Real-Time Image and Video Processing

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Posters
Wednesday 6 April 2016
5:45 PM - 7:15 PM

Conference attendees are invited to attend the Photonics Europe poster session on Wednesday 17.45 to 19.15. Posters will be on display after 10.00 Wednesday morning in the Conference Centre. Come view the posters, enjoy light refreshments, ask questions, and network with colleagues in your field. Authors of poster papers will be present to answer questions concerning their papers. Attendees are required to wear their conference registration badges to the poster sessions. Poster authors, view poster presentation guidelines and set-up instructions at http://spie.org/x34963.xml.

A novel algorithm for face recognition based on sparse representation and artificial neural network
Paper 9897-17
Author(s): Yanqing Qi, Liejun Wang, Zhenhong Jia, Xinjiang Univ. (China)

Distance and speed measurements from monocular images and MEMS inclinometers
Paper 9897-18
Author(s): Aleksej Makarov, Guowei Tao, Bhaskar Choubey, Univ. of Oxford (United Kingdom)

http://spie.org/EPE/conferencedetails/real-time-image-and-video-processing
A real-time implementation method of second-order DP algorithm based on FPGA
Paper 9897-19
Author(s): Chenggang Sun, Shuo Wang, Yiqun Zhang, China Aerospace Science & Industry Corp. (China)

Parallel multilayer perceptron neural network used for hyperspectral image classification
Paper 9897-20
Author(s): Beatriz P. Garcia-Salgado, Volodymyr I. Ponomaryov, Marco A. Robles-Gonzales, Instituto Politécnico Nacional (Mexico)

Swarming visual sensor network for real-time multiple object tracking
Paper 9897-21
Author(s): Yuri Pavlovich Baranov, ITMO Univ. (Russian Federation), Ural Optical and Mechanical Plant (Russian Federation), JSC AstroSoft Development (Russian Federation); Sergey N. Yarishev, ITMO Univ. (Russian Federation); Roman Medvedev, Hochschule Aalen (Germany)

Analysis and segmentation of images in case of solving problems of detecting and tracing objects on real-time video
Paper 9897-22
Author(s): Dmitriy Fedorenko, Kseniia Ezhova, Anton Chuhlamov, ITMO Univ. (Russian Federation)

Automatic joint synovitis location estimation in ultrasound images
Paper 9897-23
Author(s): Karolina Nurzynska, Bogdan Smolka, Silesian Univ. of Technology (Poland)

Optimized adaptation algorithm for HEVC/H.265 dynamic adaptive streaming over HTTP using variable segment duration
Paper 9897-24
Author(s): Iheanyi C. Irondi, Qi Wang, Univ. of the West of Scotland (United Kingdom); Christos Grecos, Sohar Univ. (Oman)

Automatic detection and classification of obstacles with applications in autonomous mobile robots
Paper 9897-25
Author(s): Volodymyr I. Ponomaryov, Dario Rosas-Miranda, Instituto Politécnico Nacional (Mexico)

Real-time framework for tensor-based image enhancement and object classification
Paper 9897-26
Author(s): Boguslaw Cyganek, AGH Univ. of Science and Technology (Poland); Bogdan Smolka, Silesian Univ. of Technology (Poland)

http://spie.org/EPE/conferencedetails/real-time-image-and-video-processing
Development of the software for images segmentation and objects detecting on video
Paper 9897-27
Author(s): Kseniia Ezhova, Anton Chuhlamov, Dmitriy Fedorenko, ITMO Univ. (Russian Federation)

Experimental continuous terahertz wave nondestructive testing for aerospace composite materials
Paper 9897-28
Author(s): Tielin Lu, Hui Yuan, Jingshui Zhang, Beijing Institute of Technology (China); CunLin Zhang, Capital Normal Univ. (China); Yuejin Zhao, Beijing Institute of Technology (China)

Real-time and low-cost embedded platform for car’s surrounding vision system
Paper 9897-29
Author(s): Sergio Saponara, Univ. di Pisa (Italy); Emilio Franchi, RICO S.r.L. (Italy)

Static hand gesture recognition based on finger root-center-angle and length weighted Mahalanobis distance
Paper 9897-30
Author(s): Xinghao Chen, Chenbo Shi, Bo Liu, Tsinghua Univ. (China)

A computationally efficient denoising and hole-filling method for depth image enhancement
Paper 9897-31
Author(s): Soulan Liu, Changzhou University (China); Chen Chen, Nasser Kehtarnavaz, University of Texas at Dallas (United States)

Thursday 7 April

Hot Topics III
Thursday 7 April 2016
8:45 AM - 10:20 AM
Location: Gold Hall

Photonics Europe 2016: Hot Topics Session III
For details, please see page 10-13 in the printed programme or visit http://spie.org/x12297.xml

Coffee Break 10:20 AM - 10:50 AM
Session 1:
Applications of Real-Time Image Processing

Session Chair: Guillermo Botella, Univ. Complutense de Madrid (Spain)
Thursday 7 April 2016
10:50 AM - 12:40 PM

Real-time FPGA-based radar imaging for smart mobility surveillance systems (Invited Paper)
Paper 9897-1
Time: 10:50 AM - 11:20 AM
Author(s): Sergio Saponara, Bruno Neri, Univ. di Pisa (Italy)

