

Tailored gamification: A review of literature

Klock, A. C. T., Gasparini, I., Pimenta, M. S. & Hamari, J., 1 Dec 2020, In : International Journal of Human Computer Studies. 144, 102495.

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

The effect of challenge-based gamification on learning: An experiment in the context of statistics education

Legaki, N. Z., Xi, N., Hamari, J., Karpouzis, K. & Assimakopoulos, V., 1 Dec 2020, In : International Journal of Human Computer Studies. 144, 102496.

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

Some SonarQube issues have a significant but small effect on faults and changes. A large-scale empirical study

Lenarduzzi, V., Saarimäki, N. & Taibi, D., Dec 2020, In : Journal of Systems and Software. 170, 15 p., 110750.

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

Necessary and sufficient conditions for the existence of solution of generalized fuzzy relation equations $A \Leftrightarrow X = B$

Turunen, E., 1 Oct 2020, In : Information Sciences. 536, p. 351-357 7 p.

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

Using Deep Learning for price prediction by exploiting stationary limit order book features

Tsantekidis, A., Passalis, N., Tefas, A., Kannianen, J., Gabbouj, M. & Iosifidis, A., 1 Aug 2020, In : Applied Soft Computing Journal. 93, 106401.

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

Flow-bounded trajectory-scaling algorithm for hydraulic robotic manipulators

Lampinen, S., Niemi, J. & Mattila, J., 1 Jul 2020, *2020 IEEE/ASME International Conference on Advanced Intelligent Mechatronics, AIM 2020*. IEEE, p. 619-624 6 p. (IEEE/ASME International Conference on Advanced Intelligent Mechatronics, AIM).

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

On the zeros of the partial Hosoya polynomial of graphs

Ghorbani, M., Dehmer, M., Cao, S., Feng, L., Tao, J. & Emmert-Streib, F., 1 Jul 2020, In : Information Sciences. 524, p. 199-215 17 p.

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

Kvazaar 2.0: Fast and efficient open-source HEVC inter encoder

Lemmetti, A., Viitanen, M., Mercat, A. & Vanne, J., 27 May 2020, *MMSys 2020 - Proceedings of the 2020 Multimedia Systems Conference*. ACM, p. 237-242 6 p.

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

Adaptive Normalization for Forecasting Limit Order Book Data Using Convolutional Neural Networks

Passalis, N., Tefas, A., Kannianen, J., Gabbouj, M. & Iosifidis, A., 1 May 2020, *2020 IEEE International Conference on Acoustics, Speech, and Signal Processing, ICASSP 2020 - Proceedings*. IEEE, p. 1713-1717 5 p. (ICASSP, IEEE International Conference on Acoustics, Speech and Signal Processing - Proceedings; vol. 2020-May).

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

Peer to Peer Offloading with Delayed Feedback: An Adversary Bandit Approach

Yang, M., Zhu, H., Wang, H., Koucheryavy, Y., Samouylov, K. & Qian, H., 1 May 2020, *2020 IEEE International Conference on Acoustics, Speech, and Signal Processing, ICASSP 2020 - Proceedings*. IEEE, p. 5035-5039 5 p. (ICASSP, IEEE International Conference on Acoustics, Speech and Signal Processing - Proceedings; vol. 2020-May).

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

SeCon-NG: Implementing a lightweight cryptographic library based on ECDH and ECDSA for the development of secure and privacy-preserving protocols in contiki-NG

Frimpong, E. & Michalas, A., 30 Mar 2020, *35th Annual ACM Symposium on Applied Computing, SAC 2020*. ACM, p. 767-769 3 p.

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

Gaussian mixture models for signal mapping and positioning

Raitoharju, M., García-Fernández, F., Hostettler, R., Piché, R. & Särkkä, S., 1 Mar 2020, In : *Signal Processing*. 168, 107330.

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

Serverless: What it Is, What to Do and What Not to Do

Nupponen, J. & Taibi, D., 1 Mar 2020, *2020 IEEE International Conference on Software Architecture Companion, ICSA-C 2020*. IEEE, p. 49-50 2 p.

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

A custom processor for protocol-independent packet parsing

Zolfaghari, H., Rossi, D. & Nurmi, J., 1 Feb 2020, In : *Microprocessors and Microsystems*. 72, 11 p.

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

Are SonarQube Rules Inducing Bugs?

Lenarduzzi, V., Lomio, F., Huttunen, H. & Taibi, D., 1 Feb 2020, *SANER 2020 - Proceedings of the 2020 IEEE 27th International Conference on Software Analysis, Evolution, and Reengineering*. Kontogiannis, K., Khomh, F., Chatzigeorgiou, A., Fokaefs, M-E. & Zhou, M. (eds.). IEEE, p. 501-511 11 p.

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

A preliminary network analysis on steam game tags: Another way of understanding game genres

Li, X. & Zhang, B., 29 Jan 2020, *AcademicMindtrek 2020 - Proceedings of the 23rd International Academic Mindtrek Conference: January 29-30, 2020, Tampere, Finland*. ACM, p. 65-73 9 p.

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

Color game: A collaborative social robotic game for icebreaking; Towards the design of robotic ambiances as part of smart building services

Beheshtian, N., Kaipainen, K., Kähkönen, K. & Ahtinen, A., 29 Jan 2020, *AcademicMindtrek 2020 - Proceedings of the 23rd International Academic Mindtrek Conference: January 2020, Tampere*. ACM, p. 10-19 10 p.

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

Demographic differences in accumulated types of capital in massively multiplayer online role-playing games

Korkeila, H., Koivisto, J. & Hamari, J., 29 Jan 2020, *AcademicMindtrek 2020 - Proceedings of the 23rd International Academic Mindtrek Conference: January 2020, Tampere*. ACM, p. 74-82 9 p.

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

Innovation challenges as a novel multidisciplinary learning platform

Jokiniemi, S., Myllärniemi, J., Poranen, T. & Vuorenmaa, M., 29 Jan 2020, *AcademicMindtrek 2020 - Proceedings of the 23rd International Academic Mindtrek Conference: January 2020, Tampere*. ACM, p. 145-148 4 p.

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

Satisfaction and willingness to consume immersive journalism: Experiment of differences between VR, 360 video, and article

Bujic, M. & Hamari, J., 29 Jan 2020, *AcademicMindtrek 2020 - Proceedings of the 23rd International Academic Mindtrek Conference: January 2020, Tampere*. ACM, p. 120-125 6 p.

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

Social human-robot interaction in the wild: A workshop proposal for academic mindtrek 2020

Niemelä, M., Ahtinen, A. & Turunen, M., 29 Jan 2020, *AcademicMindtrek 2020 - Proceedings of the 23rd International Academic Mindtrek Conference: January 2020, Tampere*. ACM, p. 168-169 2 p.

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

"The superhero of the university": Experience-driven design and field study of the university guidance robot

Chowdhury, A., Ahtinen, A. & Kaipainen, K., 29 Jan 2020, *AcademicMindtrek 2020 - Proceedings of the 23rd International Academic Mindtrek Conference: January 2020, Tampere*. ACM, p. 1-9 9 p.

Anthropometric clothing measurements from 3D body scans

Yan, S., Wirta, J. & Kämäräinen, J.-K., 2020, In : *Machine Vision and Applications*. 31, 1-2, 11 p., 7.

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

Sensor-Based Cooperative Multi-Antenna Spectrum Sensing with Imperfect Reporting Channels

Li, M., Alhussein, O., Sofotasios, P. C., Muhaidat, S., Yoo, P. D., Liang, J. & Wang, A., 2020, In : *IEEE Transactions on Sustainable Computing*. 5, 1, p. 48-60 13 p.

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

Compressive sensed video recovery via iterative thresholding with random transforms

Belyaev, E., Codreanu, M., Juntti, M. & Egiazarian, K., 2020, In : *IET Image Processing*. 14, 6, p. 1187-1200 14 p.

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

Does code quality affect pull request acceptance? An empirical study

Lenarduzzi, V., Nikkola, V., Saarimäki, N. & Taibi, D., 2020, In : *Journal of Systems and Software*. 171, 14 p., 110806.

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

Does migrating a monolithic system to microservices decrease the technical debt?

Lenarduzzi, V., Lomio, F., Saarimäki, N. & Taibi, D., 2020, In : *Journal of Systems and Software*. 169, 16 p., 110710.

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

Exploration and exploitation of sensorimotor contingencies for a cognitive embodied agent

Houbre, Q., Angleraud, A. & Pieters, R., 2020, *ICAART 2020 - Proceedings of the 12th International Conference on Agents and Artificial Intelligence*. Rocha, A., Steels, L. & van den Herik, J. (eds.). SCITEPRESS, Vol. 2. p. 546-554 9 p.

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

FinnForest dataset: A forest landscape for visual SLAM

Ali, I., Durmush, A., Suominen, O., Yli-Hietanen, J., Peltonen, S., Collin, J. & Gotchev, A., 2020, In : *ROBOTICS AND AUTONOMOUS SYSTEMS*. 132, 13 p., 103610.

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

IoT-CryptoDiet: Implementing a lightweight cryptographic library based on ecdh and ecdsa for the development of secure and privacy-preserving protocols in contiki-ng

Frimpong, E. & Michalas, A., 2020, *IoTBDSD 2020 - Proceedings of the 5th International Conference on Internet of Things, Big Data and Security*. Wills, G., Kacsuk, P. & Chang, V. (eds.). SCITEPRESS, p. 101-111 11 p.

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

On the diffuseness of technical debt items and accuracy of remediation time when using SonarQube

Baldassarre, M. T., Lenarduzzi, V., Romano, S. & Saarimäki, N., 2020, In : *Information and Software Technology*. 128, 18 p., 106377.

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

Patterns for serverless functions (Function-as-a-Service): A multivocal literature review

Taibi, D., El Ioini, N., Pahl, C. & Niederkofler, J. R. S., 2020, *CLOSER 2020 - Proceedings of the 10th International Conference on Cloud Computing and Services Science*. Ferguson, D., Helfert, M. & Pahl, C. (eds.). SCITEPRESS, Vol. 1. p. 181-192 12 p.

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

Redundancy-based visual tool center point pose estimation for long-reach manipulators

Mäkinen, P., Mustalahti, P., Launis, S. & Mattila, J., 2020, *2020 IEEE/ASME International Conference on Advanced Intelligent Mechatronics, AIM 2020*. IEEE, p. 1387-1393 7 p. (IEEE/ASME International Conference on Advanced Intelligent Mechatronics).

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

Shearlet Transform-Based Light Field Compression under Low Bitrates

Ahmad, W., Vagharshakyan, S., Sjostrom, M., Gotchev, A., Bregovic, R. & Olsson, R., 2020, In : IEEE Transactions on Image Processing. 29, p. 4269-4280 12 p.

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

User experience of stereo and spatial audio in 360° live music videos

Holm, J., Väänänen, K. & Battah, A., 2020, *AcademicMindtrek 2020 - Proceedings of the 23rd International Academic Mindtrek Conference: January 2020, Tampere*. ACM, p. 134-141 8 p.

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

Validating effectiveness of safety requirements' compliance evaluation in process assessments

Varkoi, T., Mäkinen, T., Cameron, F. & Nevalainen, R., 2020, In : Journal of Software: Evolution and Process. 32, 3, 16 p., e2177.

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

Bayesian receiver operating characteristic metric for linear classifiers

Hassan, S. S., Huttunen, H., Niemi, J. & Tohka, J., 1 Dec 2019, In : Pattern Recognition Letters. 128, p. 52-59 8 p.

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

Software architecture design in global software development: An empirical study

Sievi-Korte, O., Richardson, I. & Beecham, S., 1 Dec 2019, In : Journal of Systems and Software. 158, 110400.

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

Promoting local culture and enriching airport experiences through interactive storytelling

Burova, A., Kelling, C., Keskinen, T., Hakulinen, J., Kallioniemi, P., Väätäjä, H. & Turunen, M., 26 Nov 2019, *MUM 2019 - 18th International Conference on Mobile and Ubiquitous Multimedia, Proceedings*. Jacucci, G., Paterno, F., Rohs, M. & Santoro, C. (eds.). Association for Computing Machinery, 7 p. 3365640. (ACM International Conference Proceeding Series).

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

Programming languages for data-intensive HPC applications: A systematic mapping study

Amaral, V., Norberto, B., Goulão, M., Aldinucci, M., Benkner, S., Bracciali, A., Carreira, P., Celms, E., Correia, L., Grelck, C., Karatza, H., Kessler, C., Kilpatrick, P., Martiniano, H., Mavridis, I., Pillana, S., Respício, A., Simão, J., Veiga, L. & Visa, A., 8 Nov 2019, In : Parallel Computing. 91, 17 p., 102584.

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

Action-Oriented Programming Model: Collective Executions and Interactions in the Fog

Mäkitalo, N., Aaltonen, T., Raatikainen, M., Ometov, A., Andreev, S., Koucheryavy, Y. & Mikkonen, T., 1 Nov 2019, In : Journal of Systems and Software. 157, 110391.

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

Feasibility of FPGA accelerated IPsec on cloud

Vajaranta, M., Oinonen, A., Hämäläinen, T. D., Viitamäki, V., Markunmäki, J. & Kulmala, A., 1 Nov 2019, In : Microprocessors and Microsystems. 71, 102861.

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

An icon that everyone wants to click: How perceived aesthetic qualities predict app icon successfulness

Jylhä, H. & Hamari, J., 1 Oct 2019, In : International Journal of Human Computer Studies. 130, p. 73-85 13 p.

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

Automatic word count estimation from daylong child-centered recordings in various language environments using language-independent syllabification of speech

Räsänen, O., Seshadri, S., Karadayi, J., Riebling, E., Bunce, J., Cristia, A., Metze, F., Casillas, M., Rosemberg, C., Bergelson, E. & Soderstrom, M., 1 Oct 2019, In : Speech Communication. 113, p. 63-80 18 p.

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

DevOps in practice: A multiple case study of five companies

Lwakatare, L. E., Kilamo, T., Karvonen, T., Sauvola, T., Heikkilä, V., Itkonen, J., Kuvaja, P., Mikkonen, T., Oivo, M. & Lassenius, C., 1 Oct 2019, In : Information and Software Technology. 114, p. 217-230 14 p.

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

The Double Shadowed κ - μ Fading Model

Simmons, N., Nogueira Da Silva, C. R., Cotton, S. L., Sofotasios, P. C., Ki Yoo, S. & Yacoub, M. D., 1 Oct 2019, *2019 International Conference on Wireless and Mobile Computing, Networking and Communications, WiMob 2019*. IEEE, (International Conference on Wireless and Mobile Computing, Networking and Communications).

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

Tunable VVC Frame Partitioning based on Lightweight Machine Learning

Amestoy, T., Mercat, A., Hamidouche, W., Menard, D. & Bergeron, C., 6 Sep 2019, In : IEEE Transactions on Image Processing.

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

Model checking and validity in propositional and modal inclusion logics

Hella, L., Kuusisto, A., Meier, A. & Virtema, J., 1 Sep 2019, In : JOURNAL OF LOGIC AND COMPUTATION. 29, 5, p. 605-630 26 p.

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

Performance analysis of single-query 6-DoF camera pose estimation in self-driving setups

Fu, J., Pertuz, S., Matas, J. & Kämäräinen, J-K., Sep 2019, In : Computer Vision and Image Understanding. 186, p. 58-73

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

Game postmortems vs. developer Reddit AMAs: Computational analysis of developer communication

Lu, C., Peltonen, J. & Nummenmaa, T., 26 Aug 2019, *Proceedings of the 14th International Conference on the Foundations of Digital Games, FDG 2019*. Khosmood, F., Pirker, J., Apperley, T. & Deterding, S. (eds.). ACM, 22

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

Social features in hybrid board game marketing material

Nummenmaa, T. & Kankainen, V., 26 Aug 2019, *Proceedings of the 14th International Conference on the Foundations of Digital Games, FDG 2019*. Khosmood, F., Pirker, J., Apperley, T. & Deterding, S. (eds.). ACM, 67

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

Are architectural smells independent from code smells? An empirical study

Arcelli Fontana, F., Lenarduzzi, V., Roveda, R. & Taibi, D., 1 Aug 2019, In : Journal of Systems and Software. 154, p. 139-156 18 p.

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

Enabling cybersecurity incident reporting and coordinated handling for maritime sector

Silverajan, B. & Vistiaho, P., 1 Aug 2019, *2019 14th Asia Joint Conference on Information Security, AsiaJCIS 2019*. IEEE, p. 88-95 8 p.

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

Hermitian normalized Laplacian matrix for directed networks

Yu, G., Dehmer, M., Emmert-Streib, F. & Jodlbauer, H., 1 Aug 2019, In : Information Sciences. 495, p. 175-184 10 p.

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

Real-time online drilling vibration analysis using data mining

Zare, M., Huova, M., Visa, A. & Launis, S., 19 Jul 2019, *Proceedings of the 2019 2nd International Conference on Data Science and Information Technology, DSIT 2019*. ACM, p. 175-180 6 p.

