

Dynamics analysis of a redundant parallel manipulator driven by elastic cables

Bedoustani, Y. B., Taghirad, H. D. & Aref, M. M., 2008, *2008 10th International Conference on Control, Automation, Robotics and Vision, ICARCV 2008*. p. 536-542 7 p. 4795575

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

On the control of the KNTU CDRPM: A cable driven redundant parallel manipulator

Gholami, P., Aref, M. M. & Taghirad, H. D., 2008, *2008 IEEE/RSJ International Conference on Intelligent Robots and Systems, IROS*. p. 2404-2409 6 p. 4650740

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

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

Local feature based unsupervised alignment of object class images

Lankinen, J. & Kamarainen, J. K., 2011, *BMVC 2011 - Proceedings of the British Machine Vision Conference 2011*.

British Machine Vision Association, BMVA

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. & Järvi, 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

Social and privacy aspects of a system for collaborative public expression

Holopainen, J., Lucero, A., Saarenpää, 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

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

Application-specific instruction processor for extracting local binary patterns

Boutellier, J., Lundbom, I., Janhunen, J., Ylimainen, J. & Hannuksela, J., 2012, *DASIP 2012 - Proceedings of the 2012 Conference on Design and Architectures for Signal and Image Processing*. p. 82-89 8 p. 6385363

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

Comparison of eye movement filters used in HCI

Špakov, O., 2012, *Proceedings - ETRA 2012: Eye Tracking Research and Applications Symposium*. p. 281-284 4 p.

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

Face typing: Vision-based perceptual interface for hands-free text entry with a scrollable virtual keyboard

Gizatdinova, Y., Spakov, Ö. & Surakka, V., 2012, *2012 IEEE Workshop on the Applications of Computer Vision, WACV 2012*. p. 81-87 7 p. 6162997

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

Gaze gestures or dwell-based interaction?

Hyrskykari, A., Istance, H. & Vickers, S., 2012, *Proceedings - ETRA 2012: Eye Tracking Research and Applications Symposium*. p. 229-232 4 p.

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

GPU-based acceleration of symbol timing recovery

Kim, S. C., Plishker, W. L., Bhattacharyya, S. S. & Cavallaro, J. R., 2012, *DASIP 2012 - Proceedings of the 2012 Conference on Design and Architectures for Signal and Image Processing*. p. 273-280 8 p. 6385393

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

Model for landmark highlighting in mobile web services

Kallioniemi, P. & Turunen, M., 2012, *Proceedings of the 11th International Conference on Mobile and Ubiquitous Multimedia, MUM 2012*. 25

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

Simple gaze gestures and the closure of the eyes as an interaction technique

Heikkilä, H. & Rähkä, K. J., 2012, *Proceedings - ETRA 2012: Eye Tracking Research and Applications Symposium*. p. 147-154 8 p.

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

The validity of using non-representative users in gaze communication research

Istance, H., Vickers, S. & Hyrskykari, A., 2012, *Proceedings - ETRA 2012: Eye Tracking Research and Applications Symposium*. p. 233-236 4 p.

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

Scalar diffraction field calculation from curved surfaces via Gaussian beam decomposition

Şahin, E. & Onural, L., 1 Jul 2012, In : *Journal of the Optical Society of America A: Optics Image Science and Vision*. 29, 7, p. 1459-1469 11 p.

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

Active classification for human action recognition

Iosifidis, A., Tefas, A. & Pitas, I., 2013, *2013 IEEE International Conference on Image Processing, ICIP 2013 - Proceedings*. p. 3249-3253 5 p. 6738669

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

An efficient GPU implementation of an arbitrary resampling polyphase channelizer

Kim, S. C., Plishker, W. L. & Bhattacharyya, S. S., 2013, *DASIP 2013 - Proceedings of the 2013 Conference on Design and Architectures for Signal and Image Processing*. p. 231-238 8 p. 6661548

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

An image guided treatment platform for prostate cancer photodynamic therapy

Betrouni, N., Colin, P., Puech, P., Villers, A. & Mordon, S., 2013, *2013 35th Annual International Conference of the IEEE Engineering in Medicine and Biology Society, EMBC 2013*. p. 370-373 4 p. 6609514

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

Calculation of the scalar diffraction field from curved surfaces by decomposing the three-dimensional field into a sum of Gaussian beams

Şahin, E. & Onural, L., 2013, In : *Journal of the Optical Society of America A: Optics Image Science and Vision*. 30, 3, p. 527-536 10 p.

