

### **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. & Rähä, 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, 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

#### **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., Pogrebnnyak, 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., Ocnarescu, 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