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

High-performance SIMD implementation of the lattice-Boltzmann method on the Xeon Phi processor

Robertsén, F., Mattila, K. & Westerholm, J., 10 Jul 2019, In : *Concurrency Computation*. 31, 13, 16 p., e5072.
Research output: Contribution to journal > Article > Scientific > peer-review

Detection of Typical Pronunciation Errors in Non-native English Speech Using Convolutional Recurrent Neural Networks

Diment, A., Fagerlund, E., Benfield, A. & Virtanen, T., 1 Jul 2019, *2019 International Joint Conference on Neural Networks, IJCNN 2019*. IEEE

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

User Experience Study of 360° Music Videos on Computer Monitor and Virtual Reality Goggles

Holm, J., Väänänen, K. & Remans, M. M. R., 1 Jul 2019, *Information Visualization - Biomedical Visualization and Geometric Modelling and Imaging, IV 2019*. Banissi, E., Ursyn, A., McK. Bannatyne, M. W., Datia, N., Pires, J. M., Francese, R., Sarfraz, M., Wyeld, T. G., Bouali, F., Venturin, G., Azzag, H., Lebbah, M., Trutschl, M., Cvek, U., Muller, H., Nakayama, M., Kernbach, S., Caruccio, L., Risi, M., Erra, U., Vitiello, A. & Rossano, V. (eds.). IEEE, p. 81-87 7 p. (Proceedings of the International Conference on Information Visualisation).

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

Public and open HEVC encoding service in the cloud

Altonen, A., Viitanen, M., Räsänen, J., Mercat, A. & Vanne, J., 18 Jun 2019, *Proceedings of the 10th ACM Multimedia Systems Conference, MMSys 2019*. ACM, p. 300-303 4 p.

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

Investigation of egocentric social structures for diversity-enhancing followee recommendations

Skenderi, E., Olshannikova, E., Olsson, T., Huhtamäki, J., Koivunen, S., Yao, P. & Huttunen, H., 6 Jun 2019, *ACM UMAP 2019 Adjunct - Adjunct Publication of the 27th Conference on User Modeling, Adaptation and Personalization*. ACM, p. 257-261 5 p.

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

Facilitating the first move: Exploring inspirational design patterns for aiding initiation of social encounters

Mitchell, R. & Olsson, T., 3 Jun 2019, *C&T 2019 - 9th International Conference on Communities and Technologies, Conference Proceedings*. Tellioglu, H. & Cech, F. (eds.). ACM, p. 283-294 12 p.

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

Towards Efficient Code Generation for Exposed Datapath Architectures

Vadivel, K., Jordans, R., Stuijk, S., Corporaal, H., Jääskeläinen, P. & Kultala, H., 27 May 2019, *Proceedings of the 22nd International Workshop on Software and Compilers for Embedded Systems, SCOPES 2019*. Stuijk, S. (ed.). ACM, p. 86-89 4 p.

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

1-D Convolutional Neural Networks for Signal Processing Applications

Kiranyaz, S., Ince, T., Abdeljaber, O., Avci, O. & Gabbouj, M., 1 May 2019, *2019 IEEE International Conference on Acoustics, Speech, and Signal Processing, ICASSP 2019 - Proceedings*. IEEE, p. 8360-8364 5 p.

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

Convex Energy Optimization of Streaming Applications for MPSoCs

Nogues, E., Mercat, A., Arrestier, F., Pelcat, M. & Menard, D., 1 May 2019, *2019 IEEE International Conference on Acoustics, Speech, and Signal Processing, ICASSP 2019 - Proceedings*. IEEE, p. 1557-1561 5 p.

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

Deep Reinforcement Learning for Financial Trading Using Price Trailing

Zarkias, K. S., Passalis, N., Tsantekidis, A. & Tefas, A., 1 May 2019, *2019 IEEE International Conference on Acoustics, Speech, and Signal Processing, ICASSP 2019 - Proceedings*. IEEE, p. 3067-3071 5 p.

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

Deep Temporal Logistic Bag-of-features for Forecasting High Frequency Limit Order Book Time Series

Passalis, N., Tefas, A., Kannianen, J., Gabbouj, M. & Iosifidis, A., 1 May 2019, *2019 IEEE International Conference on Acoustics, Speech, and Signal Processing, ICASSP 2019 - Proceedings*. IEEE, p. 7545-7549 5 p.

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

Low-latency Deep Clustering for Speech Separation

Wang, S., Naithani, G. & Virtanen, T., 1 May 2019, *2019 IEEE International Conference on Acoustics, Speech, and Signal Processing, ICASSP 2019 - Proceedings*. IEEE, p. 76-80 5 p.

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

Random Forest Oriented Fast QTBT Frame Partitioning

Amestoy, T., Mercat, A., Hamidouche, W., Bergeron, C. & Menard, D., 1 May 2019, *2019 IEEE International Conference on Acoustics, Speech, and Signal Processing, ICASSP 2019 - Proceedings*. IEEE, p. 1837-1841 5 p.

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

Time Difference of Arrival Estimation of Speech Signals Using Deep Neural Networks with Integrated Time-frequency Masking

Pertilä, P. & Parviainen, M., 1 May 2019, *2019 IEEE International Conference on Acoustics, Speech, and Signal Processing, ICASSP 2019 - Proceedings*. IEEE, p. 436-440 5 p.

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

Variance Preserving Initialization for Training Deep Neuromorphic Photonic Networks with Sinusoidal Activations

Passalis, N., Mourgias-Alexandris, G., Tsakyridis, A., Pleros, N. & Tefas, A., 1 May 2019, *2019 IEEE International Conference on Acoustics, Speech, and Signal Processing, ICASSP 2019 - Proceedings*. IEEE, p. 1483-1487 5 p.

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

The FitOptiVis ECSEL Project: Highly Efficient Distributed Embedded Image/Video Processing in Cyber-Physical Systems Invited Paper

Al-Ars, Z., Basten, T., Beer, A., Geilen, M., Goswami, D., Jääskeläinen, P., Kadlec, J., Alejandro, M. M., Palumbo, F., Peeren, G., Pomante, L., Linden, F. V., Saarinen, J., Sääntti, T., Sau, C. & Zedda, M. K., 30 Apr 2019, *ACM International Conference on Computing Frontiers 2019, CF 2019 - Proceedings*. ACM, p. 333-338 6 p.

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

How do academics experience use of recorded audio feedback in higher education? A thematic analysis

Heimbirger, A., Isomottonen, V., Nieminen, P. & Keto, H., 4 Mar 2019, *Frontiers in Education: Fostering Innovation Through Diversity, FIE 2018 - Conference Proceedings*. IEEE, 8658635. (Proceedings - Frontiers in Education Conference).

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

Challenges of Multi-Factor Authentication for Securing Advanced IoT Applications

Ometov, A., Petrov, V., Bezzateev, S., Andreev, S., Koucheryavy, Y. & Gerla, M., 1 Mar 2019, In : *IEEE Network*. 33, 2, p. 82-88 7 p.

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

Analysis of an efficient parallel implementation of active-set Newton algorithm

San Juan Sebastián, P., Virtanen, T., Garcia-Molla, V. M. & Vidal, A. M., Mar 2019, In : *Journal of Supercomputing*. 75, 3, p. 1298-1309 12 p.

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

Convolutional low-resolution fine-grained classification

Cai, D., Chen, K., Qian, Y. & Kämäräinen, J-K., Mar 2019, In : *Pattern Recognition Letters*. 119, p. 166-171

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

Challenges and recommended practices for software architecting in global software development

Sievi-Korte, O., Beecham, S. & Richardson, I., 1 Feb 2019, In : *Information and Software Technology*. 106, p. 234-253 20 p.

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

Additional lossless compression of JPEG images based on BPG

Ponomarenko, M., Miroshnichenko, O., Lukin, V. & Egiazarian, K., 13 Jan 2019, *Image Processing: Algorithms and Systems XVII*. (IS and T International Symposium on Electronic Imaging Science and Technology).

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

Combined no-reference IQA metric and its performance analysis

Ieremeiev, O., Lukin, V., Ponomarenko, N. & Egiazarian, K., 13 Jan 2019, *Image Processing: Algorithms and Systems XVII*. (IS and T International Symposium on Electronic Imaging Science and Technology).

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

Phase masks optimization for broadband diffractive imaging

Ponomarenko, M., Katkovnik, V. & Egiazarian, K., 13 Jan 2019, *Image Processing: Algorithms and Systems XVII*. (IS and T International Symposium on Electronic Imaging Science and Technology).

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

Thin form-factor super multiview head-up display system

Akpinar, U., Sahin, E., Suominen, O. & Gotchev, A., 13 Jan 2019, *Stereoscopic Displays and Applications XXX*. (IS&T International Symposium on Electronic Imaging).

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

Performance evaluation of bandwidth reservation for mmWave 5G NR systems

Begishev, V. O., Sopin, E. S., Molchanov, D. A., Samouylov, A. K., Gaidamaka, Y. V. & Samouylov, K. E., 1 Jan 2019, In : *Informatsionno-Upravliaiushchie Sistemy*. 5, p. 51-63 13 p.

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

Towards detecting structural branching and cyclicity in graphs: A polynomial-based approach

Dehmer, M., Chen, Z., Emmert-Streib, F., Mowshowitz, A., Shi, Y., Tripathi, S. & Zhang, Y., 1 Jan 2019, In : *Information Sciences*. 471, p. 19-28 10 p.

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

Business intelligence process model revisited

Hellsten, P. & Myllärniemi, J., 2019, *IC3K 2019 - Proceedings of the 11th International Joint Conference on Knowledge Discovery, Knowledge Engineering and Knowledge Management*. Bernardino, J., Salgado, A. & Filipe, J. (eds.). SCITEPRESS, p. 341-348 8 p. (IC3K 2019 - Proceedings of the 11th International Joint Conference on Knowledge Discovery, Knowledge Engineering and Knowledge Management; vol. 3).

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

Challenges in developing data-based value creation

Myllärniemi, J., Helander, N. & Pekkola, S., 2019, *IC3K 2019 - Proceedings of the 11th International Joint Conference on Knowledge Discovery, Knowledge Engineering and Knowledge Management*. Bernardino, J., Salgado, A. & Filipe, J. (eds.). SCITEPRESS, p. 370-376 7 p. (IC3K 2019 - Proceedings of the 11th International Joint Conference on Knowledge Discovery, Knowledge Engineering and Knowledge Management; vol. 3).

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

Co-creating digital services for citizens: Activity theory analysis

Jussila, J., Kukkamäki, J. & Helander, N., 2019, *IC3K 2019 - Proceedings of the 11th International Joint Conference on Knowledge Discovery, Knowledge Engineering and Knowledge Management*. Bernardino, J., Salgado, A. & Filipe, J. (eds.). SCITEPRESS, p. 285-290 6 p. (IC3K 2019 - Proceedings of the 11th International Joint Conference on Knowledge Discovery, Knowledge Engineering and Knowledge Management; vol. 3).

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

Compatible natural gradient policy search

Pajarinen, J., Thai, H. L., Akrou, R., Peters, J. & Neumann, G., 2019, In : *Machine Learning*.

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

Continuum approach to high-cycle fatigue. The finite life-time case with stochastic stress history

Orelma, H., 2019, In : *Vestnik Samarskogo Gosudarstvennogo Tekhnicheskogo Universiteta, Seriya Fiziko-Matematicheskie Nauki*. 23, 3, p. 452-463 12 p.

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

Farm detection based on deep convolutional neural nets and semi-supervised green texture detection using VIS-NIR satellite image

Sharifzadeh, S., Tata, J. & Tan, B., 2019, *DATA 2019 - Proceedings of the 8th International Conference on Data Science, Technology and Applications*. Hammoudi, S., Quix, C. & Bernardino, J. (eds.). SCITEPRESS, p. 100-108 9 p.

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

Institutional Perspectives on the Process of Enterprise Architecture Adoption

Dang, D. & Pekkola, S., 2019, In : *Information Systems Frontiers*.

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

Log analysis of 360-degree video users via MQTT

Luoto, A., 2019, *ICGDA 2019: Proceedings of the 2019 2nd International Conference on Geoinformatics and Data Analysis*. ACM, p. 130-137 8 p.

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

PyGOP: A Python library for Generalized Operational Perceptron algorithms

Tran, D. T., Kiranyaz, S., Gabbouj, M. & Iosifidis, A., 2019, (Accepted/In press) In : *Knowledge-Based Systems*.

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

Revisiting continuous deployment maturity: A two-year perspective

Mäkinen, S., Puonti, M., Lehtonen, T., Mikkonen, T., Kilamo, T. & Männistö, T., 2019, *Proceedings of the 34th ACM/SIGAPP Symposium on Applied Computing*. ACM, p. 1810-1817 8 p.

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

The Lord of the shares: Combining attribute-based encryption and searchable encryption for flexible data sharing

Michalas, A., 2019, *Proceedings of the 34th ACM/SIGAPP Symposium on Applied Computing*. ACM, p. 146-155 10 p.

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

Zeffiro User Interface for Electromagnetic Brain Imaging: a GPU Accelerated FEM Tool for Forward and Inverse Computations in Matlab

He, Q., Rezaei, A. & Pursiainen, S., 2019, In : *Neuroinformatics*. 14 p.

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

On the Secrecy Capacity of Fisher-Snedecor F Fading Channels

Badarneh, O. S., Sofotasios, P. C., Muhaidat, S., Cotton, S. L., Rabie, K. & Al-Dhahir, N., 26 Dec 2018, *2018 14th International Conference on Wireless and Mobile Computing, Networking and Communications, WiMob 2018*. IEEE, p. 102-107 6 p.

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

The N*Fisher-Snedecor F Cascaded Fading Model

Badarneh, O. S., Muhaidat, S., Sofotasios, P. C., Cotton, S. L., Rabie, K. & Da Costa, D. B., 26 Dec 2018, *2018 14th International Conference on Wireless and Mobile Computing, Networking and Communications, WiMob 2018*. IEEE

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

Power mitigation of a heterogeneous multicore architecture on FPGA/ASIC by DFS/DVFS techniques

Nouri, S., Rossi, D. & Nurmi, J., 1 Nov 2018, In : *Microprocessors and Microsystems*. 63, p. 259-268 10 p.

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

End-to-End Polyphonic Sound Event Detection Using Convolutional Recurrent Neural Networks with Learned Time-Frequency Representation Input

Cakir, E. & Virtanen, T., 10 Oct 2018, *2018 International Joint Conference on Neural Networks, IJCNN 2018 - Proceedings*. IEEE, 8489470

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

Guidelines for development and evaluation of usage data analytics tools for human-machine interactions with industrial manufacturing systems

Varsaluoma, J., Väätäjä, H., Heimonen, T., Tiitinen, K., Hakulinen, J., Turunen, M. & Nieminen, H., 10 Oct 2018, *Mindtrek 2018 - Proceedings of the 22nd International Academic Mindtrek Conference*. ACM, p. 172-181 10 p.

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

Implications of audio and narration in the user experience design of virtual reality

Kelling, C., Karhu, J., Kauhanen, O., Turunen, M., Väätäjä, H. & Lindqvist, V., 10 Oct 2018, *Mindtrek 2018 - Proceedings of the 22nd International Academic Mindtrek Conference*. ACM, p. 258-261 4 p.

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

Multichannel Sound Event Detection Using 3D Convolutional Neural Networks for Learning Inter-channel Features

Adavanne, S., Politis, A. & Virtanen, T., 10 Oct 2018, *2018 International Joint Conference on Neural Networks, IJCNN 2018 - Proceedings*. IEEE, 8489542

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

Robotic process automation - Creating value by digitalizing work in the private healthcare?

Ratia, M., Myllärniemi, J. & Helander, N., 10 Oct 2018, *Mindtrek 2018 - Proceedings of the 22nd International Academic Mindtrek Conference*. ACM, p. 222-227 6 p.

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

Systematic literature review on user logging in virtual reality

Luoto, A., 10 Oct 2018, *Mindtrek 2018 - Proceedings of the 22nd International Academic Mindtrek Conference*. ACM, p. 110-117 8 p.

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

The Finnish you – An interactive storytelling application for an airport environment

Burova, A., Kelling, C., Hakulinen, J., Kallioniemi, P., Keskinen, T., Turunen, M. & Väätäjä, H., 10 Oct 2018, *Mindtrek 2018 - Proceedings of the 22nd International Academic Mindtrek Conference*. ACM, p. 182-191 10 p.

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

Graph measures with high discrimination power revisited: A random polynomial approach

Dehmer, M., Chen, Z., Emmert-Streib, F., Shi, Y. & Tripathi, S., 1 Oct 2018, In : *Information Sciences*. 467, p. 407-414 8 p.

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

Reproducible Evaluation of System Efficiency with a Model of Architecture: From Theory to Practice

Pelcat, M., Mercat, A., Desnos, K., Maggiani, L., Liu, Y., Heulot, J., Nezan, J. F., Hamidouche, W., Menard, D. & Bhattacharyya, S. S., Oct 2018, In : *IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems*. 37, 10, p. 2050-2063

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

Designing for experiences with socially interactive robots

Obaid, M., Kaipainen, K., Ocnareescu, I. & Ahtinen, A., 29 Sep 2018, *NordiCHI 2018: Revisiting the Life Cycle - Proceedings of the 10th Nordic Conference on Human-Computer Interaction*. ACM, p. 948-951 4 p.

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

Understanding animals: A critical challenge in ACI

Aspling, F., Juhlin, O. & Väätäjä, H., 29 Sep 2018, *NordiCHI 2018: Revisiting the Life Cycle - Proceedings of the 10th Nordic Conference on Human-Computer Interaction*. ACM, p. 148-160 13 p.