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

Color-tone similarity of digital images

Kikuchi, H., Kataoka, S., Muramatsu, S. & Huttunen, H., 2013, *2013 IEEE International Conference on Image Processing, ICIP 2013 - Proceedings*. p. 393-397 5 p.

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

Design space exploration and implementation of RVC-CAL applications using the TURNUS framework

Casale-Brunet, S., Bezati, E., Alberti, C., Roquier, G., Mattavelli, M., Janneck, J. W. & Boutellier, J., 2013, *DASIP 2013 - Proceedings of the 2013 Conference on Design and Architectures for Signal and Image Processing*. p. 341-342 2 p. 6661566

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

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

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

Rate-distortion based reversible watermarking for JPEG images with quality factors selection

Efimushkina, T., Egiazarian, K. & Gabbouj, M., 2013, *2013 4th European Workshop on Visual Information Processing, EUVIP 2013, Paris, France, 10.-12.2013*. University of Paris 13, p. 94-99 6 p. 6623958. (European Workshop on Visual Information Processing).

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

The visual object tracking VOT2013 challenge results

Kristan, M., Pflugfelder, R., Leonardis, A., Matas, J., Porikli, F., Čehovin, L., Nebehay, G., Fernandez, G., Vojíř, 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, S., 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

View-independent human action recognition based on multi-view action images and discriminant learning

Iosifidis, A., Tefas, A. & Pitas, I., 2013, *2013 IEEE 11th IVMSW Workshop: 3D Image/Video Technologies and Applications, IVMSW 2013 - Proceedings*.

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

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

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

Haptic feedback to gaze events

Kangas, J., Rantala, J., Majaranta, P., Isokoski, P. & Raisamo, R., 2014, *Proceedings of the Symposium on Eye Tracking Research and Applications, ETRA 2014*. Association for Computing Machinery, p. 11-18 8 p.

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

Look and lean: Accurate head-assisted eye pointing

Špakov, O., Isokoski, P. & Majaranta, P., 2014, *Proceedings of the Symposium on Eye Tracking Research and Applications, ETRA 2014*. Association for Computing Machinery, p. 35-42 8 p.

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

Real-time hidden gaze point correction

Špakov, O. & Gizatdinova, Y., 2014, *Proceedings of the Symposium on Eye Tracking Research and Applications, ETRA 2014*. Association for Computing Machinery, p. 291-294 4 p.

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

TraQuMe: A tool for measuring the gaze tracking quality

Akkil, D., Isokoski, P., Kangas, J., Rantala, J. & Raisamo, R., 2014, *Proceedings of the Symposium on Eye Tracking Research and Applications, ETRA 2014*. Association for Computing Machinery, p. 327-330 4 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

Tut MUVIS image retrieval system proposal for MSR-Bing challenge 2014

Raitoharju, J., Zhang, H., Ozan, E. C., Waris, M. A., Faisal, M., Cao, G., Roininen, M., Ahmad, I., Shetty, R., Uhlmann, S., Samiee, K., Kiranyaz, S. & Gabbouj, M., 3 Sep 2014, *IEEE International Conference on Multimedia and Expo, ICME 2014, Chengdu, China, July 14-18, 2014*. Piscataway: Institute of Electrical and Electronics Engineers IEEE, p. 1-6 6 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

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

Implementation of a low-complexity low-latency arbitrary resampler on GPUs

Kim, S. C. & Bhattacharyya, S. S., 21 Nov 2014, *2014 IEEE Dallas Circuits and Systems Conference: Enabling an Internet of Things - From Sensors to Servers, DCAS 2014*. Institute of Electrical and Electronics Engineers Inc., 6965333

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

Semi-supervised classification of human actions based on neural networks

Iosifidis, A., Tefas, A. & Pitas, I., 4 Dec 2014, *Proceedings - International Conference on Pattern Recognition*. The Institute of Electrical and Electronics Engineers, Inc., p. 1336-1341 6 p.

