language: English
ASJC Scopus subject areas: Electronic, Optical and Magnetic Materials
Electronic versions:
Linear and nonlinear light beam propagation in chiral nematic liquid crystal waveguides
DOIs:
10.4302/plp.2016.1.05
URLs:
<http://urn.fi/URN:NBN:fi:tty-201604253878>
Source: Scopus
Source ID: 84962158419
Research output: Contribution to journal › Article › Scientific › peer-review

Liite 6: Yleistä kaivannaisjätealueista ja patoturvallisuudesta

General information

Publication status: Published
MoE publication type: D2 Article in professional manuals or guides or professional information systems or text book material
Organisations: Department of Civil Engineering, Research group: Earth Constructions
Contributors: Leppänen, M., Välisalo, T. (ed.), Laasonen, J.
Publication date: 2014

Host publication information

Title of host publication: Kaivosten stressitesti 2013
Publisher: Ympäristöministeriö
ISBN (Electronic): 978-952-11-4269-7

Publication series

Name: Ympäristöministeriön raportteja
URLs:
http://www.ym.fi/fi-FI/Ajankohtaista/Julkaisut/YMra_22014_Kaivosten_stressitestit_2013%2828221%29
Research output: Chapter in Book/Report/Conference proceeding › Chapter › Professional

Liikuntapalveluiden ulkoistaminen ja palveluiden turvallisuus. Nykytilanne ja kuntien kokemukset – Loppuraportti

General information

Publication status: Published
MoE publication type: D4 Published development or research report or study
Organisations: Department of Industrial Management, Research group: Safety Management and Engineering
Contributors: Hyytinen, T., Kivistö-Rahnasto, J.
Number of pages: 27
Publication date: 2015

Publication information

Place of publication: Helsinki
Publisher: OPETUS- JA KULTTUURIMINISTERIÖ
ISBN (Electronic): 978-952-263-342-2
Original language: Finnish

Publication series

Name: Opetus- ja kulttuuriministeriön julkaisuja
ISSN (Electronic): 1799-0351
URLs:
<http://www.minedu.fi/export/sites/default/OPM/Julkaisut/2015/liitteet/okm9.pdf?lang=fi>
Research output: Book/Report › Commissioned report › Professional

Liikenteen päästövähennykset - kaikki keinot käyttöön

General information

Publication status: Published
MoE publication type: D1 Article in a trade journal
Organisations: Civil Engineering, Research group: Transport Research Centre Verne

Contributors: Liimatainen, H.
Number of pages: 4
Pages: 28-31
Publication date: 23 Mar 2020
Peer-reviewed: Unknown

Publication information

Journal: Rakennustekniikka
Volume: 76
Issue number: 1
ISSN (Print): 0033-913X
Original language: Finnish
URLs:

https://www.ril.fi/media/2020/rakennustekniikka/rt_1-2020_verkko.pdf

Research output: Contribution to journal › Article › Professional

Lifecycle-oriented framing of value at the front end of infrastructure projects

Infrastructure projects are expected to deliver value to their stakeholders long after their completion. Project value is multi-dimensional and subjective and evolves over the project lifecycle. The framing of the expected value by stakeholders is central to the public debate about proposed infrastructure projects and influences the financing decisions, however this framing is inadequately understood. The objective is to develop new knowledge on the ways in which stakeholders frame project lifecycle value at the front end of infrastructure projects. We compare two transport infrastructure projects in a qualitative, document-based study, map their dimensions of value at the project front end, and identify their approaches to lifecycle-oriented framing of value. The results reveal the dominance of financial, social and comparative value in the project front end, and identify four core themes in the lifecycle-oriented framing of value, including uncertainties, timing of cost and benefit realization, project relations, and external sponsorship.

General information

Publication status: Published
MoE publication type: A4 Article in a conference publication
Organisations: Industrial and Information Management, Research group: Center for Research on Operations Projects and Services, University of Technology Sydney (UTS)
Contributors: Martinsuo, M., Vuorinen, L., Killen, C., Laiti, M.
Number of pages: 36
Publication date: Jun 2018

Host publication information

Title of host publication: Proceedings of EURAM18 European Academy of Management conference 2018
Publisher: European Academy of Management, EURAM
ISBN (Electronic): 978-2-9602195-0-0

Publication series

Name: EURAM conference
ISSN (Print): 2466-7498
Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Life-Cycle Economics of Rentable Prefabricated School Facility Units in Municipal Real Estate Procurement

General information

Publication status: Published
MoE publication type: A4 Article in a conference publication
Organisations: Department of Civil Engineering, Research group: Real estate development, Research group: Service Life Engineering of Structures, School of Architecture
Contributors: Vihola, J., Edelman, H.
Number of pages: 12
Pages: 76-87
Publication date: 27 May 2016

Host publication information

Title of host publication: Proceedings of the CIB World Building Congress 2016: Volume V : Advancing Products and Services
Publisher: Tampere University of Technology. Department of Civil Engineering
ISBN (Electronic): 978-952-15-3745-5
Keywords: Prefabricated spatial units, public real estate procurement, school facilities, municipal economics, life-cycle economics

Electronic versions:

Full Paper

URLs:

<http://urn.fi/URN:NBN:fi:tty-201606224311>

URLs:

<http://www.wbc16.com/wbc16/welcome.html> (CIB World Building Congress 2016 : Volume V Advancing Products and Services)

https://tutcris.tut.fi/admin/files/6334504/WBC16_vihola.pdf (CIB World Building Congress 2016 : Volume V Advancing Products and Services)

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Life Beyond the Binary Code: Select Prose and Poetry

This is a collection of fourteen short stories and five poems from the first-ever creative writing course offered at the Language Center at Tampere University of Technology. Thematically varied, the writings range in humor, irony, wit, and compassion from high adventure to human oddity to drama, conflict and their resolution. Imaginative and well crafted, the collection testifies to the writers' enthusiasm, creativity, and commitment to learning the necessary expressive skills.

General information

Publication status: Published

MoE publication type: D4 Published development or research report or study

Organisations: Language Centre

Contributors: Lepistö, T. (ed.)