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

A joint target localization and classification framework for sensor networks

Lee, K., Riggan, B. S. & Bhattacharyya, S. S., 10 Sep 2018, *2018 IEEE International Conference on Acoustics, Speech, and Signal Processing, ICASSP 2018 - Proceedings*. Institute of Electrical and Electronics Engineers Inc., Vol. 2018-April, p. 3076-3080 5 p. 8462641

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

Estimation of time-varying room impulse responses of multiple sound sources from observed mixture and isolated source signals

Nikunen, J. & Virtanen, T., 10 Sep 2018, *2018 IEEE International Conference on Acoustics, Speech, and Signal Processing, ICASSP 2018 - Proceedings*. Institute of Electrical and Electronics Engineers Inc., Vol. 2018-April. p. 421-425 5 p. 8462535. (Proceedings of the IEEE International Conference on Acoustics, Speech, and Signal Processing).

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

Low-energy graph fourier basis functions span salient objects

Malik, J., Aytakin, C. & Gabbouj, M., 10 Sep 2018, *2018 IEEE International Conference on Acoustics, Speech, and Signal Processing, ICASSP 2018 - Proceedings*. Institute of Electrical and Electronics Engineers Inc., Vol. 2018-April. p. 1548-1552 5 p. 8462672

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

Statistical Evaluation of Visual Quality Metrics for Image Denoising

Egiazarian, K., Ponomarenko, M., Lukin, V. & Ieremeiev, O., 10 Sep 2018, *2018 IEEE International Conference on Acoustics, Speech, and Signal Processing, ICASSP 2018 - Proceedings*. Institute of Electrical and Electronics Engineers Inc., Vol. 2018-April. p. 6752-6756 5 p. 8462294

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

Low latency edge rendering scheme for interactive 360 degree virtual reality gaming

Viitanen, M., Vanne, J., Hämäläinen, T. D. & Kulmala, A., 19 Jul 2018, *Proceedings - 2018 IEEE 38th International Conference on Distributed Computing Systems, ICDCS 2018*. IEEE, p. 1557-1560 4 p.

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

Liking the game: How can spectating motivations influence social media usage at live esports events?

Sjöblom, M., Hassan, L., Macey, J., Törhönen, M. & Hamari, J., 18 Jul 2018, *Proceedings of the 9th International Conference on Social Media and Society, SMSociety 2018*. ACM, p. 160-167 8 p.

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

Code notes: Designing a low-cost tangible coding tool for/with children

Sabuncuoğlu, A., Erkaya, M., Buruk, O. T. & Göksun, T., 19 Jun 2018, *IDC 2018 - Proceedings of the 2018 ACM Conference on Interaction Design and Children*. ACM, p. 644-649 6 p.

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

Fast and easy live video service setup using lightweight virtualization

Heikkinen, A., Pääkkönen, P., Viitanen, M., Vanne, J., Riikonen, T. & Bakanoglu, K., 12 Jun 2018, *Proceedings of the 9th ACM Multimedia Systems Conference, MMSys 2018*. ACM, p. 487-489 3 p.

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

Optimized viewport dependent streaming of stereoscopic omnidirectional video

Naik, D., Curcio, I. D. D. & Toukoma, H., 12 Jun 2018, *Proceedings of the 23th ACM Workshop on Packet Video, PV 2018*. ACM, p. 37-42 6 p.

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

A quasi-virtual online analyser based on an artificial neural networks and offline measurements to predict purities of raffinate/extract in simulated moving bed processes

Nogueira, I. B. R., Ribeiro, A. M., Requião, R., Pontes, K. V., Koivisto, H., Rodrigues, A. E. & Loureiro, J. M., 1 Jun 2018, In : *Applied Soft Computing Journal*. 67, p. 29-47 19 p.

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

Looking for a five-legged sheep: Identifying enterprise architects' skills and competencies

Ylinen, M. & Pekkola, S., 30 May 2018, *Proceedings of the 19th Annual International Conference on Digital Government Research: Governance in the Data Age, DG.O 2018*. ACM, a58

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

Toward efficient many-core scheduling of partial expansion graphs

Tran, H. N., Bhattacharyya, S. S., Talpin, J. P. & Gautier, T., 28 May 2018, *Proceedings of the 21st International Workshop on Software and Compilers for Embedded Systems, SCOPES 2018*. Association for Computing Machinery, Inc, p. 100-103 4 p.

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

Preface: Special Issue on 'New Hydraulic Components for Tough Robots'

Suzumori, K., Hyon, S. H., Semini, C., Mattila, J. & Kanda, T., 3 May 2018, In : *Advanced Robotics*. 32, 9, 1 p.

Research output: Contribution to journal › Editorial › Scientific

On the Definition of Microservice Bad Smells

Taibi, D. & Lenarduzzi, V., 1 May 2018, In : *IEEE Software*. 35, 3, p. 56-62 7 p.

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

Backshoring of production in the context of a small and open Nordic economy

Heikkilä, J., Martinsuo, M. & Nenonen, S., May 2018, In : *Journal of Manufacturing Technology Management*. 29, 4, p. 658-675 19 p.

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

Towards secure cloud orchestration for multi-cloud deployments

Paladi, N., Michalas, A. & Dang, H. V., 23 Apr 2018, *CrossCloud 2018 - 5th Workshop on CrossCloud Infrastructures and Platforms, colocated with EuroSys 2018*. ACM, a4

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

Ripple thermostat: Affecting the emotional experience through interactive force feedback and shape change

Van Oosterhout, A., Alonso, M. B. & Jumisko-Pyykkö, S., 20 Apr 2018, *Proceedings of the 2018 CHI Conference on Human Factors in Computing Systems*. ACM, 655

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

A design tool for high performance image processing on multicore platforms

Wu, J., Blattner, T., Keyrouz, W. & Bhattacharyya, S. S., 19 Apr 2018, *Proceedings of the 2018 Design, Automation and Test in Europe Conference and Exhibition, DATE 2018*. IEEE, p. 1304-1309 6 p.

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

Deep multiresolution color constancy

Aytekin, C., Nikkanen, J. & Gabbouj, M., 20 Feb 2018, *2017 IEEE International Conference on Image Processing, ICIP 2017 - Proceedings*. IEEE COMPUTER SOCIETY PRESS, p. 3735-3739 5 p.

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

A multi-agent approach for processing industrial enterprise data

Mohammed, W. M., Ferrer, B. R., Martinez, J. L., Sanchis, R., Andres, B. & Agostinho, C., 2 Feb 2018, *2017 International Conference on Engineering, Technology and Innovation: Engineering, Technology and Innovation Management Beyond 2020: New Challenges, New Approaches, ICE/ITMC 2017 - Proceedings*. IEEE, p. 1209-1215 7 p.

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

An approach to production scheduling optimization a case of an oil lubrication and hydraulic systems manufacturer

Katasonov, A., Lastusilta, T., Korvola, T., Saari, L., Bendas, D., Mohammed, W. M. & Lee, A. N., 2 Feb 2018, *2017 International Conference on Engineering, Technology and Innovation: Engineering, Technology and Innovation Management Beyond 2020: New Challenges, New Approaches, ICE/ITMC 2017 - Proceedings*. IEEE, p. 1123-1130 8 p.

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

Configuring and visualizing the data resources in a cloud-based data collection framework

Mohammed, W. M., Ferrer, B. R., Jose, L., Lastra, M., Aleixo, D. & Agostinho, C., 2 Feb 2018, *2017 International Conference on Engineering, Technology and Innovation: Engineering, Technology and Innovation Management Beyond 2020: New Challenges, New Approaches, ICE/ITMC 2017 - Proceedings*. IEEE, p. 1201-1208 8 p.

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

Exploiting suppliers' potential in construction innovations

Sariola, R., 2 Feb 2018, *2017 International Conference on Engineering, Technology and Innovation: Engineering, Technology and Innovation Management Beyond 2020: New Challenges, New Approaches, ICE/ITMC 2017 - Proceedings*. IEEE, p. 678-684 7 p.

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

Memory-Constrained vectorization and scheduling of dataflow graphs for hybrid CPU-GPU platforms

Lin, S., Wu, J. & Bhattacharyya, S. S., 1 Feb 2018, In : *ACM Transactions on Embedded Computing Systems*. 17, 2, 50.

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

Feature synthesis for image classification and retrieval via one-against-all perceptrons

Raitoharju, J., Kiranyaz, S. & Gabbouj, M., Feb 2018, In : *Neural Computing and Applications*. 29, 4, p. 943–957 15 p.

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

A Dataset for Camera Independent Color Constancy

Aytekin, C., Nikkanen, J. & Gabbouj, M., 2018, In : *IEEE Transactions on Image Processing*. 27, 2, p. 530-544

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

An algebraic approach to reducing the number of variables of incompletely defined discrete functions

Astola, J., Astola, P., Stanković, R. & Tabus, I., 2018, In : *Journal of Multiple-Valued Logic and Soft Computing*. 31, 3, p. 239-253 15 p.

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

Architectural patterns for microservices: A systematic mapping study

Taibi, D., Lenarduzzi, V. & Pahl, C., 2018, *CLOSER 2018 - Proceedings of the 8th International Conference on Cloud Computing and Services Science*. SCITEPRESS, p. 221-232 12 p.

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

Blind estimation of white Gaussian noise variance in highly textured images

Ponomarenko, M., Gapon, N., Voronin, V. & Egiazarian, K., 2018, *Electronic Imaging: Image Processing: Algorithms and Systems XVI*. Society for Imaging Science and Technology

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

Combined local and global image enhancement algorithm

Voronin, V., Semenishchev, E., Ponomarenko, M. & Agaian, S., 2018, *Electronic Imaging: Image Processing: Algorithms and Systems XVI*. Society for Imaging Science and Technology

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

Compression of signs of DCT coefficients for additional lossless compression of JPEG images

Miroshnichenko, O., Ponomarenko, M., Lukin, V. & Egiazarian, K., 2018, *Electronic Imaging: Image Processing: Algorithms and Systems XVI*. Society for Imaging Science and Technology

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

Conversion of sparsely-captured light field into alias-free fullparallax multiview content

Sahin, E., Vagharshakyan, S., Bregovic, R., Lee, G. & Gotchev, A., 2018, *Electronic Imaging: Stereoscopic Displays and Applications XXIX*. Society for Imaging Science and Technology, p. 1441-1445 5 p.

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

Deep p-Fibonacci scattering networks

Battisti, F., Carli, M., De Paola, E. & Egiazarian, K., 2018, *Electronic Imaging: Image Processing: Algorithms and Systems XVI*. Society for Imaging Science and Technology

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

Fair testing and stubborn sets

Valmari, A. & Vogler, W., 2018, In : International Journal on Software Tools for Technology Transfer. p. 589-610 22 p.
Research output: Contribution to journal › Article › Scientific › peer-review

Federated IoT services leveraging 5G technologies at the edge

Farris, I., Orsino, A., Militano, L., Iera, A. & Araniti, G., 2018, In : Ad Hoc Networks. 68, p. 58-69
Research output: Contribution to journal › Article › Scientific › peer-review

How to design gamification? A method for engineering gamified software

Morschheuser, B., Hassan, L., Werder, K. & Hamari, J., 2018, In : Information and Software Technology. 95, p. 219-237
Research output: Contribution to journal › Article › Scientific › peer-review

Information Exchange Architecture for Collaborative Industrial Ecosystem

Kannisto, P., Hästbacka, D. & Martinen, A., 2018, In : Information Systems Frontiers. p. 1-16
Research output: Contribution to journal › Article › Scientific › peer-review

Information models and information exchange in plant-wide monitoring and control of industrial processes

Hästbacka, D., Kannisto, P. & Vilkkö, M., 2018, *Proceedings of the 10th International Joint Conference on Knowledge Discovery, Knowledge Engineering and Knowledge Management - Volume 3: KMIS: September 18-20, 2018, Seville, Spain*. SCITEPRESS, p. 216-222 7 p.
Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Is Texture Denoising Efficiency Predictable?

Rubel, O., Lukin, V., Abramov, S., Vozel, B., Pogrebnyak, O. & Egiazarian, K., 2018, In : International Journal of Pattern Recognition and Artificial Intelligence. 32, 1, 1860005 .
Research output: Contribution to journal › Article › Scientific › peer-review

Making the cloud work for software producers: Linking architecture, operating cost and revenue

Rosati, P., Fowley, F., Pahl, C., Taibi, D. & Lynn, T., 2018, *CLOSER 2018 - Proceedings of the 8th International Conference on Cloud Computing and Services Science*. SCITEPRESS, p. 364-375 12 p.
Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Memory Tampering Attack on Binary GCD Based Inversion Algorithms

Aldaya, A. C., Brumley, B. B., Sarmiento, A. J. C. & Sánchez-Solano, S., 2018, In : International Journal of Parallel Programming. p. 1-20
Research output: Contribution to journal › Article › Scientific › peer-review

Methods and tools for denoising of complex-valued images based on block-matching and high order singular value decomposition

Ponomarenko, M., Katkovnik, V. & Egiazarian, K., 2018, *Electronic Imaging: Image Processing: Algorithms and Systems XVI*. Society for Imaging Science and Technology
Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Mixed-integer linear programming approach for global discrete sizing optimization of frame structures

van Mellaert, R., Mela, K., Tiainen, T., Heinisuo, M., Lombaert, G. & Schevenels, M., 2018, In : Structural and Multidisciplinary Optimization. 57, 2, p. 579–593 15 p.
Research output: Contribution to journal › Article › Scientific › peer-review

Modeling and estimation of signal-dependent and correlated noise

Azzari, L., Borges, L. R. & Foi, A., 2018, *Denoising of Photographic Images and Video: Fundamentals, Open Challenges and New Trends*. SPRINGER-VERLAG LONDON LTD, p. 1-36 36 p. (Advances in Computer Vision and Pattern Recognition).
Research output: Chapter in Book/Report/Conference proceeding › Chapter › Scientific › peer-review

Multisensor Time–Frequency Signal Processing MATLAB package: An analysis tool for multichannel non-stationary data

Boashash, B., Aïssa-EI-Bey, A. & Al-Sa'd, M. F., 2018, In : SoftwareX. 8, p. 53-58

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

Multi-view predictive latent space learning

Yuan, J., Gao, K., Zhu, P. & Egiazarian, K., 2018, In : Pattern Recognition Letters.

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

On the degeneracy of the Randić entropy and related graph measures

Dehmer, M., Chen, Z., Mowshowitz, A., Jodlbauer, H., Emmert-Streib, F., Shi, Y., Tripathi, S. & Xia, C., 2018, In : Information Sciences.

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

Probabilistic saliency estimation

Aytekin, C., Iosifidis, A. & Gabbouj, M., 2018, In : Pattern Recognition. 74, p. 359-372 14 p.

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

Reduction of variables of index generation functions using linear and quadratic transformations

Astola, H., Stanković, R. & Astola, J., 2018, In : Journal of Multiple-Valued Logic and Soft Computing. 31, 3, p. 255-270 16 p.

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

Robust linearized combined metrics of image visual quality

Ieremeiev, O., Lukin, V., Ponomarenko, N. & Egiazarian, K., 2018, *Electronic Imaging: Image Processing: Algorithms and Systems XVI*. Society for Imaging Science and Technology

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

Time-of-Flight Range Measurement in Low-sensing Environment: Noise Analysis and Complex-domain Non-local Denoising

Georgiev, M., Bregovic, R. & Gotchev, A., 2018, In : IEEE Transactions on Image Processing. 27, 6

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

How developers perceive smells in source code: A replicated study

Taibi, D., Janes, A. & Lenarduzzi, V., 1 Dec 2017, In : Information and Software Technology. 92, p. 223-235 13 p.

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

Multilinear class-specific discriminant analysis

Thanh Tran, D., Gabbouj, M. & Iosifidis, A., 1 Dec 2017, In : Pattern Recognition Letters. 100, p. 131-136 6 p.

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

Quantitative Graph Theory: A new branch of graph theory and network science

Dehmer, M., Emmert-Streib, F. & Shi, Y., 1 Dec 2017, In : Information Sciences. 418-419, p. 575-580 6 p.

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

Sparse approximations in complex domain based on BM3D modeling

Katkovnik, V., Ponomarenko, M. & Egiazarian, K., 1 Dec 2017, In : Signal Processing. 141, p. 96-108 13 p.

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

Multi-factor authentication for wearables: Configuring system parameters with risk function

Bezzateev, S., Afanasyeva, A., Voloshina, N. & Ometov, A., 13 Nov 2017, *Proceedings of the 2nd International Conference on Advanced Wireless Information, Data, and Communication Technologies, AWICT 2017*. ACM

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

Big Media Data Analysis

Iosifidis, A., Tefas, A., Pitas, I. & Gabbouj, M., 1 Nov 2017, In : Signal Processing: Image Communication. 59, p. 105-108 4 p.

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

Gamified crowdsourcing: Conceptualization, literature review, and future agenda

Morschheuser, B., Hamari, J., Koivisto, J. & Maedche, A., 1 Oct 2017, In : *International Journal of Human-Computer Studies*. 106, p. 26-43 18 p.

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

Highly unique network descriptors based on the roots of the permanent polynomial

Dehmer, M., Emmert-Streib, F., Hu, B., Shi, Y., Stefu, M. & Tripathi, S., 1 Oct 2017, In : *Information Sciences*. 408, p. 176-181 6 p.