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

Community driven artificial intelligence development for robotics

Kertész, C. & Turunen, M., 2015, *Doctoral Consortium on Informatics in Control, Automation and Robotics, DCINCO 2015; in conjunction with the 12th International Conference on Informatics in Control, Automation and Robotics, ICINCO*. SCITEPRESS, p. 3-10 8 p.

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

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

Two-time coherence of pulse trains and the integrated degree of temporal coherence

Dutta, R., Friberg, A. T., Genty, G. & Turunen, J., 2015, In : *Journal of the Optical Society of America A: Optics Image Science and Vision*. 32, 9, p. 1631-1637 7 p.

Research output: Contribution to journal › Article › 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

Stereoscopic video description for human action recognition

Mademlis, I., Iosifidis, A., Tefas, A., Nikolaidis, N. & Pitas, I., 16 Jan 2015, *IEEE SSCI 2014 - 2014 IEEE Symposium Series on Computational Intelligence - CIMSIVP 2014: 2014 IEEE Symposium on Computational Intelligence for Multimedia, Signal and Vision Processing, Proceedings*. The Institute of Electrical and Electronics Engineers, Inc.

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

Lossless compression of regions-of-interest from retinal images

Hukkanen, J., Astola, P. & Tabus, I., 22 Jan 2015, *EUVIP 2014 - 5th European Workshop on Visual Information Processing*. The Institute of Electrical and Electronics Engineers, Inc.

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

Asymmetrie luminance based filtering for stereoscopic video compression

Homayouni, M., Aflaki, P., Hannuksela, M. M. & Gabbouj, M., 5 Feb 2015, *2014 International Conference on 3D Imaging (IC3D)*. IEEE

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

Improved weighted prediction based color gamut scalability in SHVC

Bugdayci Sansli, D., Aminlou, A., Ugur, K., Hannuksela, M. M. & Gabbouj, M., 27 Feb 2015, *2014 IEEE Visual Communications and Image Processing Conference, VCIP 2014*. The Institute of Electrical and Electronics Engineers, Inc., p. 201-204 4 p. 7051539

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 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

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

Adaptive sampling for compressed sensing based image compression

Zhu, S., Zeng, B. & Gabbouj, M., 1 Jul 2015, In : *Journal of Visual Communication and Image Representation*. 30, p. 94-105 12 p.

Research output: Contribution to journal › Article › 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

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

The effect of region of interest size on textural parameters

Sikiö, M., Holli-Helenius, K. K., Ryymin, P., Dastidar, P., Eskola, H. & Harrison, L., 23 Oct 2015, *2015 9th International Symposium on Image and Signal Processing and Analysis (ISPA)*. IEEE, p. 149-153 5 p.

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

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

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

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

BM3D image denoising using heterogeneous computing platforms

Sarjanoja, S., Boutellier, J. & Hannuksela, J., 28 Dec 2015, *DASIP 2015 - Proceedings of the 2015 Conference on Design and Architectures for Signal and Image Processing*. IEEE COMPUTER SOCIETY PRESS, Vol. 2015-December. 7367257

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

Dominant Rotated Local Binary Patterns (DRLBP) for texture classification

Mehta, R. & Egiuzarian, 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

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

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

Rauhämäki, 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

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

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

Image-based characterization of the pulp flows

Sorokin, M., Strokina, N., Eerola, T., Lensu, L., Karttunen, K. & Kalviainen, H., 1 Jul 2016, In : Pattern Recognition and Image Analysis. 26, 3, p. 630-637 8 p.

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

Decoding complexity reduction in projection-based light-field 3D displays using self-contained HEVC tiles

Zare, A., Kovacs, P. T., Aminlou, A., Hannuksela, M. M. & Gotchev, A., 22 Aug 2016, *2016 3DTV-Conference: The True Vision - Capture, Transmission and Display of 3D Video, 3DTV-CON 2016*. IEEE COMPUTER SOCIETY PRESS

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

Sparse modelling and predictive coding of subaperture images for lossless plenoptic image compression

Helin, P., Astola, P., Rao, B. & Tabus, I., 22 Aug 2016, *2016 3DTV-Conference: The True Vision - Capture, Transmission and Display of 3D Video, 3DTV-CON 2016*. IEEE COMPUTER SOCIETY PRESS

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

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

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

Babahajiani, 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

Low power design methodology for signal processing systems using lightweight dataflow techniques

Li, L., Fanni, T., Viitanen, T., Xie, R., Palumbo, F., Raffo, L., Huttunen, H., Takala, J. & Bhattacharyya, S. S., 13 Feb 2017, *DASIP 2016 - Proceedings of the 2016 Conference on Design and Architectures for Signal and Image Processing*. IEEE COMPUTER SOCIETY PRESS, p. 82-89 8 p.