Number of pages: 79

Publication date: 2014

Publication information

Publisher: Tampere University of Technology, Language Center

ISBN (Print): 978-952-15-3290-0

ISBN (Electronic): 978-952-15-3291-7

Original language: English

Electronic versions:

[life_beyond_the_binary_code](#)

URLs:

<http://URN.fi/URN:ISBN:978-952-15-3291-7>

Bibliographical note

Versio ok 16.12.2015

Research output: Book/Report › Commissioned report › Professional

Leveraging concepts for environmentally sustainable business management in construction - a focused review

The main objective of this paper is to advance applied conceptual knowledge about environmentally sustainable business management (BM) in construction. Environmentally sustainable BM is herein defined to encompass the utilization and development of natural resources in ways which are compatible with the maintenance of these resources, and with the conservation of the natural and built environments, for current and future generations. In principle, concept designers can incorporate environmental sustainability into their BM concepts as a dimension, an element, or an attribute of managing, or as a criterion in decision making. Readily, the 71 construction-related BM concepts have been published between 1990 and 2013. A focused review resulted in the expected findings, i.e., only the 11 (15%) construction-related BM concepts have been designed along the environmental sustainability dimension. Thus, it is posited that high-sustainability BM concepts be designed by coupling environmental sustainability with the three other necessary dimensions, i.e., content-free frames of reference on BM, schools of thought on generic BM, and focal contexts in construction, respectively. In turn, CIB-related researchers may adopt these couplings and engage themselves with cross-disciplinary BM conceptualization programs in collaboration with farsighted business managers in construction.

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Department of Civil Engineering, Research group: Digitalization in the real estate and construction sector

Contributors: Huovinen, P.

Number of pages: 11

Pages: 286-296

Publication date: 2015

Host publication information

Title of host publication: CIB Proceedings 2015 : Going North for Sustainability: Leveraging Knowledge and Innovation for Sustainable Construction and Development

Place of publication: London, UK

Publisher: IBEA Publications Ltd

Editor: Egbu , C.

ISBN (Print): 978-1-326-47951-0

ASJC Scopus subject areas: Building and Construction

Keywords: business management, concept design, construction, environmental sustainability, research review

Electronic versions:

CIB 2015 Huovinen Pekka Leveraging environmentally sustainable BM concepts 121115

URLs:

<http://urn.fi/URN:NBN:fi:tty-201701101042>

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Lessons for data-based value creation

General information

Publication status: Published

MoE publication type: B3 Non-refereed article in conference proceedings

Organisations: Industrial and Information Management, Research group: Business Data Research Group, Research group: Knowledge and Learning Research Center

Contributors: Myllärniemi, J., Pekkola, S., Helander, N.

Number of pages: 10

Pages: 398-407

Publication date: 7 Jun 2017

Host publication information

Title of host publication: 12th International Forum on Knowledge Asset Dynamics, IFKAD 2017

ISBN (Print): 978-88-96687-10-9

Publication series

Name: Proceedings IFKAD

ISSN (Print): 2280-787X

URLs:

<https://www.ifkad.org/previous-editions/ifkad-2017/>

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific

Learning Maths with mobiles: Cross-cultural design of technology with experiences in South-Africa and Finland

This chapter presents an overview of our experiences on cross-cultural design of technology in the context of mobile learning focusing on supporting learners to study mathematics in two different countries. The aim of our study is to discuss design issues from the perspective of two different types of cultures and reflect culturally sensitive issues based on a longitudinal study, which included empirical data from altogether over 3500 learners of grades 9 and 10. As a result we outline two focus areas: content and concept for best design practices. Furthermore, we argue that cross-cultural design of technology can help to identify culturally sensitive areas such as attitudes towards informal and collaborative learning and recognizing the local context for the content. Cross-cultural design of technology supports development of good user experience of mobile learning services for different local learning contexts.

General information

Publication status: Published

MoE publication type: A3 Part of a book or another research book

Organisations: Pervasive Computing

Contributors: Vainio, T., Walsh, T.

Number of pages: 19

Pages: 741-759

Publication date: 18 Aug 2016

Host publication information

Title of host publication: Blended Learning: Concepts, Methodologies, Tools, and Applications

Volume: 4

Publisher: IGI Global

ISBN (Print): 9781522507833

ISBN (Electronic): 9781522507840

ASJC Scopus subject areas: Social Sciences(all), Computer Science(all)

DOIs:

10.4018/978-1-5225-0783-3.ch037

Bibliographical note

EXT="Vainio, Teija"

Source: Scopus

Source ID: 85016852656

Research output: Chapter in Book/Report/Conference proceeding › Chapter › Scientific › peer-review

Learning maths with mobiles: Cross-cultural design of technology with experiences in South-Africa and Finland

This chapter presents an overview of our experiences on cross-cultural design of technology in the context of mobile learning focusing on supporting learners to study mathematics in two different countries. The aim of our study is to discuss design issues from the perspective of two different types of cultures and reflect culturally sensitive issues based on a longitudinal study, which included empirical data from altogether over 3500 learners of grades 9 and 10. As a result we outline two focus areas: content and concept for best design practices. Furthermore, we argue that cross-cultural design of technology can help to identify culturally sensitive areas such as attitudes towards informal and collaborative learning and recognizing the local context for the content. Cross-cultural design of technology supports development of good user experience of mobile learning services for different local learning contexts.

General information

Publication status: Published

MoE publication type: A3 Part of a book or another research book

Organisations: Department of Pervasive Computing, Research area: User experience

Contributors: Vainio, T., Walsh, T.

Number of pages: 18

Pages: 79-96

Publication date: 13 Jul 2015

Host publication information

Title of host publication: Integrating Touch-Enabled and Mobile Devices into Contemporary Mathematics Education

Publisher: IGI Global

ISBN (Print): 9781466687158

ISBN (Electronic): 9781466687141

ASJC Scopus subject areas: Social Sciences(all)

DOIs:

10.4018/978-1-4666-8714-1.ch004

Bibliographical note

EXT="Vainio, Teija"

Source: Scopus

Source ID: 84957956201

Research output: Chapter in Book/Report/Conference proceeding › Chapter › Scientific › peer-review

Learning for sustainable water and sanitation services

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Department of Chemistry and Bioengineering

Contributors: Takala, A.

Pages: 250-258

Publication date: 2016

Host publication information

Title of host publication: Proceedings of the 8th International Conference on Engineering Education for Sustainable Development (Bruges, 4-7 September 2016) : Building a circular economy together

Place of publication: Brugge

Publisher: Instituut vóór Duurzaam Ontwikkeling vzw

Editor: Mazijn, B.