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

Predicting academic success based on learning material usage

Leppänen, L., Leinonen, J., Ihantola, P. & Hellas, A., 27 Sep 2017, *SIGITE 2017 - Proceedings of the 18th Annual Conference on Information Technology Education*. ACM, p. 13-18 6 p.

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

Architecting liquid software

Gallidabino, A., Pautasso, C., Mikkonen, T., Systä, K., Voutilainen, J-P. & Taivalsaari, A., 1 Sep 2017, In : *Journal of Web Engineering*. 16, 5-6, p. 433-470 38 p.

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

Comparison of time metrics in programming

Leinonen, J., Leppänen, L., Ihantola, P. & Hellas, A., 14 Aug 2017, *ICER 2017 - Proceedings of the 2017 ACM Conference on International Computing Education Research*. ACM, p. 200-208 9 p.

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

Hardware design methodology using lightweight dataflow and its integration with low power techniques

Fanni, T., Li, L., Viitanen, T., Sau, C., Xie, R., Palumbo, F., Raffo, L., Huttunen, H., Takala, J. & Bhattacharyya, S. S., 1 Aug 2017, In : *Journal of Systems Architecture*. 78, p. 15-29 15 p.

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

Multi-robot active information gathering with periodic communication

Lauri, M., Heinänen, E. & Frintrop, S., 21 Jul 2017, *ICRA 2017 - IEEE International Conference on Robotics and Automation*. IEEE, p. 851-856 6 p.

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

Robustifying correspondence based 6D object pose estimation

Hietanen, A., Halme, J., Buch, A. G., Latokartano, J. & Kamarainen, J-K., 21 Jul 2017, *ICRA 2017 - IEEE International Conference on Robotics and Automation*. IEEE, p. 739-745 7 p.

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

A convolutional neural network approach for acoustic scene classification

Valenti, M., Squartini, S., Diment, A., Parascandolo, G. & Virtanen, T., 30 Jun 2017, *2017 International Joint Conference on Neural Networks, IJCNN 2017*. IEEE, p. 1547-1554 8 p.

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

Analyzing Forty years of software maintenance models

Lenarduzzi, V., Sillitti, A. & Taibi, D., 30 Jun 2017, *Proceedings - 2017 IEEE/ACM 39th International Conference on Software Engineering Companion, ICSE-C 2017*. Institute of Electrical and Electronics Engineers Inc., 7965284

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

Class-specific kernel discriminant analysis based on Cholesky decomposition

Iosifidis, A. & Gabbouj, M., 30 Jun 2017, *2017 International Joint Conference on Neural Networks, IJCNN 2017*. IEEE, p. 1141-1146 6 p.

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

DevOps in regulated software development: Case medical devices

Laukkarinen, T., Kuusinen, K. & Mikkonen, T., 30 Jun 2017, *Proceedings - 2017 IEEE/ACM 39th International Conference on Software Engineering: New Ideas and Emerging Results Track, ICSE-NIER 2017*. IEEE, p. 15-18 4 p.

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

Generalized model of biological neural networks: Progressive operational perceptrons

Kiranyaz, S., Ince, T., Iosifidis, A. & Gabbouj, M., 30 Jun 2017, *2017 International Joint Conference on Neural Networks, IJCNN 2017*. IEEE, p. 2477-2485 9 p.

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

Running software research programs: An agile approach

Järvinen, J., Huomo, T. & Mikkonen, T., 30 Jun 2017, *Proceedings - 2017 IEEE/ACM 39th International Conference on Software Engineering Companion, ICSE-C 2017*. IEEE, p. 314-316 3 p.

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

Using and collecting fine-grained usage data to improve online learning materials

Leppänen, L., Leinonen, J., Ithantola, P. & Hellas, A., 29 Jun 2017, *Proceedings - 2017 IEEE/ACM 39th International Conference on Software Engineering: Software Engineering and Education Track, ICSE-SEET 2017*. IEEE, p. 4-12 9 p.

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

Children designing videos: Tools, pedagogical models, and best practices for digital storytelling and media-making in the classroom

Multisilta, J., Niemi, H. & Hamilton, E., 27 Jun 2017, *IDC 2017 - Proceedings of the 2017 ACM Conference on Interaction Design and Children*. ACM, p. 693-696 4 p.

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

Barriers for bridging interpersonal gaps: Three inspirational design patterns for increasing collocated social interaction

Mitchell, R. & Olsson, T., 26 Jun 2017, *C&T 2017 - 8th International Conference on Communities and Technologies, Conference Proceedings*. ACM, p. 2-10 9 p.

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

A k-nearest neighbor multilabel ranking algorithm with application to content-based image retrieval

Zhang, H., Kiranyaz, S. & Gabbouj, M., 16 Jun 2017, *2017 IEEE International Conference on Acoustics, Speech, and Signal Processing, ICASSP 2017 - Proceedings*. IEEE, p. 2587-2591 5 p.

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

An accumulative fusion architecture for discriminating people and vehicles using acoustic and seismic signals

Lee, K., Riggan, B. S. & Bhattacharyya, S. S., 16 Jun 2017, *2017 IEEE International Conference on Acoustics, Speech, and Signal Processing, ICASSP 2017 - Proceedings*. IEEE, p. 2976-2980 5 p.

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

Inband full-duplex radio access system with self-backhauling: Transmit power minimization under QOS requirements

Korpi, D., Riihonen, T. & Valkama, M., 16 Jun 2017, *2017 IEEE International Conference on Acoustics, Speech, and Signal Processing, ICASSP 2017 - Proceedings*. IEEE, p. 6558-6562 5 p.

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

Reduced-complexity digital predistortion for massive MIMO

Abdelaziz, M., Anttila, L. & Valkama, M., 16 Jun 2017, *2017 IEEE International Conference on Acoustics, Speech, and Signal Processing, ICASSP 2017 - Proceedings*. IEEE, p. 6478-6482 5 p.

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

Comparing communication effort within the scrum, scrum with Kanban, XP, and Banana development processes

Taibi, D., Lenarduzzi, V., Ahmad, M. O. & Liukkunen, K., 15 Jun 2017, *Proceedings of the 21st International Conference on Evaluation and Assessment in Software Engineering, EASE 2017*. Association for Computing Machinery, Vol. Part F128635. p. 258-263 6 p.

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

Operationalizing the experience factory for effort estimation in agile processes

Taibi, D., Lenarduzzi, V., Diebold, P. & Lunesu, I., 15 Jun 2017, *Proceedings of the 21st International Conference on Evaluation and Assessment in Software Engineering, EASE 2017*. Association for Computing Machinery, Vol. Part F128635. p. 31-40 10 p.

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

Microservices in agile software development: A workshop-based study into issues, advantages, and disadvantages

Taibi, D., Lenarduzzi, V., Pahl, C. & Janes, A., 22 May 2017, *Proceedings of the XP2017 Scientific Workshops, XP 2017*. Association for Computing Machinery, Vol. Part F129907. a23

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

Comparing the Built-In Application Architecture Models in the Web Browser

Taivalsaari, A., Mikkonen, T., Pautasso, C. & Systä, K., 16 May 2017, *2017 IEEE International Conference on Software Architecture (ICSA)*. IEEE, p. 51-54 4 p. 7930198

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

Effects of extrinsic noise are promoter kinetics dependent

Bahrudeen, M. N. M., Startceva, S. & Ribeiro, A. S., 14 May 2017, *Proceedings of the 2017 9th International Conference on Bioinformatics and Biomedical Technology, ICBBT 2017*. ACM, p. 44-47 4 p.

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

Preventing keystroke based identification in open data sets

Leinonen, J., Ihantola, P. & Hellas, A., 12 Apr 2017, *L@S 2017 - Proceedings of the 4th (2017) ACM Conference on Learning at Scale*. ACM, p. 101-109 9 p.

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

On continuous deployment maturity in customer projects

Virtanen, A., Kuusinen, K., Leppänen, M., Luoto, A., Kilamo, T. & Mikkonen, T., 3 Apr 2017, *32nd Annual ACM Symposium on Applied Computing, SAC 2017*. ACM, p. 1205-1212 8 p.

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

User generated soundscapes activating museum visitors

Salo, K., Bauters, M. & Mikkonen, T., 3 Apr 2017, *32nd Annual ACM Symposium on Applied Computing, SAC 2017*. ACM, p. 220-227 8 p.

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

A Mixed Finite Element Method to Solve the EEG Forward Problem

Vorwerk, J., Engwer, C., Pursiainen, S. & Wolters, C. H., 1 Apr 2017, In : *IEEE Transactions on Medical Imaging*. 36, 4, p. 930-941 12 p., 7731161.

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

Modular audio story platform for museums

Salo, K., Zinin, V., Bauters, M. & Mikkonen, T., 7 Mar 2017, *IUI 2017 - Companion of the 22nd International Conference on Intelligent User Interfaces*. ACM, p. 113-116 4 p.

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

Post-deployment data: A recipe for satisfying knowledge needs in software development?

Suonsyrjä, S., Hokkanen, L., Terho, H., Systä, K. & Mikkonen, T., 6 Jan 2017, *2016 Joint Conference of the International Workshop on Software Measurement and the International Conference on Software Process and Product Measurement (IWSM-MENSURA)*. IEEE, p. 139-147 9 p.

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

Stop it, and be stubborn!

Valmari, A., 1 Jan 2017, In : *ACM Transactions on Embedded Computing Systems*. 16, 2, 46.

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

BM3D-HVS: Content-Adaptive denoising for improved visual quality

Egiazarian, K., Danielyan, A., Ponomarenko, N., Foia, A., Ieremeiev, O. & Lukin, V., 2017, *Image Processing: Algorithms and Systems XV*. p. 48-55 8 p. (Electronic Imaging).

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

Data Rate Assessment on L2–L3 CPU Bus and Bus between CPU and RAM in Modern CPUs

Komar, M. S., 2017, In : *Automatic Control and Computer Sciences*. 51, 7, p. 701-708 8 p.

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

From theories to game mechanics: Developing a game for training rational numbers

Kiili, K., 2017, *Proceedings of the 11th European Conference on Games Based Learning, ECGBL 2017*. Academic Conferences and Publishing International Limited, p. 328-334 7 p.

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

Full-reference metrics multidistortional analysis

Ieremeiev, O., Lukin, V., Ponomarenko, N. & Egiazarian, K., 2017, *Image Processing: Algorithms and Systems XV*. p. 27-35 9 p. (Electronic Imaging).

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

Method for Simulating Dose Reduction in Digital Breast Tomosynthesis

Borges, L. R., Guerrero, I., Bakic, P. R., Foi, A., Maidment, A. D. A. & Vieira, M. A. C., 2017, In : *IEEE Transactions on Medical Imaging*. 36, 11, p. 2331-2342

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

Urban 3D segmentation and modelling from street view images and LiDAR point clouds

Babahajani, P., Fan, L., Kämäräinen, J-K. & Gabbouj, M., 2017, In : *Machine Vision and Applications*. 28, 7, p. 679–694 16 p.

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

Improving the delivery cycle: A multiple-case study of the toolchains in Finnish software intensive enterprises

Mäkinen, S., Leppänen, M., Kilamo, T., Mattila, A-L., Laukkanen, E., Pagels, M. & Männistö, T., 1 Dec 2016, In : *Information and Software Technology*. 80, p. 1339-1351 13 p.

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

Casual immersive viewing with smartphones

Rakkolainen, I., Raisamo, R., Turk, M., Höllerer, T. & Palovuori, K., 17 Oct 2016, *AcademicMindtrek 2016 - Proceedings of the 20th International Academic Mindtrek Conference*. ACM, p. 449-452 4 p.

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

Focusing on user experience and business models in startups: Investigation of two-dimensional value creation

Hokkanen, L., Xu, Y. & Väänänen, K., 17 Oct 2016, *AcademicMindtrek 2016 - Proceedings of the 20th International Academic Mindtrek Conference*. ACM, p. 59-67 9 p.

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

Participatory development of user experience design guidelines for a B2B company

Hildén, E., Väättäjä, H., Roto, V. & Uusitalo, K., 17 Oct 2016, *AcademicMindtrek '16 Proceedings of the 20th International Academic Mindtrek Conference*. ACM, p. 49-58 10 p.

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

Software visualization today - Systematic literature review

Mattila, A-L., Ihanntola, P., Kilamo, T., Luoto, A., Nurminen, M. & Väättäjä, H., 17 Oct 2016, *AcademicMindtrek 2016 - Proceedings of the 20th International Academic Mindtrek Conference*. ACM, p. 262-271 10 p.

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

Temporal dimensions of affect in user experience of digital news in the field

Jumisko-Pyykkö, S., Pesonen, E. & Väättäjä, H., 17 Oct 2016, *AcademicMindtrek 2016 - Proceedings of the 20th International Academic Mindtrek Conference*. ACM, p. 192-197

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

Ensembles of dense and dense sampling descriptors for the HEP-2 cells classification problem

Nanni, L., Lumini, A., dos Santos, F. L. C., Paci, M. & Hyttinen, J., 15 Oct 2016, In : *Pattern Recognition Letters*. 82, p. 28-35

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

MVP Explained: A Systematic Mapping Study on the Definitions of Minimal Viable Product

Lenarduzzi, V. & Taibi, D., 14 Oct 2016, *Proceedings - 42nd Euromicro Conference on Software Engineering and Advanced Applications, SEAA 2016*. IEEE, p. 112-119 8 p.

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

Using elicitation studies to generate collocated interaction methods

Jokela, T., Rezaei, P. P. & Väänänen, K., 6 Sep 2016, *Proceedings of the 18th International Conference on Human-Computer Interaction with Mobile Devices and Services Adjunct, MobileHCI 2016*. ACM, p. 1129-1133 5 p.

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

Nyström-based approximate kernel subspace learning

Iosifidis, A. & Gabbouj, M., Sep 2016, In : *Pattern Recognition*. p. 190-197 8 p.

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

Trading exploits online: A preliminary case study

Ruohonen, J., Hyrynsalmi, S. & Leppänen, V., 23 Aug 2016, *IEEE RCIS 2016 - IEEE 10th International Conference on Research Challenges in Information Science*. IEEE COMPUTER SOCIETY PRESS

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

SoftWater: Software-defined networking for next-generation underwater communication systems

Akyildiz, I. F., Wang, P. & Lin, S. C., Aug 2016, In : *Ad Hoc Networks*. 46

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

On the Architecture of Liquid Software: Technology Alternatives and Design Space

Gallidabino, A., Pautasso, C., Ilvonen, V., Mikkonen, T., Systä, K., Voutilainen, J.-P. & Taivalsaari, A., 19 Jul 2016, *Proceedings - 2016 13th Working IEEE/IFIP Conference on Software Architecture, WICSA 2016*. IEEE, p. 122-127 6 p.

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

Compressive Sensing Image Restoration Using Adaptive Curvelet Thresholding and Nonlocal Sparse Regularization

Eslahi, N. & Aghagolzadeh, A., 1 Jul 2016, In : *IEEE Transactions on Image Processing*. 25, 7, p. 3126-3140 15 p.

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

An evaluation framework for cross-platform mobile app development tools: A case analysis of adobe PhoneGap framework

Ahti, V., Hyrynsalmi, S. & Nevalainen, O., 23 Jun 2016, *Computer Systems and Technologies 17th International Conference, CompSysTech 2016 - Proceedings*. Association for Computing Machinery, Vol. 1164. p. 41-48 8 p.

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

A survey on aims and environments of diversification and obfuscation in software security

Hosseinzadeh, S., Rauti, S., Laurén, S., Mäkelä, J. M., Holvitie, J., Hyrynsalmi, S. & Leppänen, V., 23 Jun 2016, *Computer Systems and Technologies 17th International Conference, CompSysTech 2016 - Proceedings*. Association for Computing Machinery, Vol. 1164. p. 113-120 8 p.

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

Emotional Reactions to Point-Light Display Animations

Venesvirta, H., Surakka, V., Gizatdinova, Y., Lylykangas, J., Špakov, O., Verho, J., Vetek, A. & Lekkala, J., 16 Jun 2016, In : *Interacting with Computers*. 28, 4, p. 521-531 11 p.

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

Exploring the use of deprecated PHP releases in the wild internet: Still a LAMP issue?

Ruohonen, J., Hyrynsalmi, S. & Leppänen, V., 13 Jun 2016, *6th International Conference on Web Intelligence, Mining and Semantics, WIMS 2016*. Association for Computing Machinery, 26

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

Fifty years of graph matching, network alignment and network comparison

Emmert-Streib, F., Dehmer, M. & Shi, Y., 10 Jun 2016, In : *Information Sciences*. 346-347, p. 180-197 18 p.

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

Learning movement synchronization in multi-component robotic systems

Thabet, M., Montebelli, A. & Kyrki, V., 8 Jun 2016, *2016 IEEE International Conference on Robotics and Automation (ICRA)*. IEEE, p. 249-256 8 p.

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

Optimizing gaze direction in a visual navigation task

Välimäki, T. & Ritala, R., 8 Jun 2016, *2016 IEEE International Conference on Robotics and Automation (ICRA)*. IEEE, p. 1427-1432 6 p.

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

A design framework for mapping vectorized synchronous dataflow graphs onto CPU-GPU platforms

Lin, S., Liu, Y., Plishker, W. & Bhattacharyya, S. S., 23 May 2016, *Proceedings of the 19th International Workshop on Software and Compilers for Embedded Systems, SCOPES 2016*. ACM, p. 20-29 10 p.