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

The Effect of Light Field Reconstruction and Angular Resolution Reduction on the Quality of Experience

Kara, P. A., Kovacs, P. T., Vagharshakyan, S., Martini, M. G., Barsi, A., Balogh, T., Chuchvara, A. & Chehaibi, A., 21 Apr 2017, *2016 12th International Conference on Signal-Image Technology & Internet-Based Systems (SITIS)*. IEEE, p. 781-786 6 p.

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

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 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

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

Full search equivalent fast block matching using orthonormal tree-structured haar transform

Ito, I. & Egiazarian, K., 18 Oct 2017, *ISPA 2017 - 10th International Symposium on Image and Signal Processing and Analysis*. IEEE COMPUTER SOCIETY PRESS, p. 177-182 6 p.

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

Bandwidth reduction of omnidirectional viewport-dependent video streaming via subjective quality assessment

Curcio, I. D. D., Toukoma, H. & Naik, D., 27 Oct 2017, *AltMM 2017 - Proceedings of the 2nd International Workshop on Multimedia Alternate Realities, co-located with MM 2017*. ACM, p. 9-14 6 p.

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

Paraxial light beams in structured anisotropic media

Jisha, C. P. & Alberucci, A., 1 Nov 2017, In : *Journal of the Optical Society of America A: Optics and Image Science, and Vision*. 34, 11, p. 2019-2024 6 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

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

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

360 panorama super-resolution using deep convolutional networks

Fakour-Sevom, V., Guldogan, E. & Kämäräinen, J-K., 2018, *VISIGRAPP 2018 - Proceedings of the 13th International Joint Conference on Computer Vision, Imaging and Computer Graphics Theory and Applications*. SCITEPRESS, Vol. 4. p. 159-165 7 p.

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

A Primal Neural Network for Online Equality-Constrained Quadratic Programming

Chen, K. & Zhang, Z., 2018, In : *Cognitive Computation*. 10, 2, p. 381-388 8 p.

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

Evaluation of visual object trackers on equirectangular panorama

Kart, U., Kämäräinen, J. K., Fan, L. & Gabbouj, M., 2018, *VISIGRAPP 2018 - Proceedings of the 13th International Joint Conference on Computer Vision, Imaging and Computer Graphics Theory and Applications*. SCITEPRESS, Vol. 5. p. 25-32 8 p.

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

Hierarchical deformable part models for heads and tails

Yancheshmeh, F. S., Chen, K. & Kämäräinen, J-K., 2018, *VISIGRAPP 2018 - Proceedings of the 13th International Joint Conference on Computer Vision, Imaging and Computer Graphics Theory and Applications*. SCITEPRESS, Vol. 5. p. 45-55 11 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

Keyframe-based video summarization with human in the loop

Ainasoja, A. E., Hietanen, A., Lankinen, J. & Kämäräinen, J.-K., 2018, *VISIGRAPP 2018 - Proceedings of the 13th International Joint Conference on Computer Vision, Imaging and Computer Graphics Theory and Applications*. SCITEPRESS, Vol. 4. p. 287-296 10 p.

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

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

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

Real-time human pose estimation with convolutional neural networks

Linna, M., Kannala, J. & Rahtu, E., 2018, *VISIGRAPP 2018 - Proceedings of the 13th International Joint Conference on Computer Vision, Imaging and Computer Graphics Theory and Applications*. SCITEPRESS, Vol. 5. p. 335-342 8 p.

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

Sparse sampling for real-time ray tracing

Viitanen, T., Koskela, M., Immonen, K., Mäkitalo, M., Jääskeläinen, P. & Takala, J., 2018, *VISIGRAPP 2018 - Proceedings of the 13th International Joint Conference on Computer Vision, Imaging and Computer Graphics Theory and Applications*. SCITEPRESS, Vol. 1. p. 295-302 8 p.