Article number: D.3.2

ISBN (Electronic): 978-90-903-0131-0

URLs:

http://instituutvoorduurzameontwikkeling.be/fileadmin/user_upload/eesd2016_proceedings.pdf

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Lean-tuotanto ja sen johtaminen: onnistuminen, haasteet ja soveltuminen Suomen yrityksiin ja muihin organisaatioihin

The so-called Lean development methods are today commonly used in many types of workplaces. Many good success stories are reported but Lean-projects and the tools used in them do not always bring the desired results. The central idea in Lean thinking is the distinction of two types of efficiencies; resource efficiency and flow efficiency. Lean production systems aim at high flow efficiency but achieving it requires high resource flexibility and understanding of the uncertainty inherent in the production system. Lean-management is often related to certain methods and techniques, but they do not alone bring improvement without a holistic managerial philosophy that supports improvement on several levels of the organization's activities. Successful application of Lean management implies strategic choices and long-term commitment to organizational learning and development. The popularity of Lean management in Finnish organizations indicates that there is generally room for improvement in the organizations' operational activities. Lean management provides a structured model for development. It can bring successful results if implemented holistically and with a long-term commitment.

General information

Publication status: Published

MoE publication type: A1 Journal article-refereed

Organisations: Department of Industrial Management, Research group: Center for Research on Operations Projects and Services

Contributors: Heikkilä, J., Martinsuo, M.

Number of pages: 7

Pages: 18-24

Publication date: 2015

Peer-reviewed: Yes

Publication information

Journal: Työpoliittinen aikakauskirja

Issue number: 3

ISSN (Print): 0787-510X

Original language: Finnish

URLs:

<http://www.tem.fi/files/43902/tak32015.pdf>

Research output: Contribution to journal > Article > Scientific > peer-review

Lean Software Design, Lean Education? Lessons from a Collaborative University-Industry Seminar

In a rapidly developing field like software engineering, what is taught at the universities can fall behind from what is the status quo in the industry. Particularly in the professional activities related to user experience (UX) design, the students should gain experience in wide diversity of practical skills, ranging from fluent interaction with the customer and empathizing with the end users to creatively solving ill-defined problems and rapid prototyping. Even though the problem-based learning approach, hackathons, and other types of hands-on activities have become increasingly common in universities, educating user experience professionals demands specific practices.

This paper presents a case study of collaborative teaching (Design Weekend) between a university and industry, focusing on learning from the practices in the industry in an authentic project context. Design Weekend was an intensive 2-day hands-on seminar in which groups of students closely followed a Lean methodology that the collaborating digital agency has iteratively developed. The goals of the seminar were to provide a possibility for more hands-on learning of Lean and Design Thinking, including a customer organization with an authentic case, and to explore how well this kind of industry-oriented approach would fit in the curriculum of master and doctoral programs on UX.

The learning students' post-hoc learning diaries bring up rich insights about what was learned (ranging from personal development needs to various collaboration aspects and methodological insights) and how they perceive the applicability of the used methodology. The assessments of the seminar demonstrate interesting benefits compared to traditional project- and problem-based learning, such as realism and active customer involvement. Overall, based on this case study and subjective evaluations of the seminar, our teaching exploration can be concluded to show much promise. We report the students' and teachers' perceived benefits as well as important aspects to consider in future implementations of similar seminars.

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Department of Pervasive Computing, Research area: User experience, Futurice Ltd., Pelastakaa Lapset ry - Save the Children Finland

Contributors: Olsson, T., Väättäjä, H., Ihamäki, H., Jaana, O., Länsisalo, M., Veera, U., Lehto-Lunden, T.

Publication date: 2016

Host publication information

Title of host publication: SEFI'16 - 44th Annual Conference of the European Society for Engineering Education
Publisher: European Society for Engineering Education SEFI
ISBN (Electronic): 9782873520144
Keywords: Learning outside the classroom, Problem-based learning, Informal learning,, University-Industry collaboration,
, Problem-based learning
Electronic versions:
Olsson et al. SEFI 2016
URLs:
<http://urn.fi/URN:NBN:fi:tyy-201709151887>
http://sefibenvwh.cluster023.hosting.ovh.net/wp-content/uploads/2017/09/olsson-lean-software-design-lean-education-lessons-from-a-collaborative-university-industry-seminar-145_a.pdf
Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

Lean manufacturing methods in simulation literature: Review and association analysis

The lean manufacturing philosophy includes several methods that aim to remove waste from production. This paper studies lean manufacturing methods and how simulation is used to consider them. In order to do this, it reviews papers that study simulation together with lean methods. The papers that are reviewed are categorized according to the lean methods used and result types obtained. Analysis is performed in order to gain knowledge about the volumes of occurrence of different methods and result types. Typical methods in the papers are different types of value stream mapping and work-in-process models. An exploratory analysis is performed to reveal the relationships between the methods and result types. This is done using association analysis. It reveals the methods that are commonly studied together in the literature. The paper also lists research areas that are not considered in the literature. These areas are often related to the analysis of variation.

General information

Publication status: Published
MoE publication type: A4 Article in a conference publication
Organisations: Department of Mechanical Engineering and Industrial Systems, Research area: Manufacturing and Automation, Aalto University, Department of Engineering Design and Production
Contributors: Tokola, H., Niemi, E., Väistö, V.
Number of pages: 10
Pages: 2239-2248
Publication date: 16 Feb 2016

Host publication information

Title of host publication: 2015 Winter Simulation Conference (WSC)
ISBN (Print): 978-1-4673-9743-8
ASJC Scopus subject areas: Software, Modelling and Simulation, Computer Science Applications
DOIs:
[10.1109/WSC.2015.7408336](https://doi.org/10.1109/WSC.2015.7408336)

Bibliographical note

EXT="Niemi, Esko"
Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

Leadership instead of grading - The new goals of assessment

General information

Publication status: Published
MoE publication type: A4 Article in a conference publication
Organisations: Mechanical Engineering and Industrial Systems, Research area: Design, Development and LCM, MEI Laboratory, Ita-Suomen yliopisto
Contributors: Lehtonen, T., Juuti, T., Vanhatalo, M., Kopra, M. J., Rättyä, K.
Number of pages: 8
Publication date: 2016