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

Dynamic software updating techniques in practice and Educator's guides: A review

Ilvonen, V., Ihanntola, P. & Mikkonen, T., 19 May 2016, *2016 IEEE 29th International Conference on Software Engineering Education and Training (CSEET)*. IEEE, p. 86-90 5 p.

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

Blind sub-Nyquist GNSS signal detection

Daniel, O., Raasakka, J., Peltola, P., Fröhle, M., Rivero-Rodriguez, A., Wymeersch, H. & Nurmi, J., 18 May 2016, *2016 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*. IEEE, p. 6575-6579 5 p.

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

On Renyi's entropy estimation with one-dimensional Gaussian kernels

Sarbu, S., 18 May 2016, *2016 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*. IEEE, p. 4408-4412 5 p.

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

Supervised subspace learning based on deep randomized networks

Iosifidis, A. & Gabbouj, M., 18 May 2016, *2016 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*. The Institute of Electrical and Electronics Engineers, Inc., p. 2584-2588 5 p.

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

Prototyping real-Time tracking systems on mobile devices

Lee, K., Salem, H. B., Damarla, T., Stechele, W. & Bhattacharyya, S. S., 16 May 2016, *CF '16 Proceedings of the ACM International Conference on Computing Frontiers*. ACM, p. 301-308 8 p.

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

Collaboration change in enterprise software development

Smolander, K., Rossi, M. & Pekkola, S., 14 May 2016, *Proceedings - 9th International Workshop on Cooperative and Human Aspects of Software Engineering, CHASE 2016*. ACM, p. 68-74 7 p.

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

Coordinating proactive social devices in a mobile cloud: Lessons learned and a way forward

Mäkitalo, N., Aaltonen, T. & Mikkonen, T., 14 May 2016, *MOBILESoft '16 Proceedings of the International Conference on Mobile Software Engineering and Systems*. ACM, p. 179-188 10 p.

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

Exploring the role of ten universal values in using products and services

Partala, T. & Kujala, S., 1 May 2016, In : *Interacting with Computers*. 28, 3, p. 311-331 21 p.

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

Learnings from the Finnish game industry

Helenius, M., Kettunen, P. & Frank, L., 7 Apr 2016, *Proceedings of the 10th Travelling Conference on Pattern Languages of Programs, VikingPLoP 2016*. ACM, a12

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

Patterns for safety system bus architecture

Rauhamaäki, J., 7 Apr 2016, *Proceedings of the 10th Travelling Conference on Pattern Languages of Programs, VikingPLoP 2016*. ACM, a4

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

Patterns for subsidiaries as innovation tools

Leppänen, M. & Hokkanen, L., 7 Apr 2016, *Proceedings of the 10th Travelling Conference on Pattern Languages of Programs, VikingPLoP 2016*. ACM, a7

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

Texture classification using dense micro-block difference

Mehta, R. & Egiazarian, K., 1 Apr 2016, In : *IEEE Transactions on Image Processing*. 25, 4, p. 1604-1616 13 p.

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

Detection of bubbles as concentric circular arrangements

Strokina, N., Matas, J., Eerola, T., Lensu, L. & Kälviäinen, H., Apr 2016, In : *Machine Vision and Applications*. 27, 3, p. 387-396 10 p.

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

An Assessment of Errors and Their Reduction in Terrestrial Laser Scanner Measurements in Marmorean Surfaces

Garcia-Fernandez, J., 1 Mar 2016, In : *3D Research*. 7, 1, p. 1-11 11 p., 2.

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

Increasing collocated people's awareness of the mobile user's activities: A field trial of social displays

Jarusriboonchai, P., Malapaschas, A., Olsson, T. & Väänänen, K., 27 Feb 2016, *CSCW '16 - Proceedings of the 19th ACM Conference on Computer-Supported Cooperative Work & Social Computing*. ACM, p. 1691-1702 12 p.

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

Social display...We can see what you are doing on your mobile device

Jarusriboonchai, P., Malapaschas, A., Olsson, T. & Väänänen, K., 27 Feb 2016, *CSCW '16 Proceedings of the 19th ACM Conference on Computer-Supported Cooperative Work & Social Computing*. ACM, p. 53-56 4 p.

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

Lean manufacturing methods in simulation literature: Review and association analysis

Tokola, H., Niemi, E. & Väistö, V., 16 Feb 2016, *2015 Winter Simulation Conference (WSC)*. p. 2239-2248 10 p.

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

The influence of developer multi-homing on competition between software ecosystems

Hyrnsalmi, S., Suominen, A. & Mäntymäki, M., 1 Jan 2016, In : *Journal of Systems and Software*. 111, p. 119-127 9 p.

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

Analysis of a receiver-based reliable broadcast approach for vehicular networks

Gholibeigi, M., Heijenk, G., Moltchanov, D. & Koucheryavy, Y., 2016, In : *Ad Hoc Networks*. 37, p. 63-75 13 p.
Research output: Contribution to journal › Article › Scientific › peer-review

Collecting usage data for software development: Selection framework for technological approaches

Suonsyrjä, S., Systä, K., Mikkonen, T. & Terho, H., 2016, *Proceedings - SEKE 2016: 28th International Conference on Software Engineering and Knowledge Engineering*. Knowledge Systems Institute Graduate School, p. 114-119 6 p.
Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Comparison of Feature Selection Techniques in Machine Learning for Anatomical Brain MRI in Dementia

Tohka, J., Moradi, E., Huttunen, H., Alzheimer's Disease Neuroimaging Initiative & Alzheimer's Disease Neuroimaging Initiative 2, 2016, In : *Neuroinformatics*. 14, 3, p. 279-296 18 p.
Research output: Contribution to journal › Article › Scientific › peer-review

Dominant Rotated Local Binary Patterns (DRLBP) for texture classification

Mehta, R. & Egiazarian, K., 2016, In : *Pattern Recognition Letters*. 71, p. 16-22 7 p.
Research output: Contribution to journal › Article › Scientific › peer-review

Foveated Nonlocal Self-Similarity

Foi, A. & Boracchi, G., 2016, In : *International Journal of Computer Vision*. 120, 1, p. 78-110 33 p.
Research output: Contribution to journal › Article › Scientific › peer-review

Graph Embedded Extreme Learning Machine

Iosifidis, A., Tefas, A. & Pitas, I., 2016, In : *IEEE Transactions on Cybernetics*. 46, 1, p. 311 - 324
Research output: Contribution to journal › Article › Scientific › peer-review

Gravity gradient routing for information delivery in fog Wireless Sensor Networks

Ivanov, S., Balasubramaniam, S., Botvich, D. & Akan, O. B., 2016, In : *Ad Hoc Networks*. 46, p. 61-74
Research output: Contribution to journal › Article › Scientific › peer-review

HTML5-based mobile agents for Web-of-Things

Voutilainen, J. P., Mattila, A. L., Systä, K. & Mikkonen, T., 2016, In : *Informatica*. 40, 1, p. 43-51 9 p.
Research output: Contribution to journal › Article › Scientific › peer-review

Methodology to obtain the security controls in multi-cloud applications

Afolaranmi, S. O., Gonzalez Moctezuma, L. E., Rak, M., Casola, V., Rios, E. & Martinez Lastra, J. L., 2016, *CLOSER 2016 - Proceedings of the 6th International Conference on Cloud Computing and Services Science*. SCITEPRESS, Vol. 1 . p. 327-332 6 p.
Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

One-Class Classification based on Extreme Learning and Geometric Class Information

Iosifidis, A., Mygdalis, V., Tefas, A. & Pitas, I., 2016, In : *Neural Processing Letters*. p. 1-16 16 p.
Research output: Contribution to journal › Article › Scientific › peer-review

On the arity gap of finite functions: Results and applications

Couceiro, M. & Lehtonen, E., 2016, In : *Journal of Multiple-Valued Logic and Soft Computing*. 27, 2-3, p. 193-207 15 p.
Research output: Contribution to journal › Review Article › Scientific › peer-review

Software Startups - A Research Agenda

Unterkalmsteiner, M., Abrahamsson, P., Wang, X. F., Nguyen-Duc, A., Shah, S., Bajwa, S. S., Baltés, G. H., Conboy, K., Cullina, E., Dennehy, D., Edison, H., Fernandez-Sanchez, C., Garbajosa, J., Gorschek, T., Klotins, E., Hokkanen, L., Kon, F., Lunesu, I., Marchesi, M., Morgan, L., Oivo, M., Selig, C., Seppänen, P., Sweetman, R., Tyrväinen, P., Ungerer, C. & Yagüe, A., 2016, In : *e-Informatica Software Engineering Journal*. 10, 1, p. 89-123 35 p.
Research output: Contribution to journal › Article › Scientific › peer-review

Still image/video frame lossy compression providing a desired visual quality

Zemliachenko, A., Lukin, V., Ponomarenko, N., Egiazarian, K. & Astola, J., 2016, In : *Multidimensional Systems and Signal Processing*. 27, 3, p. 697-718

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

Towards component-aware function point measurement

Lavazza, L., Lenarduzzi, V. & Taibi, D., 2016, *Proceedings - 26th International Workshop on Software Measurement, IWSM 2016 and the 11th International Conference on Software Process and Product Measurement, Mensura 2016*. IEEE, p. 35-44 10 p.

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

Network signatures based on gene pair expression ratios improve classification and the analysis of muscle-invasive urothelial cancer

De Matos Simoes, R., Mitsiades, C., Williamson, K. E. & Emmert-Streib, F., 16 Dec 2015, *2015 IEEE International Conference on Bioinformatics and Biomedicine (BIBM)*. IEEE, p. 1216-1223 8 p.

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

Generative part-based Gabor object detector

Riabchenko, E. & Kämäräinen, J-K., 15 Dec 2015, In : *Pattern Recognition Letters*. 68, P1, p. 1-8 8 p.

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

A State Space Tool for Concurrent System Models Expressed In C++

Valmari, A., 14 Dec 2015, *SPLST 2015 Symposium on Programming Languages and Software Tools: Proceedings of the 14th Symposium on Programming Languages and Software Tools (SPLST'15) Tampere, Finland, Oct 9-10, 2015*.

Nummenmaa, J., Sievi-Korte, O. & Mäkinen, E. (eds.). CEUR-WS.org, Vol. 1525. p. 91-105 15 p. 7. (CEUR Workshop Proceedings; vol. 1525).

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

Time series trends in software evolution

Ruohonen, J., Hyrynsalmi, S. & Leppänen, V., 1 Dec 2015, In : *Journal of Software: Evolution and Process*. 27, 12, p. 990-1015 26 p.

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

Need to touch, wonder of discovery, and social capital: Experiences with interactive playful seats

Nummenmaa, T., Tyni, H., Kultima, A., Alha, K. & Holopainen, J., 16 Nov 2015, *ACE 2015 - 12th Advances in Computer Entertainment Technology Conference, Proceedings*. Association for Computing Machinery, Vol. 16-19-November-2015. 10

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

Who is moving - User or device? Experienced quality of mobile 3D video in vehicles

Jumisko-Pyykkö, S., Markopoulos, P. & Hannuksela, M. M., 16 Nov 2015, *ACE 2015 - 12th Advances in Computer Entertainment Technology Conference, Proceedings*. ACM, 13

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

Collaborative navigation in virtual worlds: How gender and game experience influence user behavior

Kallioniemi, P., Heimonen, T., Turunen, M., Hakulinen, J., Keskinen, T., Pihkala-Posti, L., Okkonen, J. & Raisamo, R., 13 Nov 2015, *Proceedings - VRST 2015: 21st ACM Symposium on Virtual Reality Software and Technology*. Association for Computing Machinery, Vol. 13-15-November-2015. p. 173-182 10 p.

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

Executing dataflow actors as kahn processes

Tretter, A., Boutellier, J., Guthrie, J., Schor, L. & Thiele, L., 4 Nov 2015, *2015 Proceedings of the International Conference on Embedded Software, EMSOFT 2015*. Institute of Electrical and Electronics Engineers Inc., p. 105-114 10 p. 7318265

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

Sparse extreme learning machine classifier exploiting intrinsic graphs

Iosifidis, A., Tefas, A. & Pitas, I., 1 Nov 2015, In : *Pattern Recognition Letters*. 65, p. 192-196 5 p.

Research output: [Contribution to journal](#) > [Article](#) > [Scientific](#) > [peer-review](#)

Model selection for linear classifiers using Bayesian error estimation

Huttunen, H. & Tohka, J., Nov 2015, In : *Pattern Recognition*. 48, 11, p. 3739-3748 10 p.

Research output: [Contribution to journal](#) > [Article](#) > [Scientific](#) > [peer-review](#)

Antroposeeni - A mixed reality game

Luhtala, M., Karvonen, T., Pylväs, J., Ala-Kokko, A., Magica, R., Takeda, Y. & Turunen, M., 22 Sep 2015, *ACADEMICMINDTREK 2015 - Proceedings of the 19th International Academic Mindtrek Conference*. Association for Computing Machinery, Inc, p. 211-213 3 p.

Research output: [Chapter in Book/Report/Conference proceeding](#) > [Conference contribution](#) > [Scientific](#) > [peer-review](#)

OASIS deck of cards - House of colleagues: A playful

Nummenmaa, T., Kultima, A., Kankainen, V., Savolainen, S., Syvänen, A., Alha, K. & Mäyrä, F., 22 Sep 2015, *ACADEMICMINDTREK 2015 - Proceedings of the 19th International Academic Mindtrek Conference*. Association for Computing Machinery, Inc, p. 2-9 8 p.

Research output: [Chapter in Book/Report/Conference proceeding](#) > [Conference contribution](#) > [Scientific](#) > [peer-review](#)

Haptic feedback of gaze gestures with glasses: Localization accuracy and effectiveness

Rantala, J., Kangas, J., Isokoski, P., Akkil, D., Špakov, O. & Raisamo, R., 7 Sep 2015, *UbiComp and ISWC 2015 - Proceedings of the 2015 ACM International Joint Conference on Pervasive and Ubiquitous Computing and the Proceedings of the 2015 ACM International Symposium on Wearable Computers*. Association for Computing Machinery, Inc, p. 855-862 8 p.

Research output: [Chapter in Book/Report/Conference proceeding](#) > [Conference contribution](#) > [Scientific](#) > [peer-review](#)

Augmenting Technology Trees: Automation and Tool Support

Heinimäki, T. J. & Elomaa, T., Sep 2015, *Proceedings of the Seventh International Conference on Virtual Worlds and Games for Serious Applications (VS-Games 2015)*. IEEE, p. 68-75 8 p.

Research output: [Chapter in Book/Report/Conference proceeding](#) > [Conference contribution](#) > [Scientific](#) > [peer-review](#)

Software evolution and time series volatility: An empirical exploration

Ruohonen, J., Hyrynsalmi, S. & Leppänen, V., 30 Aug 2015, *14th International Workshop on Principles of Software Evolution, IWPSE 2015 - Proceedings*. Institute of Electrical and Electronics Engineers Inc., Vol. 30-Aug-2015. p. 56-65 10 p.

Research output: [Chapter in Book/Report/Conference proceeding](#) > [Conference contribution](#) > [Scientific](#) > [peer-review](#)

Mobiscool: 1st workshop on mobile, social and culturally oriented learning

Nanavati, A. A., Rajput, N., Turunen, M., Knoche, H. & Rehm, M., 24 Aug 2015, *MobileHCI 2015 - Proceedings of the 17th International Conference on Human-Computer Interaction with Mobile Devices and Services Adjunct*. Association for Computing Machinery, Inc, p. 1187-1190 4 p.

Research output: [Chapter in Book/Report/Conference proceeding](#) > [Conference contribution](#) > [Scientific](#) > [peer-review](#)

Scinet: Interactive intent modeling for information discovery

Ruotsalo, T., Peltonen, J., Eugster, M. J. A., Glowacka, D., Reijonen, A., Jacucci, G., Myllymäki, P. & Kaski, S., 9 Aug 2015, *SIGIR 2015 - Proceedings of the 38th International ACM SIGIR Conference on Research and Development in Information Retrieval*. Association for Computing Machinery, Inc, p. 1043-1044 2 p.

Research output: [Chapter in Book/Report/Conference proceeding](#) > [Conference contribution](#) > [Scientific](#) > [peer-review](#)

Collaborative filtering based on group coordinates for smoothing and directional sharpening

Azzari, L. & Foi, A., 4 Aug 2015, *ICASSP, IEEE International Conference on Acoustics, Speech and Signal Processing - Proceedings*. IEEE, p. 1573-1577 5 p.

Research output: [Chapter in Book/Report/Conference proceeding](#) > [Conference contribution](#) > [Scientific](#) > [peer-review](#)

Enhancing class discrimination in Kernel Discriminant Analysis

Iosifidis, A., Tefas, A. & Pitas, I., 4 Aug 2015, *ICASSP, IEEE International Conference on Acoustics, Speech and Signal Processing - Proceedings*. The Institute of Electrical and Electronics Engineers, Inc., p. 1926-1930 5 p. 7178306

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

Exemplar-based speech enhancement for deep neural network based automatic speech recognition

Baby, D., Gemmeke, J. F., Virtanen, T. & Van Hamme, H., 4 Aug 2015, *ICASSP, IEEE International Conference on Acoustics, Speech and Signal Processing - Proceedings*. The Institute of Electrical and Electronics Engineers, Inc., p. 4485-4489 5 p.