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

Dual Structured Convolutional Neural Network with Feature Augmentation for Quantitative Characterization of Tissue Histology

Valkonen, M., Kartasalo, K., Liimatainen, K., Nykter, M., Latonen, L. & Ruusuvaori, P., 19 Jan 2018, *2017 IEEE International Conference on Computer Vision Workshops, ICCVW 2017*. IEEE, p. 27-35 9 p.

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

Image-Based Localization Using Hourglass Networks

Melekhov, I., Ylioinas, J., Kannala, J. & Rahtu, E., 19 Jan 2018, *2017 IEEE International Conference on Computer Vision Workshops, ICCVW 2017*. IEEE, p. 870-877 8 p.

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

The use of advanced imaging technology in welfare technology solutions - Some ethical aspects

Lilja, K. K. & Palomäki, J., 2 Feb 2018, *3DTV-CON 2017 - 3D True Vision v2: Research and Applications in Future 3D Media*. IEEE, p. 1-4 4 p.

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

Viewport-dependent delivery schemes for stereoscopic panoramic video

Ghaznavi-Youvalari, R., Hannuksela, M. M., Aminlou, A. & Gabbouj, M., 2 Feb 2018, *3DTV-CON 2017 - 3D True Vision v2: Research and Applications in Future 3D Media*. IEEE, p. 1-4 4 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

PIVO: Probabilistic inertial-visual odometry for occlusion-robust navigation

Solin, A., Cortés, S., Rahtu, E. & Kannala, J., 3 May 2018, *Proceedings - 2018 IEEE Winter Conference on Applications of Computer Vision, WACV 2018*. IEEE, p. 616-625 10 p.

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

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

Inertial Odometry on Handheld Smartphones

Solin, A., Cortes, S., Rahtu, E. & Kannala, J., 5 Sep 2018, *2018 21st International Conference on Information Fusion, FUSION 2018*. IEEE, p. 1361-1368 8 p. 8455482

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

User Positioning in mmW 5G Networks Using Beam-RSRP Measurements and Kalman Filtering

Rastorgueva-Foi, E., Costa, M., Koivisto, M., Leppänen, K. & Valkama, M., 5 Sep 2018, *2018 21st International Conference on Information Fusion, FUSION 2018*. IEEE, p. 1150-1156 7 p. 8455289

Research output: Chapter in Book/Report/Conference proceeding › Conference contribution › 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. & Väättäjä, 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

Analysis of accommodation cues in holographic stereograms

Mäkinen, J., Sahin, E. & Gotchev, A., 1 Oct 2018, *2018 - 3DTV-Conference: The True Vision - Capture, Transmission and Display of 3D Video, 3DTV-CON 2018*. IEEE, 8478586

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

Benchmark database for fine-grained image classification of benthic macroinvertebrates

Raitoharju, J., Riabchenko, E., Ahmad, I., Iosifidis, A., Gabbouj, M., Kiranyaz, S., Tirronen, V., Ärje, J., Kärkkäinen, S. & Meissner, K., 1 Oct 2018, In : *Image and Vision Computing*. 78, p. 73-83 11 p.

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

Viewing simulation of integral imaging display based on wave optics

Akpinar, U., Sahin, E. & Gotchev, A., 1 Oct 2018, *2018 - 3DTV-Conference: The True Vision - Capture, Transmission and Display of 3D Video, 3DTV-CON 2018*. IEEE, 8478568

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

Olfactory display prototype for presenting and sensing authentic and synthetic odors

Salminen, K., Rantala, J., Isokoski, P., Lehtonen, M., Müller, P., Karjalainen, M., Väliäho, J., Kontunen, A., Nieminen, V., Leivo, J., Telembeci, A. A., Lekkala, J., Kallio, P. & Surakka, V., 2 Oct 2018, *ICMI 2018 - Proceedings of the 2018 International Conference on Multimodal Interaction*. ACM, p. 73-77 5 p.