Host publication information

Title of host publication: 44th Annual Conference of the European Society for Engineering Education - Engineering Education on Top of the World: Industry-University Cooperation, SEFI 2016
Publisher: European Society for Engineering Education SEFI
ISBN (Electronic): 9782873520144
ASJC Scopus subject areas: Engineering(all), Education
Keywords: Assessment, Lifelong learning, Situational leadership
URLs:

http://www.sefi.be/conference-2016/papers/Sustainability_and_Engineering_Education/lehtonen-from-grading-towards-leadership---new-goals-for-assessment-55_a.pdf

Source: Scopus

Source ID: 85014096858

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Lasitetun parvekkeen lämpötilan ja lämpöhäviöiden laskenta

General information

Publication status: Published

MoE publication type: B3 Non-refereed article in conference proceedings

Organisations: Department of Civil Engineering, Research group: Building Physics, Research group: Service Life Engineering of Structures

Contributors: Laukkarinen, A., Hilliaho, K.

Number of pages: 6

Pages: 181-186

Publication date: 20 Oct 2015

Host publication information

Title of host publication: Rakennusfysiikka 2015. Uusimmat tutkimustulokset ja hyvät käytännön ratkaisut. 20.-22.10.2015, Tampere

Publisher: Tampereen teknillinen yliopisto, rakennustekniikan laitos, rakennetekniikka

Editors: Vinha, J., Ruuska, T.

ISBN (Print): 978-952-15-3580-2

Publication series

Name: Rakennustekniikan laitos. Rakennetekniikka. Seminaarijulkaisu

No.: 4

ASJC Scopus subject areas: Building and Construction, Civil and Structural Engineering

URLs:

<http://www.ril.fi/media/files/koulutus/rakennusfysiikka-2015-cfp.pdf>

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific

Lasitettujen parvekkeiden ja terassien käyttäytyminen tulipaloissa

General information

Publication status: Published

MoE publication type: D1 Article in a trade journal

Organisations: Department of Civil Engineering, Research group: Service Life Engineering of Structures, Palotekninen insinööritoimisto Markku Kauriala Oy, Lumon Oy

Contributors: Hilliaho, K., Hietaniemi, J., Visa, P.

Number of pages: 6

Pages: 18-23

Publication date: 24 Aug 2015

Peer-reviewed: Unknown

Publication information

Journal: Palontorjuntatekniikka

Issue number: Erikoisnumero

Original language: Finnish

URLs:

http://issuu.com/pelastustieto/docs/ptp_2015

Research output: Contribution to journal › Article › Professional

Laser Scanning Tasks of Building Refurbishment Project

Laser scanning is quickly becoming a common and beneficial tool in the field of civil engineering. In refurbishment projects, fast data capture, millions of measurement points and high accuracy have marked laser scanners out from conventional measurements as a data acquisition method. By using laser scanning and point clouds in refurbishment projects multiple benefits could be achieved: reduction of mistakes in the design phase and on the building site, more realistic visualizations of existing buildings, and savings in time and costs. The utility of laser scanning and point clouds surfaces especially when renovating old complex buildings without accurate construction drawings, documents or measurements.

However, the process of the procurement of laser scanning is generally unclear and there is very little standardization and

regulation in the matter. The roles and assignments of every party in the process are obscure and the lack of knowledge about the use and the limits and the benefits of laser scanning in a building project can reduce clients' interest toward laser scanning.

This paper presents the different kinds of refurbishment project types where laser scanning has been used in Finland. The study represents the benefits, limits and challenges concerning laser scanning faced in these projects. The results of the study are based on the interviews of the organizations with experience in laser scanning in refurbishment projects. The study reveals that laser scanning is considered a valid and accurate method for data acquisition in refurbishment projects and it has been used also for visualization, piecework, quantity surveying and detail measuring and observing. However, there have been challenges especially with laser scanning operations in buildings in use, on the technical determination of laser scanning and during and after the process from a point cloud into an inventory model.

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Civil Engineering, Research group: Responsible Construction

Contributors: Uotila, U., Saari, A., Junnonen, J.

Publication date: 2018

Host publication information

Title of host publication: Proceedings of the 17th International Conference on Computing in Civil and Building Engineering (ICCCBE)

ISBN (Print): 978-951-758-632-0

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

Large mode area double clad ytterbium tapered fiber with circular birefringency

We demonstrated, for the first time to our best knowledge, an active tapered double clad fiber with circular birefringence and 35 μm core diameter. The output radiation had perfect beam quality ($M^2=1.18/1.1$) and linearly polarized light with 15 dB of PER. The developed double clad active fiber was investigated for amplification of picosecond pulses in allfiber MOPA system. The MOPA system delivered 50 ps pulses with 55 W of the average power revealed 34.4 dB gain of the booster amplifier.

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Physics, Research group: Nanophotonics, Tampere University, Ampliconix Ltd, Kotel'nikov Institute of Radio Engineering and Electronics

Contributors: Rissanen, J., Fedotov, A., Noronen, T., Gumenyuk, R., Chamorovskii, Y., Kolosovskii, A., Voloshin, V., Vorobev, I., Odnoblyudov, M., Filippov, V.

Number of pages: 8

Publication date: 7 Mar 2019

Host publication information

Title of host publication: Proceedings of SPIE : Fiber Lasers XVI: Technology and Systems

Publisher: SPIE-INT SOC OPTICAL ENGINEERING

Editors: Carter, A. L., Dong, L.

Publication series

Name: Proceedings of SPIE

Publisher: SPIE

Volume: 10897

ISSN (Print): 0277-786X

Keywords: polarization, ytterbium, picosecond phenomena, birefringence, fiber amplifier, fiber laser

Electronic versions:

Large mode area double clad ytterbium tapered fiber with circular birefringency

DOIs:

10.1117/12.2508811

URLs:

<http://urn.fi/URN:NBN:fi:tyy-201903291360>

Bibliographical note

jufoid=71479

EXT="Noronen, Teppo"

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific > peer-review

Lahdelma & Mahlamäki Architects: Works

General information

Publication status: Published

MoE publication type: D5 Text book, professional manual or guide or a dictionary

Organisations: School of Architecture, Research group: Architecture: History, Theory and Innovations

Contributors: Lahdelma, I.