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

Exploiting subclass information in one-class support vector machine for video summarization

Mygdalis, V., Iosifidis, A., Tefas, A. & Pitas, I., 4 Aug 2015, *ICASSP, IEEE International Conference on Acoustics, Speech and Signal Processing - Proceedings*. The Institute of Electrical and Electronics Engineers, Inc., Vol. 2015-August. p. 2259-2263 5 p.

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

Low-complexity robust DOA estimation

Dumitrescu, B., Rusu, C., Tabus, I. & Astola, J., 4 Aug 2015, *ICASSP, IEEE International Conference on Acoustics, Speech and Signal Processing - Proceedings*. The Institute of Electrical and Electronics Engineers, Inc., p. 2794-2798 5 p.

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

Low-Latency Sound-Source-Separation using Non-Negative Matrix Factorisation with Coupled Analysis and Synthesis Dictionaries

Barker, T., Virtanen, T. & Pontoppidan, N. H., 4 Aug 2015, *2015 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*. IEEE, p. 241-245 5 p.

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

Similarity induced group sparsity for non-negative matrix factorisation

Hurmala, A., Saeidi, R. & Virtanen, T., 4 Aug 2015, *ICASSP, IEEE International Conference on Acoustics, Speech and Signal Processing - Proceedings*. The Institute of Electrical and Electronics Engineers, Inc., p. 4425-4429 5 p.

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

Automatic image-based detection and inspection of paper fibres for grasping

Hirvonen, J. & Kallio, P., 1 Aug 2015, In : *IET Computer Vision*. 9, 4, p. 588-594 7 p.

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

Exploring the Stability of Software with Time-Series Cross-Sectional Data

Ruohonen, J., Hyrynsalmi, S. & Leppänen, V., 31 Jul 2015, *Proceedings - 2nd International Workshop on Software Architecture and Metrics, SAM 2015*. Institute of Electrical and Electronics Engineers Inc., p. 41-47 7 p.

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

Mashing Up Software Issue Management, Development, and Usage Data

Mattila, A-L., Lehtonen, T., Terho, H., Mikkonen, T. & Systä, K., 24 Jul 2015, *2015 IEEE/ACM 2nd International Workshop on Rapid Continuous Software Engineering (RCoSE)*. The Institute of Electrical and Electronics Engineers, Inc., p. 26-29 4 p.

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

Four patterns for internal startups

Leppänen, M. & Hokkanen, L., 8 Jul 2015, *Proceedings of the 20th European Conference on Pattern Languages of Programs, EuroPLoP 2015*. ACM, a5

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

Three patterns for user involvement in startups

Hokkanen, L. & Leppänen, M., 8 Jul 2015, *Proceedings of the 20th European Conference on Pattern Languages of Programs, EuroPLoP 2015*. ACM, a51

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

Railway fastener inspection by real-time machine vision

Aytekin, C., Rezaeitabar, Y., Dogru, S. & Ulusoy, I., 1 Jul 2015, In : IEEE Transactions on Systems, Man, and Cybernetics: Systems. 45, 7, p. 1101-1107 7 p.

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

A time-optimal bounded velocity path-following controller for generic Wheeled Mobile Robots

Oftadeh, R., Ghabcheloo, R. & Mattila, J., 29 Jun 2015, *2015 IEEE International Conference on Robotics and Automation (ICRA), 26-30 May 2015, Seattle, WA*. Institute of Electrical and Electronics Engineers IEEE, p. 676-683 8 p.

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

Collaborative cloud-based management of home networks

Silverajan, B., Luoma, J-P., Vajaranta, M. & Itäpuro, R., 29 Jun 2015, *Proceedings of the 2015 IFIP/IEEE International Symposium on Integrated Network Management, IM 2015*. IEEE, p. 786-789 4 p.

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

Electroplated nickel microspring and low-friction precision linear slider: A novel micro-force sensing tool

Saketi, P., Wangyang, P., Li, H., Wang, Q. & Kallio, P., 29 Jun 2015, *2015 IEEE International Conference on Robotics and Automation (ICRA), 26-30 May 2015, Seattle, WA*. p. 2679-2684 6 p.

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

Novel pairwise coupled kinematic solution for algebraic angular acceleration estimation of serial link manipulators

Vihonen, J., Honkakorpi, J., Mattila, J. & Visa, A., 29 Jun 2015, *2015 IEEE International Conference on Robotics and Automation (ICRA)*. Institute of Electrical and Electronics Engineers IEEE, p. 809-814 6 p.

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

Optimal sensing via multi-armed bandit relaxations in mixed observability domains

Lauri, M. & Ritala, R., 29 Jun 2015, *2015 IEEE International Conference on Robotics and Automation (ICRA), 26-30 May 2015, Seattle, WA*. Vol. 2015-June. p. 4807-4812 6 p.

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

A comparison of security assurance support of agile software development methods

Rindell, K., Hyrynsalmi, S. & Leppänen, V., 25 Jun 2015, *Computer Systems and Technologies - 16th International Conference, CompSysTech 2015: Proceedings*. Association for Computing Machinery, Vol. 1008. p. 61-68 8 p.

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

Information retrieval approach to meta-visualization

Peltonen, J. & Lin, Z., 1 May 2015, In : Machine Learning. 99, 2, p. 189-229 41 p.

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

Glance awareness and gaze interaction in smartwatches

Akkil, D., Kangas, J., Rantala, J., Isokoski, P., Špakov, O. & Raisamo, R., 18 Apr 2015, *CHI 2015 - Extended Abstracts Publication of the 33rd Annual CHI Conference on Human Factors in Computing Systems: Crossings*. Association for Computing Machinery, Vol. 18. p. 1271-1276 6 p.

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

Intentstreams: Smart parallel search streams for branching exploratory search

Andolina, S., Klouche, K., Peltonen, J., Hoque, M., Ruotsalo, T., Cabral, D., Klami, A., Glowacka, D., Floréen, P. & Jacucci, G., 18 Mar 2015, *IUI 2015 - Proceedings of the 20th ACM International Conference on Intelligent User Interfaces*. Association for Computing Machinery, Vol. 2015-January. p. 300-305 6 p.

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

On the kernel Extreme Learning Machine classifier

Iosifidis, A., Tefas, A. & Pitas, I., 1 Mar 2015, In : Pattern Recognition Letters. 54, p. 11-17 7 p.

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

The highways and country roads to continuous deployment

Leppänen, M., Mäkinen, S., Pagels, M., Eloranta, V-P., Itkonen, J., Mäntylä, M. V. & Männistö, T., 1 Mar 2015, In : *IEEE Software*. 32, 2, p. 64-72 9 p.

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

The MOBISERV-AIIA eating and drinking multi-view database for vision-based assisted living

Iosifidis, A., Marami, E., Tefas, A., Pitas, I. & Lyroudia, K., 1 Mar 2015, In : *Journal of Information Hiding and Multimedia Signal Processing*. 6, 2, p. 254-273 20 p.

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

LTE indoor MIMO performances field measurements

Nguyen-Thanh, D., Le-Tien, T., Bui-Thu, C. & Le-Thanh, T., 17 Feb 2015, *International Conference on Advanced Technologies for Communications*. IEEE, p. 84-89 6 p.

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

Adaptive spatial resolution selection for stereoscopic video compression with MV-HEVC: A frequency based approach

Aflaki, P., Hannuksela, M. M. & Gabbouj, M., 5 Feb 2015, *2014 IEEE International Symposium on Multimedia, ISM 2014, 10-12 Dec. 2014, Taichung*. The Institute of Electrical and Electronics Engineers, Inc., p. 267-270 4 p.

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

Salient event detection in basketball mobile videos

Cricri, F., Mate, S., Curcio, I. D. D. & Gabbouj, M., 5 Feb 2015, *Proceedings - 2014 IEEE International Symposium on Multimedia, ISM 2014*. The Institute of Electrical and Electronics Engineers, Inc., p. 63-70 8 p. 7032995

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

Fault tolerant control architecture design for mobile manipulation in scientific facilities

M. Aref, M., Oftadeh, R., Ghabcheloo, R. & Mattila, J., 29 Jan 2015, In : *international Journal of Advanced Robotic Systems*. 12, 4

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

Classification of iPSC colony images using hierarchical strategies with support vector machines

Joutsijoki, H., Rasku, J., Haponen, M., Baldin, I., Gizatdinova, Y., Paci, M., Saarikoski, J., Varpa, K., Siirtola, H., Ávalos-Salguero, J., Iltanen, K., Laurikkala, J., Penttinen, K., Hyttinen, J., Aalto-Setälä, K. & Juhola, M., 13 Jan 2015, *IEEE SSCI 2014 - 2014 IEEE Symposium Series on Computational Intelligence - CIDM 2014: 2014 IEEE Symposium on Computational Intelligence and Data Mining, Proceedings*. The Institute of Electrical and Electronics Engineers, Inc., p. 92 7 p. 7008152

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

Image database TID2013: Peculiarities, results and perspectives

Ponomarenko, N., Jin, L., Ieremeiev, O., Lukin, V., Egiazarian, K., Astola, J., Vozel, B., Chehdi, K., Carli, M., Battisti, F. & Jay Kuo, C. C., 1 Jan 2015, In : *Signal Processing: Image Communication*. 30, p. 57-77 21 p.

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

PaaSword: A holistic data privacy and security by design framework for cloud services

Verginadis, Y., Michalas, A., Gouvas, P., Schiefer, G., Hübsch, G. & Paraskakis, I., 1 Jan 2015, *CLOSER 2015 - 5th International Conference on Cloud Computing and Services Science, Proceedings*. SCITEPRESS, p. 206-213 8 p.

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

Social behavior in bacterial nanonetworks: Challenges and opportunities

Hasan, M., Hossain, E., Balasubramaniam, S. & Koucheryavy, Y., 1 Jan 2015, In : *IEEE Network*. 29, 1, p. 26-34 9 p., 7018200.

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

Analytical model in discrete time for cross-layer video communication over LTE

Efimushkina, T., Gabbouj, M. & Samuylov, K., 2015, In : *Automatic Control and Computer Sciences*. 48, 6, p. 345-357 13 p.

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

Cultural influence on online community use: A cross-cultural study on online exercise diary users of three nationalities

Malinen, S. & Nurkka, P., 2015, In : International Journal of Web Based Communities. 11, 2, p. 153-169 17 p.

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

Designing an Unobtrusive Analytics Framework for Monitoring Java Applications

Suonsyrjä, S. & Mikkonen, T., 2015, *Software Measurement: 25th International Workshop on Software Measurement and 10th International Conference on Software Process and Product Measurement, IWSM-Mensura 2015, Kraków, Poland, October 5–7, 2015, Proceedings*. Kobyliński, A., Czarnacka-Chrobot, B. & Świerczek, J. (eds.). Springer International Publishing, Vol. 230. p. 160-175 16 p. (Lecture Notes in Business Information Processing).

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

Distant speech separation using predicted time-frequency masks from spatial features

Pertilä, P. & Nikunen, J., 2015, In : Speech Communication. 68, p. 97-106 10 p.

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

Dynamic text presentation in print interpreting - An eye movement study of reading behaviour

Sharmin, S., Špakov, O. & Rähkä, K. J., 2015, In : International Journal of Human-Computer Studies. 78, p. 17-30 14 p.

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

Majorization-minimization for manifold embedding

Yang, Z., Peltonen, J. & Kaski, S., 2015, In : Journal of Machine Learning Research. 38, p. 1088-1097 10 p.

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

On constructibility and unconstructibility of LTS operators from other LTS operators

Valmari, A., 2015, In : Acta Informatica. 52, 2-3, p. 207-234 28 p.

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

Quality measures for improving technology trees

Heinimäki, T. J. & Elomaa, T., 2015, In : International Journal of Computer Games Technology. 2015, 10 p., 975371.

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

Subjective evaluation of Super Multi-View compressed contents on high-end light-field 3D displays

Dricot, A., Jung, J., Cagnazzo, M., Pesquet, B., Dufaux, F., Kovács, P. & Adhikarla, V. K., 2015, In : Signal Processing: Image Communication. 39, Part B, p. 369–385

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

Schoolchildren's user experiences on a physical exercise game utilizing lighting and audio

Keskinen, T., Hakulinen, J., Turunen, M., Heimonen, T., Sand, A., Paavilainen, J., Parviainen, J., Yrjänäinen, S., Mäyrä, F., Okkonen, J. & Raisamo, R., 1 Dec 2014, In : Entertainment Computing. 5, 4, p. 475-484 10 p.

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

Goofy Mus, grumpy Mur and dirty Muf: Talking playful seats with personalities

Kultima, A., Nummenmaa, T., Tyni, H., Alha, K. & Mayra, F., 11 Nov 2014, *ACE 2014 - 11th Advances in Computer Entertainment Technology Conference, Workshops Proceedings*. Association for Computing Machinery, Vol. 11-14-November-2014. a9

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

Information wall: Evaluation of a gesture-controlled public display

Mäkelä, V., Heimonen, T., Luhtala, M. & Turunen, M., 11 Nov 2014, *ACE 2014 - 11th Advances in Computer Entertainment Technology Conference, Proceedings*. Association for Computing Machinery, Vol. 2014-November. p. 228-231 4 p.

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

Body-touching: An embodied interaction technique for health information systems in developing regions

Sharma, S., Srivastava, S., Sorathia, K., Hakulinen, J., Heimonen, T., Turunen, M. & Rajput, N., 4 Nov 2014, *MINDTREK 2014 - Proceedings of the 18th International Academic MindTrek Conference: "Media Business, Management, Content and Services"*. Association for Computing Machinery, Inc, p. 49-56 8 p.

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

DYNAMO sound engine - Exploring the aesthetics of dynamic sound interactions

Luhtala, M., Heimonen, T., Mäkelä, V., Keskinen, T., Turunen, M. & Saarinen, S., 4 Nov 2014, *MINDTREK 2014 - Proceedings of the 18th International Academic MindTrek Conference: "Media Business, Management, Content and Services"*. Association for Computing Machinery, Inc, p. 159-166 8 p.

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

Email intensity, productivity and control in the knowledge worker's performance on the desktop

Franssila, H., Okkonen, J. & Savolainen, R., 4 Nov 2014, *MINDTREK 2014 - Proceedings of the 18th International Academic MindTrek Conference: "Media Business, Management, Content and Services"*. Association for Computing Machinery, Inc, p. 19-22 4 p.

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

Games and energy: Profiling power usage during play

Salmela, J. M., Thanisch, P., Sotamaa, O. & Niemi, T., 4 Nov 2014, *MINDTREK 2014 - Proceedings of the 18th International Academic MindTrek Conference: "Media Business, Management, Content and Services"*. Association for Computing Machinery, Inc, p. 192-199 8 p.

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

MurMur Moderators, the talking playful seats

Nummenmaa, T., Kultima, A., Tyni, H. & Alha, K., 4 Nov 2014, *MINDTREK 2014 - Proceedings of the 18th International Academic MindTrek Conference: "Media Business, Management, Content and Services"*. Association for Computing Machinery, Inc, p. 231-237 7 p.

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

Discriminant Bag of Words based representation for human action recognition

Iosifidis, A., Tefas, A. & Pitas, I., 1 Nov 2014, In : *Pattern Recognition Letters*. 49, p. 185-192 8 p.

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

Kernel reference discriminant analysis

Iosifidis, A., Tefas, A. & Pitas, I., 1 Nov 2014, In : *Pattern Recognition Letters*. 49, p. 85-91 7 p.

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

Effects of directional haptic and non-speech audio cues in a cognitively demanding navigation task

Nukarinen, T., Raisamo, R., Farooq, A., Evreinov, G. & Surakka, V., 26 Oct 2014, *Proceedings of the NordiCHI 2014: The 8th Nordic Conference on Human-Computer Interaction: Fun, Fast, Foundational*. Association for Computing Machinery, Inc, p. 61-64 4 p.

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

Effects of haptic feedback on gaze based auto scrolling

Käki, K., Špakov, O., Majaranta, P. & Kangas, J., 26 Oct 2014, *Proceedings of the NordiCHI 2014: The 8th Nordic Conference on Human-Computer Interaction: Fun, Fast, Foundational*. Association for Computing Machinery, Inc, p. 947-950 4 p.

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

Gaze-contingent scrolling and reading patterns

Räihä, K. J. & Sharmin, S., 26 Oct 2014, *Proceedings of the NordiCHI 2014: The 8th Nordic Conference on Human-Computer Interaction: Fun, Fast, Foundational*. Association for Computing Machinery, Inc, p. 65-68 4 p.

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

Human-technology choreographies: Re-thinking body, movement and space in interaction design

Pirhonen, A., Parviainen, J., Tuuri, K., Turunen, M. & Heimonen, T., 26 Oct 2014, *Proceedings of the NordiCHI 2014: The 8th Nordic Conference on Human-Computer Interaction: Fun, Fast, Foundational*. Association for Computing Machinery,

Inc, p. 841-844 4 p.

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

Seniors and text messaging on mobile touchscreen phones

Övermark, R., Isokoski, P. & Ovaska, S., 26 Oct 2014, *Proceedings of the NordiCHI 2014: The 8th Nordic Conference on Human-Computer Interaction: Fun, Fast, Foundational*. Association for Computing Machinery, Inc, p. 967-970 4 p.