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., Vääätäjä, 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., Vääätäjä, 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

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

Ratia, M., Myllärmiemi, 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. & Vääätäjä, 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

Eigen Posture Based Fall Risk Assessment System Using Kinect

Tripathy, S. R., Chakravarty, K. & Sinha, A., 26 Oct 2018, *40th Annual International Conference of the IEEE Engineering in Medicine and Biology Society, EMBC 2018*. IEEE, Vol. 2018-July. p. 1-4 4 p. 8513263

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

Identification of Parkinson's Disease Utilizing a Single Self-recorded 20-step Walking Test Acquired by Smartphone's Inertial Measurement Unit

Mehrang, S., Jauhiainen, M., Pietilä, J., Puustinen, J., Ruokolainen, J. & Nieminen, H., 26 Oct 2018, *40th Annual International Conference of the IEEE Engineering in Medicine and Biology Society, EMBC 2018*. Institute of Electrical and Electronics Engineers Inc., Vol. 2018-July. p. 2913-2916 4 p. 8512921

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

The Accuracy of Atrial Fibrillation Detection from Wrist Photoplethysmography. A Study on Post-Operative Patients

Tarniceriu, A., Harju, J., Yousefi, Z. R., Vehkaoja, A., Parak, J., Yli-Hankala, A. & Korhonen, I., 26 Oct 2018, *40th Annual International Conference of the IEEE Engineering in Medicine and Biology Society, EMBC 2018*. IEEE, Vol. 2018-July. p. 4844-4847 4 p. 8513197

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

Deep Learning Case Study for Automatic Bird Identification

Niemi, J. & Tanttu, J., 29 Oct 2018, In : *Applied Sciences (Switzerland)*. 8, 11, 15 p., 2089.

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

On the Layer Selection in Small-Scale Deep Networks

Muravev, A., Raitoharju, J. & Gabbouj, M., Nov 2018, *2018 7th European Workshop on Visual Information Processing (EUVIP)*. IEEE

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

Efficient Solving of Markov Decision Processes on GPUs Using Parallelized Sparse Matrices

Sapio, A., Bhattacharyya, S. S. & Wolf, M., Dec 2018, *2018 Conference on Design and Architectures for Signal and Image Processing, DASIP 2018*. IEEE COMPUTER SOCIETY PRESS, p. 13-18 6 p. (Conference on Design and Architectures

for Signal and Image Processing, DASIP).

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

Revisiting gray pixel for statistical illumination estimation

Qian, Y., Pertuz, S., Nikkanen, J., Kämäräinen, J-K. & Matas, J., 2019, *VISIGRAPP 2019 - Proceedings of the 14th International Joint Conference on Computer Vision, Imaging and Computer Graphics Theory and Applications*. Kerren, A., Hurter, C. & Braz, J. (eds.). SCITEPRESS, p. 36-46 11 p.

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

Smartphone teleoperation for self-balancing telepresence robots

Ainasoja, A. E., Pertuz, S. & Kämäräinen, J-K., 2019, *VISIGRAPP 2019 - Proceedings of the 14th International Joint Conference on Computer Vision, Imaging and Computer Graphics Theory and Applications*. Kerren, A., Hurter, C. & Braz, J. (eds.). SCITEPRESS, p. 561-568 8 p.

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

DGC-Net: Dense geometric correspondence network

Melekhov, I., Tiulpin, A., Sattler, T., Pollefeys, M., Rahtu, E. & Kannala, J., 4 Mar 2019, *2019 IEEE Winter Conference on Applications of Computer Vision, WACV 2019*. IEEE, p. 1034-1042 9 p. (IEEE Winter Conference on Applications of Computer Vision).

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

Digging deeper into egocentric gaze prediction

Tavakoli, H. R., Rahtu, E., Kannala, J. & Borji, A., 4 Mar 2019, *2019 IEEE Winter Conference on Applications of Computer Vision, WACV 2019*. IEEE, p. 273-282 10 p. (IEEE Winter Conference on Applications of Computer Vision).