Number of pages: 152

Publication date: 2014

Publication information

Publisher: Rakennustieto

ISBN (Print): 978-952-267-071-7

Original language: English

Research output: Book/Report > Book > Professional

Laastin ja betonin lämmönjohtavuuden ja ominaislämpökapasiteetin määrittäminen lämpövirtalevyllä

General information

Publication status: Published

MoE publication type: B3 Non-refereed article in conference proceedings

Organisations: Department of Civil Engineering, Research group: Building Physics

Contributors: Ruuska, T., Vinha, J.

Number of pages: 6

Pages: 227-232

Publication date: 20 Oct 2015

Host publication information

Title of host publication: Rakennusfysiikka 2015. Uusimmat tutkimustulokset ja hyvät käytännön ratkaisut. 20.-22.10.2015, Tampere

Place of publication: Tampere

Publisher: Tampereen teknillinen yliopisto, rakennustekniikan laitos, rakennetekniikka

Editors: Vinha, J., Ruuska, T.

ISBN (Print): 978-952-15-3580-2

Keywords: Double skin facade, Energy efficiency, New renovation concepts, Innovative HVAC, Earth to air heat exchanger

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific

Laastien vedenimukertoimen määrittämisen virhelähdekokeet

General information

Publication status: Published

MoE publication type: B3 Non-refereed article in conference proceedings

Organisations: Department of Civil Engineering

Contributors: Tuominen, E., Vinha, J.

Number of pages: 6

Pages: 239-244

Publication date: 20 Oct 2015

Host publication information

Title of host publication: Rakennusfysiikka 2015. Uusimmat tutkimustulokset ja hyvät käytännön ratkaisut. 20.-22.10.2015, Tampere

Place of publication: Tampere

Publisher: Tampereen teknillinen yliopisto, rakennustekniikan laitos, rakennetekniikka

Editors: Vinha, J., Ruuska, T.

ISBN (Print): 978-952-15-3580-2

Keywords: Double skin facade, Energy efficiency, New renovation concepts, Innovative HVAC, Earth to air heat exchanger

Bibliographical note

AUX=rak,"Tuominen, Eero"

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific

Kustannusoptimaaliset energiakorjaus- ja uusiutuvan energian tuotannon ratkaisut kunnallisissa palvelurakennuksissa

General information

Publication status: Published

MoE publication type: B3 Non-refereed article in conference proceedings

Organisations: Civil Engineering, Research group: Building Physics, Aalto Univ, Aalto University, Sch Engrn, Dept Energy Technol, Equa Simulation Finland Oy

Contributors: Jokisalo, J., Sankelo, P., Sirén, K., Vinha, J.

Number of pages: 6

Pages: 287-292

Publication date: 24 Oct 2017

Host publication information

Title of host publication: Rakennusfysiikka 2017. Uusimmat tutkimustulokset ja hyvät käytännön ratkaisut : 24.-26.10.2017, Tampere

Volume: 1

Place of publication: Tampere

Publisher: Tampereen teknillinen yliopisto, Rakennustekniikka, Rakennusfysiikka

Editors: Vinha, J., Kivioja, H.

ISBN (Print): 978-952-15-4022-6

ASJC Scopus subject areas: Engineering(all), Energy(all)

URLs:

http://www.tut.fi/cs/groups/public_news/@l102/@web/@p/documents/liit/x229238.pdf

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific

Kuorielementtien kuivumisen mallintaminen hydrataation huomioivalla FEM-laskennalla

General information

Publication status: Published

MoE publication type: B3 Non-refereed article in conference proceedings

Organisations: Civil Engineering, Research group: Building Physics, Laboratory of Civil Engineering

Contributors: Sekki, P., Korhonen, L., Vinha, J.

Number of pages: 7

Pages: 399-405

Publication date: 24 Oct 2017

Host publication information

Title of host publication: Rakennusfysiikka 2017. Uusimmat tutkimustulokset ja hyvät käytännön ratkaisut : 24.-26.10.2017, Tampere

Volume: 2

Place of publication: Tampere

Publisher: Tampereen teknillinen yliopisto, Rakennustekniikka, Rakennusfysiikka

Editors: Vinha, J., Kivioja, H.

ISBN (Print): 978-952-15-4023-3

Publication series

Name: Tampereen teknillinen yliopisto. Rakennustekniikka. Rakennusfysiikka.

ASJC Scopus subject areas: Engineering(all)

Bibliographical note

INT=RAK, "Korhonen, Lauri"

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific

Koulujen ja päiväkotien laskettu ja toteutunut energiankulutus

General information

Publication status: Published

MoE publication type: B3 Non-refereed article in conference proceedings

Organisations: Civil Engineering, Research group: Building Physics

Contributors: Ruusala, A., Vinha, J.

Number of pages: 8

Pages: 267-274

Publication date: 24 Oct 2017

Host publication information

Title of host publication: Rakennusfysiikka 2017. Uusimmat tutkimustulokset ja hyvät käytännön ratkaisut : 24.-26.10.2017, Tampere

Volume: 1

Place of publication: Tampere
Publisher: Tampereen teknillinen yliopisto, Rakennustekniikka, Rakennusfysiikka
Editors: Vinha, J., Kivioja, H.
ISBN (Print): 978-952-15-4022-6

Publication series

Name: Tampereen teknillinen yliopisto. Rakennustekniikka. Rakennusfysiikka.

ASJC Scopus subject areas: Engineering(all), Energy(all)

URLs:

http://www.tut.fi/cs/groups/public_news/@l102/@web/@p/documents/liit/x229241.pdf

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific

Koteja ja kokonaistaideteoksia

General information

Publication status: Published

MoE publication type: D1 Article in a trade journal

Organisations: School of Architecture, Research group: Urban Planning

Contributors: Chudoba, M.

Number of pages: 3

Pages: 76-78

Publication date: 2015

Peer-reviewed: Unknown

Publication information

Journal: Arkkitehti

Issue number: 3

ISSN (Print): 0783-3660

Original language: Finnish

Research output: Contribution to journal › Article › Professional

Kosteusvaurioiden vakavuus kuntien rakennuksissa

General information

Publication status: Published

MoE publication type: B3 Non-refereed article in conference proceedings

Organisations: Civil Engineering, Research group: Service Life Engineering of Structures, Research area: Structural Engineering, Research group: Building Physics

Contributors: Annala, P., Lahdensivu, J., Suonketo, J., Pentti, M., Laukkarinen, A., Vinha, J.