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

The fuzzy front end of experience design

Kaasinen, E., Väättäjä, H., Karvonen, H. & Lu, Y., 26 Oct 2014, *Proceedings of the NordiCHI 2014: The 8th Nordic Conference on Human-Computer Interaction: Fun, Fast, Foundational*. New York, NY: ACM, p. 797-800 4 p. (Nordic conference on human-computer interaction).

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

Using gaze gestures with haptic feedback on glasses

Kangas, J., Akkil, D., Rantala, J., Isokoski, P., Majaranta, P. & Raisamo, R., 26 Oct 2014, *Proceedings of the NordiCHI 2014: The 8th Nordic Conference on Human-Computer Interaction: Fun, Fast, Foundational*. Association for Computing Machinery, Inc, p. 1047-1050 4 p.

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

Estimating software development effort based on phases

Lenarduzzi, V., Morasca, S. & Taibi, D., 17 Oct 2014, *Proceedings - 40th Euromicro Conference Series on Software Engineering and Advanced Applications, SEAA 2014*. Institute of Electrical and Electronics Engineers Inc., p. 305-308 4 p.

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

Process configuration framework tool

Diebold, P., Dieudonne, L. & Taibi, D., 17 Oct 2014, *Proceedings - 40th Euromicro Conference Series on Software Engineering and Advanced Applications, SEAA 2014*. Institute of Electrical and Electronics Engineers Inc., p. 389-390 2 p.

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

Patterns for controlling chaos in a startup

Eloranta, V-P., 10 Apr 2014, *VikingPLoP 2014 Proceedings of the 8th Nordic Conference on Pattern Languages of Programs*. Association for Computing Machinery, Vol. 2014-April. p. 1-8 8 p. (ACM International Conference Proceeding Series).

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

Two patterns for minimizing human resources in a startup

Leppänen, M., 10 Apr 2014, *VikingPLoP 2014 Proceedings of the 8th Nordic Conference on Pattern Languages of Programs (VikingPLoP)*. ACM, 4

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

Prediction models and techniques for Open Source Software projects: A systematic literature review

Syeed, M. M. M., Hammouda, I. & Systä, T., 1 Apr 2014, In : *International Journal of Open Source Software and Processes*. 5, 2, p. 1-39 39 p.

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

Optimizing spatial and temporal reuse in wireless networks by decentralized partially observable markov decision processes

Pajarinen, J., Hottinen, A. & Peltonen, J., Apr 2014, In : *IEEE Transactions on Mobile Computing*. 13, 4, p. 866-879 14 p., 6482133.

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

System integration for real-time mobile manipulation

Oftadeh, R., Aref, M. M., Ghabcheloo, R. & Mattila, J., 28 Mar 2014, In : *international Journal of Advanced Robotic Systems*. 11, 1, 51.

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

A computational approach to construct a multivariate complete graph invariant

Dehmer, M., Emmert-Streib, F. & Grabner, M., 1 Mar 2014, In : Information Sciences. 260, p. 200-208 9 p.

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

Developing novel multimodal interaction techniques for touchscreen in-vehicle infotainment systems

Farooq, A., Evreinov, G., Raisamo, R., Mäkinen, E., Nukarinen, T. & Majeed, A. A., 2 Feb 2014, *ICOSST 2014 - 2014 International Conference on Open Source Systems and Technologies, Proceedings*. Institute of Electrical and Electronics Engineers Inc., p. 32-42 11 p. 7029317

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

Haptic user interface enhancement system for touchscreen based interaction: A novel system for multimodal interaction with touchscreen interfaces

Farooq, A., Evreinov, G., Raisamo, R. & Majeed, A. A., 2 Feb 2014, *ICOSST 2014 - 2014 International Conference on Open Source Systems and Technologies, Proceedings*. Institute of Electrical and Electronics Engineers Inc., p. 25-31 7 p. 7029316

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

Symbol diversification of linux binaries

Lauren, S., Maki, P., Rauti, S., Hosseinzadeh, S., Hyrynsalmi, S. & Leppanen, V., 30 Jan 2014, *2014 World Congress on Internet Security, WorldCIS 2014*. Institute of Electrical and Electronics Engineers Inc., p. 74-79 6 p.

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

Domain based storage protection with secure access control for the cloud

Paladi, N., Michalas, A. & Gehrmann, C., 1 Jan 2014, *SCC 2014 - Proceedings of the 2nd International Workshop on Security in Cloud Computing*. Association for Computing Machinery, p. 35-42 8 p.

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

The lord of the sense: A privacy preserving reputation system for participatory sensing applications

Michalas, A. & Komninos, N., 1 Jan 2014, *2014 IEEE Symposium on Computers and Communications, ISCC 2014 - Proceedings*. Institute of Electrical and Electronics Engineers Inc., 6912480

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

Controlled experiments comparing fault-tree-based safety analysis techniques

Mouaffo, A., Taibi, D. & Jamboti, K., 2014, *18th International Conference on Evaluation and Assessment in Software Engineering, EASE 2014*. Association for Computing Machinery (ACM), a46

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

Data-driven stream mining systems for computer vision

Bhattacharyya, S. S., Van Der Schaar, M., Atan, O., Tekin, C. & Sudusinghe, K., 2014, *Advances in Computer Vision and Pattern Recognition*. SPRINGER-VERLAG LONDON LTD, Vol. 68. p. 249-264 16 p. (Advances in Computer Vision and Pattern Recognition; vol. 68).

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

Gaze gestures and haptic feedback in mobile devices

Kangas, J., Akkil, D., Rantala, J., Isokoski, P., Majaranta, P. & Raisamo, R., 2014, *CHI 2014: One of a CHIInd - Conference Proceedings, 32nd Annual ACM Conference on Human Factors in Computing Systems*. Association for Computing Machinery, p. 435-438 4 p.

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

Glasses with haptic feedback of gaze gestures

Rantala, J., Isokoski, P., Kangas, J., Raisamo, R. & Akkil, D., 2014, *CHI EA 2014: One of a ChiNd - Extended Abstracts, 32nd Annual ACM Conference on Human Factors in Computing Systems*. Association for Computing Machinery, p. 1597-1602 6 p.

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

Head movement and facial expressions as game input

Ilves, M., Gizatdinova, Y., Surakka, V. & Vankka, E., 2014, In : Entertainment Computing. 5, 3, p. 147-156 10 p.
Research output: Contribution to journal › Article › Scientific › peer-review

IntentRadar: Search user interface that anticipates user's search intents

Ruotsalo, T., Peltonen, J., Eugster, M. J. A., Glowacka, D., Reijonen, A., Jacucci, G., Myllymäki, P. & Kaski, S., 2014, *CHI EA 2014: One of a ChiNd - Extended Abstracts, 32nd Annual ACM Conference on Human Factors in Computing Systems*. Association for Computing Machinery, p. 455-458 4 p.
Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Layers of user expectations of future technologies: An early framework

Olsson, T., 2014, *CHI EA 2014: One of a ChiNd - Extended Abstracts, 32nd Annual ACM Conference on Human Factors in Computing Systems*. Association for Computing Machinery, p. 1957-1962 6 p.
Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Low-Power Reconfigurable Miniature Sensor Nodes for Condition Monitoring

Nyländén, T., Boutellier, J., Nikunen, K., Hannuksela, J. & Silvén, O., 2014, In : International Journal of Parallel Programming. 43, 1, p. 3-23 21 p.
Research output: Contribution to journal › Article › Scientific › peer-review

Minimum Variance Extreme Learning Machine for human action recognition

Iosifidis, A., Tefas, A. & Pitas, I., 2014, *ICASSP, IEEE International Conference on Acoustics, Speech and Signal Processing - Proceedings*. The Institute of Electrical and Electronics Engineers, Inc., p. 5427-5431 5 p. 6854640
Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Models for mobile application maintenance based on update history

Li, X., Zhang, Z. & Nummenmaa, J., 2014, *ENASE 2014 - Proceedings of the 9th International Conference on Evaluation of Novel Approaches to Software Engineering*. SCITEPRESS, p. 212-217 6 p.
Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

On application of rational Discrete Short Time Fourier Transform in epileptic seizure classification

Kovács, P., Samiee, K. & Gabbouj, M., 2014, *2014 IEEE International Conference on Acoustics, Speech and Signal processing (ICASSP), May 4-9 2014, Florence, Italy*. Piscataway: IEEE, p. 5839-5843 5 p. 6854723. (IEEE International Conference on Acoustics, Speech and Signal Processing).
Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Opportunities and Challenges of Mobile Applications as "Tickets-to-Talk": A Scenario-Based User Study

Jarusriboonchai, P., Olsson, T., Ojala, J. & Väänänen-Vainio-Mattila, K., 2014, *Proceedings of the 13th International Conference on Mobile and Ubiquitous Multimedia, MUM2014, November 25-28, 2014, Melbourne, Australia*. New York, NY: ACM, p. 89-97 9 p. (International conference on mobile and ubiquitous multimedia).
Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Optimal neighborhood preserving visualization by Maximum satisfiability

Bunte, K., Järvisalo, M., Berg, J., Myllymäki, P., Peltonen, J. & Kaski, S., 2014, *Proceedings of the National Conference on Artificial Intelligence*. AI Access Foundation, Vol. 3. p. 1694-1700 7 p.
Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Optimization equivalence of divergences improves neighbor embedding

Yang, Z., Peltonen, J. & Kaski, S., 2014, *31st International Conference on Machine Learning, ICML 2014*. International Machine Learning Society (IMLS), Vol. 2. p. 1808-1839 32 p.
Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Software architectures for implementing achievement badges - Practical experiences

Haaranen, L., Hakulinen, L., Ihantola, P. & Korhonen, A., 2014, *Proceedings - 2014 International Conference on Teaching and Learning in Computing and Engineering, LATICE 2014*. IEEE COMPUTER SOCIETY PRESS, p. 41-46 6 p. 6821826
Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Special Issue on Embedded Computer Systems: Architectures, Modeling and Simulation

McAllister, J., Guevorkian, D., Jeschke, H. & Sima, M., 2014, In : *International Journal of Parallel Programming*. 43, 1
Research output: Contribution to journal › Special issue › Scientific › peer-review

The usability of text entry systems now and in the future

Clawson, J., Isokoski, P., Brewster, S., Oulasvirta, A., Dunlop, M., Vertanen, K., Kristensson, P. O. & Waller, A., 2014, *CHI EA 2014: One of a ChiNd - Extended Abstracts, 32nd Annual ACM Conference on Human Factors in Computing Systems*. Association for Computing Machinery, p. 1139-1142 4 p.
Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Automated design of networks of transport-triggered architecture processors using dynamic dataflow programs

Yviquel, H., Boutellier, J., Raulet, M. & Casseau, E., Nov 2013, In : *Signal Processing: Image Communication*. 28, 10, p. 1295-1302 8 p.
Research output: Contribution to journal › Article › Scientific › peer-review

Configurable, resource-optimized FFT architecture for OFDM communication

Cho, I., Shen, C. C., Tachwali, Y., Hsu, C. J. & Bhattacharyya, S. S., 18 Oct 2013, *2013 IEEE International Conference on Acoustics, Speech, and Signal Processing, ICASSP 2013 - Proceedings*. p. 2746-2750 5 p. 6638156
Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

Programmable lowpower implementation of the HEVC Adaptive Loop Filter

Hautala, I., Boutellier, J. & Hannuksela, J., 18 Oct 2013, *2013 IEEE International Conference on Acoustics, Speech, and Signal Processing, ICASSP 2013 - Proceedings*. p. 2664-2668 5 p. 6638139
Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

An evaluation of the virtual curvature with the StickGrip haptic device: A case study

Evreinova, T. V., Evreinov, G. & Raisamo, R., Jun 2013, In : *Universal Access in the Information Society*. 12, 2, p. 161-173 13 p.
Research output: Contribution to journal › Article › Scientific › peer-review

Multi-view action recognition based on action volumes, fuzzy distances and cluster discriminant analysis

Iosifidis, A., Tefas, A. & Pitas, I., Jun 2013, In : *Signal Processing*. 93, 6, p. 1445-1457 13 p.
Research output: Contribution to journal › Article › Scientific › peer-review

Indirect measurement of the vascular endothelial glycocalyx layer thickness in human submucosal capillaries with a plug-in for ImageJ

Liuhanen, S., Sallisalimi, M., Pettilä, V., Oksala, N. & Tenhunen, J., Apr 2013, In : *Computer Methods and Programs in Biomedicine*. 110, 1, p. 38-47 10 p.
Research output: Contribution to journal › Article › Scientific › peer-review

High-performance and low-energy buffer mapping method for multiprocessor DSP systems

Lee, D., Wolf, M. & Bhattacharyya, S. S., Mar 2013, In : *ACM Transactions on Embedded Computing Systems*. 12, 3, 82.
Research output: Contribution to journal › Article › Scientific › peer-review

'Aie-studio' - A pragmatist aesthetic approach for procedural sound design

Luhtala, M., Turunen, M., Hakulinen, J. & Keskinen, T., 2013, *Proceedings of the 8th Audio Mostly: A Conference on Interaction with Sound, AM 2013 - In Cooperation with ACM SIGCHI*. Association for Computing Machinery, 7
Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

A lightweight many-to-many authentication protocol for near field communications

Petrov, V., Komar, M. & Koucheryavy, Y., 2013, *Proceedings of the 2013 21st IEEE International Conference on Network Protocols, ICNP 2013*. IEEE COMPUTER SOCIETY PRESS, 6733633
Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › Scientific › peer-review

A movable immaterial volumetric display

Rakkolainen, I. & Sand, A., 2013, *SIGGRAPH Asia 2013 Posters, SA 2013*. 2

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

Checking visual data flow programs with finite process models

Nummenmaa, J., Marttila-Kontio, M. & Nummenmaa, T., 2013, *13th Symposium on Programming Languages and Software Tools, SPLST 2013 - Proceedings*. University of Szeged, p. 245-258 14 p.

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

Dynamic action recognition based on dynemes and Extreme Learning Machine

Iosifidis, A., Tefas, A. & Pitas, I., 2013, In : *Pattern Recognition Letters*. 34, 15, p. 1890-1898 9 p.

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

Front-camera video recordings as emotion responses to mobile photos shared within close-knit groups

Cui, Y., Kangas, J., Holm, J. & Grassel, G., 2013, *CHI 2013: Changing Perspectives, Conference Proceedings - The 31st Annual CHI Conference on Human Factors in Computing Systems*. p. 981-990 10 p.

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

Gestures and widgets: Performance in text editing on multi-touch capable mobile devices

Fuccella, V., Isokoski, P. & Martin, B., 2013, *CHI 2013: Changing Perspectives, Conference Proceedings - The 31st Annual CHI Conference on Human Factors in Computing Systems*. p. 2785-2794 10 p.

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

Guest editorial

Ellervee, P. & Nurmi, J., 2013, In : *Microprocessors and Microsystems*. 37, 4-5, p. 430-431 2 p.

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

How to study programming on mobile touch devices - Interactive Python code exercises

Ihantola, P., Helminen, J. & Karavirta, V., 2013, *Proceedings - 13th Koli Calling International Conference on Computing Education Research, Koli Calling 2013*. p. 51-58 8 p.

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

Information retrieval perspective to meta-visualization

Peltonen, J. & Lin, Z., 2013, In : *Journal of Machine Learning Research*. 29, p. 165-180 16 p.

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

Long-term tracking through failure cases

Lebeda, K., Hadfield, S., Matas, J. & Bowden, R., 2013, *Proceedings - 2013 IEEE International Conference on Computer Vision Workshops, ICCVW 2013*. Institute of Electrical and Electronics Engineers Inc., p. 153-160 8 p. 6755891

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

Mixed reality with multimodal head-mounted pico projector

Sand, A. & Rakkolainen, I., 2013, *Proceedings of the Virtual Reality International Conference on Laval Virtual, VRIC 2013*. 14

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

On the optimal class representation in linear discriminant analysis

Iosifidis, A., Tefas, A. & Pitas, I., 2013, In : *IEEE Transactions on Neural Networks and Learning Systems*. 24, 9, p. 1491-1497 7 p.

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

Power harvesting from microwave oven electromagnetic leakage

Kawahara, Y., Bian, X., Shigeta, R., Vyas, R., Tentzeris, M. M. & Asami, T., 2013, *UbiComp 2013 - Proceedings of the 2013 ACM International Joint Conference on Pervasive and Ubiquitous Computing*. p. 373-381 9 p.

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

Reading on-screen text with gaze-based auto-scrolling

Sharmin, S., Špakov, O. & Rähkä, K. J., 2013, *Proceedings of the 2013 Conference on Eye Tracking South Africa, ETSA 2013*. p. 24-31 8 p.

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

Recording and analyzing in-browser programming sessions

Helminen, J., Ihantola, P. & Karavirta, V., 2013, *Proceedings - 13th Koli Calling International Conference on Computing Education Research, Koli Calling 2013*. p. 13-22 10 p.

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

SiMPE: 8th workshop on speech and sound in mobile and pervasive environments

Nanavati, A. A., Rajput, N., Srivastava, S., Erkut, C., Jylhä, A., Rudnicky, A. I., Serafin, S. & Turunen, M., 2013, *MobileHCI 2013 - Proceedings of the 15th International Conference on Human-Computer Interaction with Mobile Devices and Services*. p. 626-629 4 p.