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

Input magnitude data setting in error-reduction algorithm for one-dimensional discrete phase retrieval problem

Rusu, C. & Astola, J., 1 Jul 2019, *ISSCS 2019 - International Symposium on Signals, Circuits and Systems*. IEEE, 8801743

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

Light field reconstruction using shearlet transform in tensorflow

Gao, Y., Koch, R., Bregovic, R. & Gotchev, A., 1 Jul 2019, *2019 IEEE International Conference on Multimedia and Expo Workshops, ICMEW 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., Kembach, 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

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

Visibility-Aware Part Coding for Vehicle Viewing Angle Estimation

Yang, D., Qian, Y., Cai, D., Yan, S., Kämäräinen, J.-K. & Chen, K., 1 Aug 2019, *9th International Conference on Information Science and Technology, ICIST 2019*. IEEE, p. 65-70 6 p.

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

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

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

Fast fourier color constancy and grayness index for ISPA illumination estimation challenge

Qian, Y., Chen, K. & Yu, H., 17 Oct 2019, *ISPA 2019 - 11th International Symposium on Image and Signal Processing and Analysis*. Loncaric, S., Bregovic, R., Carli, M. & Subasic, M. (eds.). IEEE, p. 352-354 3 p. (International Symposium on Image and Signal Processing and Analysis, ISPA; vol. 2019-September).

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

Promoting local culture and enriching airport experiences through interactive storytelling

Burova, A., Kelling, C., Keskinen, T., Hakulinen, J., Kallioniemi, P., Väättäjä, 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

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

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

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

End-to-end learning for video frame compression with self-attention

Zou, N., Zhang, H., Cricri, F., Tavakoli, H. R., Lainema, J., Aksu, E., Hannuksela, M. & Rahtu, E., 2020, *Proceedings - 2020 IEEE/CVF Conference on Computer Vision and Pattern Recognition Workshops, CVPRW 2020*. IEEE, p. 580-584 5 p. (IEEE Computer Society Conference on Computer Vision and Pattern Recognition Workshops).

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

Multi-modal dense video captioning

Iashin, V. & Rahtu, E., 2020, *Proceedings - 2020 IEEE/CVF Conference on Computer Vision and Pattern Recognition Workshops, CVPRW 2020*. IEEE, p. 4117-4126 10 p. (IEEE Computer Society Conference on Computer Vision and Pattern Recognition Workshops).

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

Multimodal subspace support vector data description

Sohrab, F., Raitoharju, J., Iosifidis, A. & Gabbouj, M., 2020, In : *Pattern Recognition*. 110, 13 p., 107648.

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

Multi-sensor next-best-view planning as matroid-constrained submodular maximization

Lauri, M., Pajarinen, J., Peters, J. & Frintrop, S., 2020, In : *IEEE Robotics and Automation Letters*. 5, 4, p. 5323-5330 8 p.

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

Parametric exploration of cellular swelling in a computational model of cortical spreading depression

Genocchi, B., Cunha, A., Jain, S., Hyttinen, J., Lenk, K. & Ellingsrud, A. J., 2020, *42nd Annual International Conferences of the IEEE Engineering in Medicine and Biology Society: Enabling Innovative Technologies for Global Healthcare, EMBC 2020*. IEEE, p. 2491-2495 5 p. (Annual International Conference of the IEEE Engineering in Medicine and Biology Society; vol. 2020-July).

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

Probabilistic approach to physical object disentangling

Pajarinen, J., Arenz, O., Peters, J. & Neumann, G., 2020, In : *IEEE Robotics and Automation Letters*. 5, 4, p. 5510-5517 8 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

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.

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

Deep audio-visual saliency: Baseline model and data

Tavakoli, H. R., Borji, A., Kannala, J. & Rahtu, E., 6 Feb 2020, *Proceedings ETRA 2020 Short Papers - ACM Symposium on Eye Tracking Research and Applications, ETRA 2020*. Spencer, S. N. (ed.). ACM, 3

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

ICface: Interpretable and controllable face reenactment using GANs

Tripathy, S., Kannala, J. & Rahtu, E., 1 Mar 2020, *2020 IEEE Winter Conference on Applications of Computer Vision, WACV 2020*. IEEE, p. 3374-3383 10 p. (IEEE Winter Conference on Applications of Computer Vision).

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

Soft robotic gripper with compliant cell stacks for industrial part handling

Netzev, M., Angleraud, A. & Pieters, R., 1 Oct 2020, In : *IEEE Robotics and Automation Letters*. 5, 4, p. 6821-6828 8 p.

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