Number of pages: 6

Pages: 135-140

Publication date: 24 Oct 2017

Host publication information

Title of host publication: Rakennusfysiikka 2017. Uusimmat tutkimustulokset ja hyvät käytännön ratkaisut : 24.-26.10.2017, Tampere

Volume: 1

Place of publication: Tampere

Publisher: Tampereen teknillinen yliopisto, Rakennustekniikka, Rakennusfysiikka

Editors: Vinha, J., Kivioja, H.

ISBN (Print): 978-952-15-4022-6

Publication series

Name: Tampereen teknillinen yliopisto. Rakennustekniikka. Rakennusfysiikka.

ASJC Scopus subject areas: Civil and Structural Engineering, Building and Construction

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific

Kosteus- ja mikrobivaurioiden laajuus kuntien rakennuksissa

General information

Publication status: Published

MoE publication type: B3 Non-refereed article in conference proceedings

Organisations: Department of Civil Engineering, Research group: Service Life Engineering of Structures, Research area: Structural Engineering

Contributors: Annila, P., Hellemaa, M., Suonketo, J., Pentti, M.
Number of pages: 6
Pages: 95-100
Publication date: 11 Mar 2015

Host publication information

Title of host publication: Sisäilmastoseminaari 2015 SIY Raportti 33, Messukeskus, Helsinki 11.3.2015
Place of publication: Juva
Editors: Säteri, J., Ahola, M.
ISBN (Print): 978-952-5236-43-9

Publication series

Name: SIY Raportti
Volume: 33

Bibliographical note

AUX=rak,"Hellemaa, Matti"

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific

Kolloidisten suspensioiden online -analysointi: tutkimuksesta liiketoimintaa

General information

Publication status: Published
MoE publication type: D1 Article in a trade journal
Organisations: Department of Materials Science, Research group: Ceramic materials, Department of Automation Science and Engineering, Research area: Measurement Technology and Process Control, Research area: Microsystems, Research area: Dynamic Systems
Contributors: Järveläinen, M., Yli-Hallila, T., Salpavaara, T., Verho, J., Vilkkö, M., Levänen, E.
Number of pages: 4
Pages: 54-57
Publication date: Oct 2015
Peer-reviewed: Unknown

Publication information

Journal: Materia
Issue number: 5/2015
ISSN (Print): 1459-9694
Original language: Finnish
Electronic versions:
Materia 5-2015_kolloidisten
URLs:
<http://urn.fi/URN:NBN:fi:tyy-201705191418>
<http://www.vuorimiesyhdistys.fi/sites/default/files/materia/pdf/Materia%205-2015.pdf>

Bibliographical note

ORG=mol,0.5
ORG=ase,0.5
Research output: Contribution to journal › Article › Professional

Koko Julkisivua peittävän lasijulkisivun vaikutus Etelä-Ruotsissa sijaitsevan rakennuksen energiatehokkuuteen

Article discuss the effect of the added façade glazing on the building energy consumption in one case building in Malmö, Sweden

General information

Publication status: Published
MoE publication type: B3 Non-refereed article in conference proceedings
Organisations: Department of Civil Engineering, Research group: Service Life Engineering of Structures, Lund University
Contributors: Hilliaho, K., Nordquist, B., Wallentén, P.
Number of pages: 8
Pages: 509-516
Publication date: 20 Oct 2015

Host publication information

Title of host publication: Rakennusfysiikka 2015. Uusimmat tutkimustulokset ja hyvät käytännön ratkaisut. 20.-22.10.2015, Tampere

Place of publication: Tampere
Publisher: Tampereen teknillinen yliopisto, rakennustekniikan laitos, rakennetekniikka
Editors: Vinha, J., Ruuska, T.
ISBN (Print): 978-952-15-3580-2

Publication series

Name: Rakennustekniikan laitos. Rakennetekniikka. Seminaarijulkaisu 4
No.: 4

ASJC Scopus subject areas: Civil and Structural Engineering, Building and Construction

Keywords: Double skin facade, Energy efficiency, New renovation concepts, Innovative HVAC, Earth to air heat exchanger

URLs:

<http://www.ril.fi/media/files/koulutus/rakennusfysiikka-2015-cfp.pdf>

<http://www.tut.fi/cs/groups/public/@!912/@web/@p/documents/liit/x124266.pdf>

Research output: Chapter in Book/Report/Conference proceeding > Conference contribution > Scientific

Kohti tasapuolisempaa tutkimuksen arviointia: Pääkirjoitus

General information

Publication status: Published

MoE publication type: A1 Journal article-refereed

Organisations: Department of Civil Engineering

Contributors: Katko, T. S.

Number of pages: 2

Pages: 4-5

Publication date: 2015

Peer-reviewed: Yes

Publication information

Journal: Ympäristöhistoria: Finnish Journal of Environmental History

Volume: 5

Issue number: 1

ISSN (Print): 1799-6953

Original language: Finnish

URLs:

http://www.uta.fi/yky/tutkimus/historia/projektit/iehg/Ymparistohistoria/No1_2015.html

Research output: Contribution to journal > Article > Scientific > peer-review

Kohti kestäväää Skanssia

General information

Publication status: Published

MoE publication type: D4 Published development or research report or study

Organisations: School of Architecture

Contributors: Laak, M. (ed.), Del Barrio Batista, J. (ed.)

Number of pages: 87

Publication date: 2014

Publication information

Publisher: Tampereen teknillinen yliopisto. Arkkitehtuurin laitos

ISBN (Print): 978-952-15-3248-1

ISBN (Electronic): 978-952-15-3249-8

Original language: Finnish

Electronic versions:

kohti_kestavaa_skanssia

URLs:

<http://URN.fi/URN:ISBN:978-952-15-3249-8>

Bibliographical note

Versio ok 14.12.2015

Research output: Book/Report > Commissioned report > Professional

Knowledge transfer and work productivity

General information

Publication status: Published

MoE publication type: B3 Non-refereed article in conference proceedings

Organisations: Industrial and Information Management, Research group: Knowledge and Learning Research Center

Contributors: Palvalin, M., Vuori, V., Helander, N.