3D real-time visualization of blood flow in cerebral aneurysms by light field particle image velocimetry
Paper 9897-2
Time: 11:20 AM - 11:40 AM
Author(s): Matthias F. Carlsohn, Computer Vision and Image Communication (Germany); André Kemmling, Universitätklinikum Schleswig-Holstein (Germany); Arne Petersen, Lennart Wietzke, Raytrix GmbH (Germany)

Application of the local similarity filter for the suppression of multiplicative noise in medical ultrasound images
Paper 9897-3
Time: 11:40 AM - 12:00 PM
Author(s): Damian Kusnik, Silesian Univ. of Technology (Poland); Boguslaw Cyganek, AGH Univ. of Science and Technology (Poland); Bogdan Smolka, Silesian Univ. of Technology (Poland)

Memory efficient and constant time 2D recursive spatial averaging filter for embedded implementations
Paper 9897-4
Time: 12:00 PM - 12:20 PM
Author(s): Qifeng Gan, Lama Seoud, Houssem Ben Tahar, DIAGNOS Inc. (Canada); J.M. Pierre Langlois, Ecole Polytechnique de Montréal (Canada)

Real-time optical flow estimation on a GPU for a skied-steered mobile robot
Paper 9897-5
Time: 12:20 PM - 12:40 PM
Author(s): Vladimir V. Kniaz, GosNIIAS (Russian Federation)

Lunch Break 12:40 PM - 1:50 PM

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Session 2: Real-Time Imaging Implementations

Session Chair: Sergio Saponara, Univ. di Pisa (Italy)
Thursday 7 April 2016
1:50 PM - 3:10 PM

Design of a 3D-IC multiresolution digital pixel sensor
Paper 9897-6
Time: 1:50 PM - 2:10 PM
Author(s): Dominique Ginhac, LE2I UMR 6306, CNRS, Arts et Métiers, Univ. Bourgogne Franche-Comté (France)

Parallel implementation of a hyperspectral data geometry-based estimation of number of endmembers algorithm
Paper 9897-7
Time: 2:10 PM - 2:30 PM
Author(s): Sergio Bernabé García, Univ. Complutense de Madrid (Spain); Gabriel Martín Hernández, Instituto de Telecomunicações (Portugal); Guillermo Botella, Manuel Prieto-Matías, Univ. Complutense de Madrid (Spain); Antonio Plaza Miguel, Univ. de Extremadura (Spain)

FPGA implementation of glass-free stereo vision
Paper 9897-8
Time: 2:30 PM - 2:50 PM
Author(s): Weidong Tang, Xiaolin Yan, TCL Corp. (China)

A novel fast median filter algorithm without sorting
Paper 9897-9
Time: 2:50 PM - 3:10 PM
Author(s): Weiping Yang, Zhilong Zhang, Xinping Lu, National Univ. of Defense Technology (China)

Coffee Break 3:10 PM - 3:40 PM

Session 3: Real-Time Video Processing

Session Chair: Bogdan Smolka, Silesian Univ. of Technology (Poland)
Thursday 7 April 2016
3:40 PM - 6:00 PM

http://spie.org/EPE/conferencedetails/real-time-image-and-video-processing
4K-based intra- and interprediction techniques for HEVC
Paper 9897-10
Time: 3:40 PM - 4:00 PM
Author(s): Guillermo Fernandez, Alberto del Barrio, Guillermo Botella, Carlos García, Manuel Prieto-Matías, Univ. Complutense de Madrid (Spain)

In-network adaptation of SHVC video in software-defined networks
Paper 9897-11
Time: 4:00 PM - 4:20 PM
Author(s): Olatunde Awobuluyi, James M. Nightingale, Qi Wang, Jose Maria Alcaraz-Calero, Univ. of the West of Scotland (United Kingdom); Christos Grecos, Sohar Univ. (Oman)

The QoE implications of ultrahigh definition video adaptation strategies
Paper 9897-12
Time: 4:20 PM - 4:40 PM
Author(s): James M. Nightingale, Olatunde Awobuluyi, Qi Wang, Jose Maria Alcaraz-Calero, Christos Grecos, Univ. of the West of Scotland (United Kingdom)

Real-time multicamera video acquisition and processing platform for ADAS
Paper 9897-13
Time: 4:40 PM - 5:00 PM
Author(s): Sergio Saponara, Univ. di Pisa (Italy)

Ghost removing for HDR real-time video stream generation
Paper 9897-14
Time: 5:00 PM - 5:20 PM
Author(s): Julien Dubois, Barthelemy Heyrman, Dominique Ginhac, LE2I UMR 6306, CNRS, Arts et Métiers, Univ. Bourgogne Franche-Comté (France)

Architecture of web services in the enhancement of real-time 3D video virtualization in cloud environment
Paper 9897-15
Time: 5:20 PM - 5:40 PM
Author(s): Adedayo A. Bada, Jose Maria Alcaraz-Calero, Qi Wang, Christos Grecos, Univ. of the West of Scotland (United Kingdom)

Contour-based object orientation estimation
Paper 9897-16
Time: 5:40 PM - 6:00 PM
Author(s): Boris A. Alpatov, Pavel V. Babayan, Ryazan State Radio Engineering Univ. (Russian Federation)

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