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

The visual object tracking VOT2013 challenge results

Kristan, M., Pflugfelder, R., Leonardis, A., Matas, J., Porikli, F., Čehovin, L., Nebehay, G., Fernandez, G., Vojř, T., Gatt, A., Khajenezhad, A., Salahledin, A., Soltani-Farani, A., Zarezade, A., Petrosino, A., Milton, A., Bozorgtabar, B., Li, B., Chan, C. S., Heng, C., Ward, D., Kearney, D., Monekosso, D., Karaimer, H. C., Rabiee, H. R., Zhu, J., Gao, J., Xiao, J., Zhang, J., Xing, J., Huang, K., Lebeda, K., Cao, L., Maresca, M. E., Lim, M. K., ELHelw, M., Felsberg, M., Remagnino, P., Bowden, R., Goecke, R., Stolkin, R., Lim, S. Y. Y., Maher, S., Poullot, S., Wong, S., Satoh, SI., Chen, W., Hu, W., Zhang, X., Li, Y. & Niu, Z., 2013, *Proceedings - 2013 IEEE International Conference on Computer Vision Workshops, ICCVW 2013*. Institute of Electrical and Electronics Engineers Inc., p. 98-111 14 p. 6755885

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

Touch gestures in communicating emotional intention via vibrotactile stimulation

Rantala, J., Salminen, K., Raisamo, R. & Surakka, V., 2013, In : *International Journal of Human-Computer Studies*. 71, 6, p. 679-690 12 p.

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

Elastic image registration for guiding focal laser ablation of prostate cancer: Preliminary results

Makni, N., Puech, P., Colin, P., Azzouzi, A., Mordon, S. & Betrouni, N., Oct 2012, In : *Computer Methods and Programs in Biomedicine*. 108, 1, p. 213-223 11 p.

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

Focused multi-task learning in a Gaussian process framework

Leen, G., Peltonen, J. & Kaski, S., Oct 2012, In : *Machine Learning*. 89, 1-2, p. 157-182 26 p.

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

SymbolChat: A flexible picture-based communication platform for users with intellectual disabilities

Keskinen, T., Heimonen, T., Turunen, M., Rajaniemi, J. P. & Kauppinen, S., Sep 2012, In : *Interacting with Computers*. 24, 5, p. 374-386 13 p.

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

Barriers to task-based information access in molecular medicine

Kumpulainen, S. & Järvelin, K., Jan 2012, In : *JOURNAL OF THE ASSOCIATION FOR INFORMATION SCIENCE AND TECHNOLOGY*. 63, 1, p. 86-97 12 p.

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

2nd international workshop on pervasive eye tracking and mobile eye-based interaction (PETMEI 2012): Proposal for a workshop (mini-track) at UbiComp 2012

Bulling, A., Brône, G., Cheng, S. & Majaranta, P., 2012, *UbiComp'12 - Proceedings of the 2012 ACM Conference on Ubiquitous Computing*. p. 673-676 4 p.

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

An empirical investigation of perceived reliability of open source Java programs

Lavazza, L., Morasca, S., Taibi, D. & Tosi, D., 2012, *27th Annual ACM Symposium on Applied Computing, SAC 2012*. p. 1109-1114 6 p.

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

An exploratory study of eye typing fundamentals: Dwell time, text entry rate, errors, and workload

Räihä, K. J. & Ovaska, S., 2012, *Conference Proceedings - The 30th ACM Conference on Human Factors in Computing Systems, CHI 2012*. p. 3001-3010 10 p.

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

Briefing news reporting with mobile assignments - Perceptions, needs and challenges

Väätäjä, H. & Egglestone, P., 2012, *Proceedings of the ACM 2012 conference on Computer Supported Cooperative Work CSCW'12 Seattle, WA, USA, February 11-15, 2012*. New York, NY: ACM, p. 485-494 10 p. (ACM Conference on Computer Supported Cooperative Work).

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

Comparison of video-based pointing and selection techniques for hands-free text entry

Gizatdinova, Y., Špakov, O. & Surakka, V., 2012, *Proceedings of the Working Conference on Advanced Visual Interfaces, AVI 2012*. p. 132-139 8 p.

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

Continuous Edgewise: Dictionary-based disambiguation instead of explicit segmentation by the user

Martin, B., Isokoski, P., Karmann, G. & Rollinger, T., 2012, *Proceedings of the Working Conference on Advanced Visual Interfaces, AVI 2012*. p. 357-364 8 p.

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

Designing and evaluating text entry methods

Kristensson, P. O., Clawson, J., Dunlop, M., Isokoski, P., Roark, B., Vertanen, K., Waller, A. & Wobbrock, J., 2012, *Extended Abstracts - The 30th ACM Conference on Human Factors in Computing Systems, CHI 2012*. p. 2747-2750 4 p.

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

Enhanced gaze interaction using simple head gestures

Špakov, O. & Majoranta, P., 2012, *UbiComp'12 - Proceedings of the 2012 ACM Conference on Ubiquitous Computing*. p. 705-710 6 p.

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

FS-PGBR: A scalable and delay sensitive cloud routing protocol

Mineraud, J., Donnelly, W., Balasubramaniam, S. & Kangasharju, J., 2012, *Proceedings of the ACM SIGCOMM 2012 and Best Papers of the Co-located Workshops*. 4 ed. Vol. 42. p. 301-302 2 p.

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

Inkjet-printed monopole antennas for enhanced-range WBAN and wearable biomonitring application

Kim, S., Kawahara, Y. & Tentzeris, M. M., 2012, *MobileHealth'12 - Proceedings of the 2nd ACM International Workshop on Pervasive Wireless Healthcare*. p. 33-38 6 p.

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

Novel approaches to crawling important pages early

Alam, M. H., Ha, J. W. & Lee, S. K., 2012, In : *Knowledge and Information Systems*. 33, 3, p. 707-734 28 p.

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

On the definition of dynamic software measures

Lavazza, L., Morasca, S., Taibi, D. & Tosi, D., 2012, In : *International Symposium on Empirical Software Engineering and Measurement*. p. 39-48 10 p.

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

Parameterized scheduling for signal processing systems using topological patterns

Wu, S., Shen, C. C., Sane, N., Davis, K. & Bhattacharyya, S. S., 2012, *2012 IEEE International Conference on Acoustics, Speech, and Signal Processing, ICASSP 2012 - Proceedings*. p. 1561-1564 4 p. 6288190

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

Power allocation in multi-node cooperative network in Rician fading channels

Fikadu, M. K., Elmusrati, M. & Virrankoski, R., 2012, *2012 IEEE 8th International Conference on Wireless and Mobile Computing, Networking and Communications, WiMob 2012*. p. 496-501 6 p. 6379119

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

SenSprout: Inkjet-printed soil moisture and leaf wetness sensor

Kawahara, Y., Lee, H. & Tentzeris, M. M., 2012, *UbiComp'12 - Proceedings of the 2012 ACM Conference on Ubiquitous Computing*. p. 545 1 p.

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

SiMPE: 7th Workshop on speech and sound in mobile and pervasive environments

Nanavati, A. A., Rajput, N., Rudnicki, A. I., Turunen, M., Sandholm, T., Munteanu, C. & Penn, G., 2012, *MobileHCI'12 - Companion Proceedings of the 14th International Conference on Human Computer Interaction with Mobile Devices and Services*. p. 251-253 3 p.

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

Systematic integration of flowgraph- and module-level parallelism in implementation of DSP applications on multiprocessor systems-on-chip

Zhou, Z., Shen, C. C., Plishker, W., Wu, H. H. & Bhattacharyya, S. S., 2012, *ICSP 2012 - 2012 11th International Conference on Signal Processing, Proceedings*. Vol. 1. p. 402-408 7 p. 6491686

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

Managing concern knowledge in software systems

Hammouda, I., Koskimies, K. & Mikkonen, T., Nov 2011, In : *INTERNATIONAL JOURNAL OF SOFTWARE ENGINEERING AND KNOWLEDGE ENGINEERING*. 21, 7, p. 957-987 31 p.

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

Interaction strategies for an affective conversational agent

Smith, C., Crook, N., Dobnik, S., Charlton, D., Boye, J., Pulman, S., Santos de la Camara, R., Turunen, M., Benyon, D., Bradley, J., Gambäck, B., Hansen, P., Mival, O., Webb, N. & Cavazza, M., Oct 2011, In : *Presence: Teleoperators and Virtual Environments*. 20, 5, p. 395-411 17 p.

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

A survey on open source software trustworthiness

Del Bianco, V., Lavazza, L., Morasca, S. & Taibi, D., Sep 2011, In : *IEEE Software*. 28, 5, p. 67-75 9 p.

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

Guidelines for improving the testing process of open source software

Morasca, S., Taibi, D. & Tosi, D., Apr 2011, In : *International Journal of Open Source Software and Processes*. 3, 2, p. 1-22 22 p.

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

Multimodal and mobile conversational Health and Fitness Companions

Turunen, M., Hakulinen, J., Ståhl, O., Gambäck, B., Hansen, P., Rodríguez Gancedo, M. C., De La Cámara, R. S., Smith, C., Charlton, D. & Cavazza, M., Apr 2011, In : *Computer Speech and Language*. 25, 2, p. 192-209 18 p.

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

Some background on dialogue management and conversational speech for dialogue systems

Wilks, Y., Catizone, R., Worgan, S. & Turunen, M., Apr 2011, In : *Computer Speech and Language*. 25, 2, p. 128-139 12 p.

A model-based schedule representation for heterogeneous mapping of dataflow graphs

Wu, H. H., Shen, C. C., Sane, N., Plishker, W. & Bhattacharyya, S. S., 2011, *2011 IEEE International Symposium on Parallel and Distributed Processing, Workshops and Phd Forum, IPDPSW 2011*. p. 70-81 12 p. 6008822

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

Bit-sliced binary normal basis multiplication

Brumley, B. & Page, D., 2011, *Proceedings - 20th IEEE Symposium on Computer Arithmetic, ARITH-20*. p. 205-212 8 p. 5992128

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

Comparison of gaze-to-objects mapping algorithms

Špakov, O., 2011, *Proceedings of the 1st Conference on Novel Gaze-Controlled Applications, NGCA'11*. 6

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

Database-driven tool support for DisCo executable specifications

Nummenmaa, J. & Nummenmaa, T., 2011, *SPLST'11 - Proceedings 12th Symposium on Programming Languages and Software Tools*. p. 44-54 11 p.

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

Designing tactile feedback for piezo buttons

Lylykangas, J., Surakka, V., Salminen, K., Raisamo, J., Laitinen, P., Rönning, K. & Raisamo, R., 2011, *CHI 2011 - 29th Annual CHI Conference on Human Factors in Computing Systems, Conference Proceedings and Extended Abstracts*. p. 3281-3284 4 p.

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

Facial expression classification based on local spatiotemporal edge and texture descriptors

Gizatdinova, Y., Surakka, V., Zhao, G., Mäkinen, E. & Raisamo, R., 2011, *Selected Papers from the Proceedings of the 7th International Conference on Methods and Techniques in Behavioral Research - Digital Edition, MB'10*. 21

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

Framework for designing and evaluating game achievements

Hamari, J. & Eranti, V., 2011, *Proceedings of DiGRA 2011 Conference: Think Design Play*.

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

Generative modeling for maximizing precision and recall in information visualization

Peltonen, J. & Kaski, S., 2011, In : *Journal of Machine Learning Research*. 15, p. 579-587 9 p.

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

Narrative friction in Alternate Reality Games: Design insights from conspiracy for good

Stenros, J., Holopainen, J., Waern, A., Montola, M. & Ollila, E., 2011, *Proceedings of DiGRA 2011 Conference: Think Design Play*.

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

Of discs, boxes and cartridges: The material life of digital games

Toivonen, S. & Sotamaa, O., 2011, *Proceedings of DiGRA 2011 Conference: Think Design Play*.

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

On delay distribution in IEEE 802.11 wireless networks

Ivanov, S., Botvich, D. & Balasubramaniam, S., 2011, *16th IEEE Symposium on Computers and Communications, ISCC'11*. p. 254-256 3 p. 5983849

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

On the costs of multiple trajectory pointing methods

Quinn, P., Cockburn, A., Riih , K. J. & Delamarche, J., 2011, *CHI 2011 - 29th Annual CHI Conference on Human Factors in Computing Systems, Conference Proceedings and Extended Abstracts*. p. 859-862 4 p.

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

Reducing the number of unit tests with design by contract

Hakonen, H., Hyrnsalmi, S. & J rvi, A., 2011, *Computer Systems and Technologies - 12th International Conference, CompSysTech'11 - Proceedings*. Vol. 578. p. 161-166 6 p.

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

Scheduling of CAL actor networks based on dynamic code analysis

Boutellier, J., Silven, O. & Raulet, M., 2011, *2011 IEEE International Conference on Acoustics, Speech, and Signal Processing, ICASSP 2011 - Proceedings*. p. 1609-1612 4 p. 5946805

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

Silicon capillary gripper with self-alignment capability

Sariola, V., Liimatainen, V., Tolonen, T., Udd, R. & Zhou, Q., 2011, *2011 IEEE International Conference on Robotics and Automation, ICRA 2011*. p. 4098-4103 6 p. 5979980

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

Social and privacy aspects of a system for collaborative public expression

Holopainen, J., Lucero, A., Saarenp , H., Nummenmaa, T., Ali, A. E. & Jokela, T., 2011, *Proceedings of the 8th International Conference on Advances in Computer Entertainment Technology, ACE 2011*. 23

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

Squeeze vs. tilt: A comparative study using continuous tactile feedback

Hoggan, E., Trendafilov, D., Ahmaniemi, T. & Raisamo, R., 2011, *CHI EA 2011 - 29th Annual CHI Conference on Human Factors in Computing Systems, Conference Proceedings and Extended Abstracts*. p. 1309-1314 6 p.

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

System level performance simulation of distributed GENESYS applications on multi-core platforms

Khan, S. A., Saastamoinen, J., Tiensyrj , K. & Nurmi, J., 2011, *Proceedings - IEEE 9th International Conference on Dependable, Autonomic and Secure Computing, DASC 2011*. p. 313-320 8 p.

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

The making of Nordic larp: Documenting a tradition of ephemeral co-creative play

Stenos, J. & Montola, M., 2011, *Proceedings of DiGRA 2011 Conference: Think Design Play*.

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

Conversion algorithms and implementations for koblitz curve cryptography

Brumley, B. B. & Jarvinen, K. U., 4 Jan 2010, In : *IEEE Transactions on Computers*. 59, 1, p. 81-92 12 p., 5255226.

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

Integrated controller for an over-constrained cable driven parallel manipulator: KNTU CDRPM

Vafaei, A., Aref, M. M. & Taghirad, H. D., 2010, *Proceedings - IEEE International Conference on Robotics and Automation*. p. 650-655 6 p. 5509991

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

Predicting OSS trustworthiness on the basis of elementary code assessment

Lavazza, L., Morasca, S., Taibi, D. & Tosi, D., 2010, *ESEM 2010 - Proceedings of the 2010 ACM-IEEE International Symposium on Empirical Software Engineering and Measurement*. 1852834

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

The QualiSPo approach to OSS product quality evaluation

Del Bianco, V., Lavazza, L., Morasca, S., Taibi, D. & Tosi, D., 2010, *3rd Int. Workshop on Emerging Trends in Free/Libre/Open Source Software Research and Development, FLOSS-3, in Conj. with the 32nd ACM/IEEE International Conference on Software Engineering, ICSE 2010*. p. 23-28 6 p.

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

Mobile Journalist Toolkit: A field study on producing news articles with a mobile device

Jokela, T., Väättäjä, H. & Koponen, T., 2009, *MindTrek 2009 - 13th International Academic MindTrek Conference: Everyday Life in the Ubiquitous Era*. p. 45-52 8 p.

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

Pure e-learning course in information security

Koskinen, J. A. & Kelo, T. O., 2009, *Proceedings of SIN'09, Second International Conference on Security of Information and Networks, Famagusta, North Cyprus, October 6-10, 2009*. Elci, A. (ed.). p. 8-13 6 p. 1626200

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

Towards certifying the testing process of open-source software: New challenges or old methodologies?

Morasca, S., Taibi, D. & Tosi, D., 2009, *Proceedings of the 2009 ICSE Workshop on Emerging Trends in Free/Libre/Open Source Software Research and Development, FLOSS 2009*. p. 25-30 6 p. 5071356

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

Wrench feasible workspace analysis of cable-driven parallel manipulators using LMI approach

Loloei, A. Z., Mohammadi Aref, M. & Taghirad, H. D., 2009, *IEEE/ASME International Conference on Advanced Intelligent Mechatronics, AIM*. p. 1034-1039 6 p. 5229723

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

Classification of large graphs by a local tree decomposition

Emmert-Streib, F., Dehmert, M. & Kilian, J., 2005, *Proceedings of the 2005 International Conference on Data Mining, DMIN'05*. p. 200-207 8 p.

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

HCI and homecare: Connecting families and clinicians

Mamykina, L., Bardram, J. E., Korhonen, I., Mynatt, E. & Pratt, W., 2004, *Conference on Human Factors in Computing Systems - Proceedings*. p. 1715-1716 2 p.

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

A simulation case study of production planning and control in printed wiring board manufacturing

Korhonen, H. M. E., Heikkilä, J. & Törnwall, J. M., 1 Dec 2001, In : *Winter Simulation Conference Proceedings*. 2, p. 844-847 4 p.

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