Number of pages: 15

Pages: 1120-1134

Publication date: 15 Jun 2017

Host publication information

Title of host publication: Proceedings of 12th International Forum on Knowledge Asset Dynamics : St. Petersburg, Russia 7-9 June 2017

Editors: Spender, J., Schiuma, G., Gavrilova, T.

ISBN (Electronic): 978-88-96687-10-9

Publication series

Name: Proceedings IFKAD

ISSN (Print): 2280-787X

URLs:

<http://www.ifkad.org/>

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific

Knowledge sharing in knowledge collectivity: case digitalization in industrial network

Knowledge sharing (KS) in the inter-organizational setting is not widely researched area. However, in temporary organizations such as projects, sharing expert knowledge is essential and may take place in knowledge collectivities, i.e., Collectivities of Practices (CIP). Due to CIPs' often temporary nature, time and socialization are lacking, thus efficient KS practices are required. The complexity of projects may also necessitate CIPs to cross organization boundaries, forming inter-organizational CIPs, IO-CIPs. Therefore, a better understanding of intra-organizational practices overlapping inter-organizational KS is called for. This paper contemplates on who should participate and how the process of boundary spanning KS should be put into practice in IO-CIP context. We present a case of a network-dependent focal company aiming to form a new digitalization strategy, which requires boundary-spanning knowledge management (KM) approaches. We concentrate both on intra- and inter-organizational steps needed for developing a digitalization roadmap eventually encompassing the whole network. Based on case observations we conclude that KS in industrial IO-CIP context involves multiple internal and external stakeholders, which also play facilitating roles in KS process. The results also reveal that it is possible to achieve KS in a larger group with a stepwise, well-facilitated and goal-oriented approach that involves experts into practices gradually. Additionally, complex phenomena in industrial networks, such as digitalization, requires other processes of KM besides KS: knowledge transfer for explicit knowledge and knowledge creation at the network level, too. Thus, in IO-CIP setting, KM processes of the company and network should be approached holistically, aiming at an overall view. The results shed light on KS in inter-organizational setting, particularly the overlap between intra-organizational practices and inter-organizational KS within knowledge collectivities. We contribute to boundary spanning inter-organizational KS by adding a description of the KS practices in CIPs, which is based on the theory of social constructivism of knowledge, and expand the viewpoint of the CIP-concept also towards inter-organizational setting.

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Research group: Business Ecosystems, Networks and Innovations, Industrial and Information Management

Contributors: Suominen, A. H., Mäenpää, S.

Number of pages: 8

Pages: 956-963

Publication date: 7 Sep 2017

Host publication information

Title of host publication: Proceedings of the 18th European Conference on Knowledge Management ECKM 2017 : 7-8 September 2017, Barcelona, Spain

Publisher: Academic Conferences and Publishing International

Editors: Marimon, F., Mas-Machuca, M., Berbegal-Mirabent, J., Bastida, R.

ISBN (Print): 978-1-911218-48-7

ISBN (Electronic): 978-1-911218-49-4

ASJC Scopus subject areas: Business, Management and Accounting(all)

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Knowledge management practices to overcome network-level knowledge barriers: an artificial intelligence powered literature review

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Information and Knowledge Management, Research group: Knowledge and Learning Research Center

Contributors: Vuori, V., Helander, N.

Publication date: Jun 2019

Host publication information

Title of host publication: Proceedings of International Forum on Knowledge Asset Dynamics 2019 : 5-7 June 2019, Matera, Italy

ISBN (Electronic): 978-88-96687-12-3

Publication series

Name: IFKAD Proceedings eBooks

ISSN (Electronic): 2280-787X

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Knowledge Management Practices in Large Companies

General information

Publication status: Published

MoE publication type: A1 Journal article-refereed

Organisations: Department of Information Management and Logistics, Research group: Novi, University of Vaasa

Contributors: Väyrynen, H., Helander, N., Kukko, M.

Number of pages: 17

Pages: 56-72

Publication date: 2014

Peer-reviewed: Yes

Early online date: 2014

Publication information

Journal: The Macrotheme Review

Volume: 3

Issue number: 9

Article number: 3(9)

ISSN (Print): 1848-4735

Original language: English

Keywords: Knowledge Management, practices, survey, large companies

Electronic versions:

Knowledge Management Practices in Large Companies_Author

URLs:

<http://urn.fi/URN:NBN:fi:tty-201604203832>

Bibliographical note

Versio ok 20.4.2016 /KK

EXT="Helander, Nina"

Research output: Contribution to journal › Article › Scientific › peer-review

Knowledge Management operationalization – how it differs in large enterprises and SMEs in Finland

Information and knowledge are essential resources for businesses to maintain their competitiveness and to constantly develop further. Knowledge Management (KM) enables companies to develop their activities by having the right information at the right time, as well as by offering the tools to manage the skills and knowledge of the personnel. The aim of this paper is to empirically analyze how KM is operationalized in large and small and medium sized companies in Finland, and furthermore, what kinds of challenges the companies face in KM operationalization. The empirical study was carried out in spring 2014 as a web-based questionnaire survey and structured interviews. Results of the study provide direction for the development directions of KM in Finnish companies.

General information

Publication status: Unpublished

MoE publication type: D3 Professional conference proceedings

Organisations: Department of Information Management and Logistics, Research group: Novi

Contributors: Väyrynen, H., Helander, N.

Number of pages: 27

Pages: 1-27

Publication date: Aug 2015

Host publication information

Title of host publication: 23rd Nordic Academy of Management Conference : NFF 2015

Publisher: Nordic Academy of Management

Keywords: Knowledge Management, survey, large and small and medium sized companies

Electronic versions:

NFF conference paper KM operationalization

URLs:

<http://urn.fi/URN:NBN:fi:tty-201605033933>

URLs:

<https://conference.cbs.dk/index.php/NFF2015/NFF2015/schedConf/overview>

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Professional

Knowledge Management and Emerging Collaborative Networks in Tourism Business Ecosystems

If we critically look at the evolution of the Tourism Industry (TI), we can note that, in the past decade, nothing has changed as much as ICTs and the Internet which caused an extensive transformation of the TI. Both demand and supply of ICT, together with innovation in transportation and international trade agreements, have evolved the tourism sector in operational workflows, management and marketing of new of tourism experiences. The massive use of new technologies has facilitated the rise of new flat organizational models where traditional brokers have disappeared, replaced by direct connections between local providers and tourists, or they have been reconfigured into new forms of dynamic and web-based tourism package providers. The depicted industry evolution shows potential, unthinkable just a few years ago, for local service providers usually marginalized from main tourism flows, due to their small sizes, and who are unable to compete in the globalized market. In many regions characterized by a niche tourism vocation, local tourism operators have started organizing themselves spontaneously in Collaborative Networks in order to create aggregate tourism offers that are able to compete with big tourism operators thus transforming regions with potential and vocation in real tourism destinations. The main socialeffect of instantiating these tourism partnerships, is the stimulus towards Tourism Business Ecosystems (TBEs) giving local tourism service providers a means for economic growth. The aim of this paper is to describe how the organizational paradigm of CNs, applied to the TBEs knowledge management and supported by ICTs, can be the key means for the growth of emerging TBEs. Such models are able to reengineer the tourism destination management model in order to gain much more flexibility in service provision and provide tourists the possibility to live an augmented tourism experience. In this paper we point out that tourism destinations, in an effort to give services able to actively support each phase of the 2.0 tourist lifecycle, can benefit from collaborative network models.

General information

Publication status: Published

MoE publication type: A4 Article in a conference publication

Organisations: Pori Department, Research group: Business Ecosystems, Networks and Innovations, Department of Information Management and Logistics, Research group: Novi, Managing digital industrial transformation (mDIT), University of Calabria

Contributors: Ammirato, S., Michele Felicetti, A., Della Gala, M., Aramo-Immonen, H., Jussila, J.

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Bibliographical note

ORG=pla,0.5

ORG=tlo,0.5

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Knowledge integration method development for multi-stakeholder innovation

General information

Publication status: Published

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Organisations: Pori Department, Research group: Business Ecosystems, Networks and Innovations

Contributors: Mäenpää, S., Suominen, A., Breite, R.
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http://www.ispim.org/abstracts/The%20Proceedings%20of%20The%20XXVII%20ISPIM%20Conference%202016%20Porto,%20Portugal%20-%2019-22%20June%202016/maenpaa_sari.html

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Knowledge barriers in university-industry knowledge networks

General information

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Contributors: Vuori, V., Helander, N.

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URLs:

<http://www.academic-conferences.org/conferences/eckm/future-past-conferences/>

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Kiviaines- ja luonnonkiviteollisuuden kehitysnäkymät

General information

Publication status: Published

MoE publication type: D4 Published development or research report or study

Organisations: Department of Civil Engineering, Research group: Track Structures, Työ- ja elinkeinoministeriö, Infra ry, Suomen ympäristökeskus SYKE - Finnish Environment Institute, Kiviteollisuusliitto ry, Geologian tutkimuskeskus, Aalto University, Geological Survey of Finland

Contributors: Loukola-Ruskeeniemi, K. (ed.), Lonka, H. (ed.), Ehrukainen, E., Gustafsson, J., Honkanen, M., Härmä, P., Jauhiainen, P., Kuula, P., Nenonen, K., Pellinen, T., Rintala, J., Selonen, O., Martikainen, M., Aalto, M.

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Research output: Book/Report › Commissioned report › Professional

Kids Out! Urban environments and physical activity among children and adolescents

General information

Publication status: Published
MoE publication type: Not Eligible
Organisations: School of Architecture, Research group: EDGE
Contributors: Sarjala, S.
Number of pages: 1
Publication date: 26 Feb 2013

Host publication information

Title of host publication: 2013 Active Living Research (ALR) Annual Conference in San Diego, CA

Bibliographical note

xabstract

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Keyframe-based video summarization with human in the loop

In this work, we focus on the popular keyframe-based approach for video summarization. Keyframes represent important and diverse content of an input video and a summary is generated by temporally expanding the keyframes to key shots which are merged to a continuous dynamic video summary. In our approach, keyframes are selected from scenes that represent semantically similar content. For scene detection, we propose a simple yet effective dynamic extension of a video Bag-of-Words (BoW) method which provides over segmentation (high recall) for keyframe selection. For keyframe selection, we investigate two effective approaches: local region descriptors (visual content) and optical flow descriptors (motion content). We provide several interesting findings. 1) While scenes (visually similar content) can be effectively detected by region descriptors, optical flow (motion changes) provides better keyframes. 2) However, the suitable parameters of the motion descriptor based keyframe selection vary from one video to another and average performances remain low. To avoid more complex processing, we introduce a human-in-the-loop step where user selects keyframes produced by the three best methods. 3) Our human assisted and learning-free method achieves superior accuracy to learning-based methods and for many videos is on par with average human accuracy.

General information

Publication status: Published
MoE publication type: A4 Article in a conference publication
Organisations: Signal Processing, Research group: Vision
Contributors: Ainasoja, A. E., Hietanen, A., Lankinen, J., Kämäräinen, J.
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ASJC Scopus subject areas: Computer Vision and Pattern Recognition, Computer Graphics and Computer-Aided Design, Artificial Intelligence
Keywords: Optical flow descriptors, Region descriptors, Video summarization, Visual bag-of-words
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10.5220/0006619202870296

Bibliographical note

INT=sgn,"Lankinen, Jukka"
Source: Scopus
Source ID: 85047872595
Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Kehittämistutkimus: vuorovaikusteisten Matlab-opetusohjelmien vaikutus minäpystyvyyteen ja oppimistuloksiin yliopistomatematiikassa

General information

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MoE publication type: A1 Journal article-refereed
Organisations: Mathematics, Research group: Computer Science and Applied Logics, Research group: Positioning
Contributors: Kaarakka, T. E., Ali-Löytty, S., Huhtanen, M.
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Research output: Contribution to journal › Article › Scientific › peer-review

Kävelystä elinvoimaa

General information

Publication status: Published
MoE publication type: D4 Published development or research report or study
Organisations: Department of Information Management and Logistics
Contributors: Rantala, T., Luukkonen, T., Karhula, K., Vaismaa, K., Mäntynen, J., Metsäpuro, P.
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Publication date: 2014

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Research output: Book/Report › Commissioned report › Professional

Kattavasti rivitaloista

General information

Publication status: Published
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Organisations: School of Architecture, Research group: ASUTUT
Contributors: Helamaa, A.
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Publication date: 2015
Peer-reviewed: Unknown

Publication information

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