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SCIENCE AND TECHNOLOGY

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Image Processing: Machine Vision Applications IX

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Image Processing: Machine Vision Applications IX

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Introduction

Image Processing: Machine Vision Application IX aims at enhancing and cultivating all researchers and practitioners in the machine vision to share latest applications and developments. Topics of interests cover the integration of imaging sensors supporting hardware, computers, and algorithms for manufacturing inspection, characterization, and/or control.

On behalf of the Conference Committee, we welcome you to this annual conference in 2016 IS&T International Symposium on Electronic Imaging (EI2016) at the Hilton San Francisco Union Square, San Francisco, California, 14-18 February, 2016.

The conference program was composed of four main sessions: (a) Inspection and Metrology, (b) Detection, Identification, and Monitoring I, (c) Detection, Identification, and Monitoring II, (d) Classification Techniques. The session (a) was on February 17 and the sessions (b)-(d) was on February 18.

There were totally nineteen original research paper submissions in the conference including two manuscripts firstly submitted to IS&T's journal of Imaging Science and Technology (JIST). Furthermore, one JIST paper, titled as Marker-less Augmented Reality Framework Using On-site 3D Line-segment-based Model Generation, has also selected for the best paper award. This work was contributed by Yusuke Nakayama, Hideo Saito (both from Keio University, Japan), Masayoshi Shimizu and Nobuyasu Yamaguchi (Fujitsu Laboratories Ltd., Japan).

We would like to sincerely thank all Conference Committee members and all contributing authors and reviewers.

We hope that all participants have a joyful experience at Image Processing: Machine Vision Applications IX, and look forward to your continued support in future.

Image Processing: Machine Vision Applications IX

Wednesday, February 17, 2016

Inspection and Metrology

Session Chair: Edmund Lam, The University of Hong Kong (Hong Kong)

4:10 – 4:50 pm

Golden Gate 8

4:10 IPMVA-372

Development of multi-resolution microscope image processing system (JIST-first), Tomohiro Suzuki, Shin Usuki, and Kenjiro Miura, Shizuoka University (Japan)

4:30 IPMVA-373

Validation of a novel geometric coordination registration using manual and semi-automatic methods in cone-beam computed tomogram, Walter Lam¹, Henry Ngan², Richard Hsung¹, Henry Luk¹, Tazuko Goto³, and Edmond Pow¹; ¹University of Hong Kong (Hong Kong), ²Hong Kong Baptist University (Hong Kong), and ³Tokyo Dental College (Japan)

Image Processing: Machine Vision Applications IX in the Interactive Papers Session

5:30 – 7:00 pm

Continental Ballroom 6

The following works will be presented at the EI 2016 Symposium Interactive Papers Session.

IPMVA-374

Data-driven approach to aesthetic enhancement, Jihye Choi, SungJoon Koh, Jong Woo Kwack, Yonghun Kwon, and Hyunjung Shim, Yonsei University (South Korea)

IPMVA-375

Real-time machine vision with GPU-acceleration using Quasar, Jonas De Vylder^{1,2}, Simon Donné^{1,2}, and Bart Goossens^{1,2}; ¹Ghent University and ²iMinds (Belgium)

IPMVA-376

Learning based hole filling method using deep convolutional neural networks for view synthesis, Heuntaek Lim, Hak Gu Kim, and Yong Man Ro, Korea Advanced Institute of Science and Technology (KAIST) (South Korea)

IPMVA-377

Exploiting visual saliency for car detection and tracking, Marco Mollisanti¹, Giovanni Farinella¹, Arcangelo Bruna², and Sebastiano Battiato¹; ¹University of Catania and ²STMicroelectronics (Italy)

EI 2016 Symposium Interactive Papers Session

5:30 – 7:00 PM

Continental Ballroom 6

Thursday, February 18, 2016

Detection, Identification, and Monitoring I

Session Chair: Seung-Chul Yoon, US Department of Agriculture-Agricultural Research Service (USA)

8:50 – 10:10 am

Golden Gate 8

8:50 IPMVA-378

Low-level track finding and completion using random fields, Tu-Thach Quach, Rebecca Malinas, and Mark Koch, Sandia National Laboratories (USA)

9:30 IPMVA-380

Toward a Fusion of Optical Coherence Tomography and Hyperspectral Imaging for Poultry Meat Quality Assessment, Seung-Chul Yoon, Brian Bowker, and Hong Zhuang, US Department of Agriculture-Agricultural Research Service (USA)

9:50 IPMVA-381

Unsupervised tracking with a low computational cost using the doubly stochastic Dirichlet process mixture model, Xing Sun¹, Nelson H.C. Yung², Edmund Y. Lam¹, and Hayden K.-H. So¹; ¹The University of Hong Kong and ²Yung & Partners Limited (Hong Kong)

10:10 – 10:50 am Coffee Break

Detection, Identification, and Monitoring II

Session Chair: Henry Ngan, Hong Kong Baptist University (Hong Kong)

10:50 am – 12:30 pm

Golden Gate 8

10:50 IPMVA-382

Marker-Less Augmented Reality Framework Using On-Site 3D Line-Segment-based Model Generation, Yusuke Nakayama¹, Hideo Saito¹, Masayoshi Shimizu², and Nobuyasu Yamaguchi²; ¹Keio University and ²Fujitsu Laboratories Ltd. (Japan)

11:10 IPMVA-383

Bit depth expansion via estimation of bit value expectation, Jihwan Woo, Seoyoung Lee, and Wonhee Choe, Samsung Electronics (South Korea)

11:30 IPMVA-384

Dense correspondence using multilevel segmentation and affine transformation, Sungil Choi, Kihong Park, Seungryong Kim, and Kwanghoon Sohn, Yonsei University (South Korea)

11:50 IPMVA-385
Density-based outlier detection by local outlier factor on large-scale traffic video data, Mathew X. Ma¹, Henry Ngan¹, and Wei Liu²; ¹Hong Kong Baptist University (Hong Kong) and ²The University of Sheffield (United Kingdom)

12:10 IPMVA-386
Automated lane detection by K-means clustering: A machine learning approach, Ajaykumar R., Arpit Gupta, and S. N. Merchant, Indian Institute of Technology, Bombay (India)

12:30 – 2:00 pm Lunch Break

Classification Techniques

Session Chair: Reinhold Huber-Mörk, Austrian Institute of Technology (Austria)

2:00 – 3:00 pm
 Golden Gate 8

2:00 IPMVA-387
STABLE: Stochastic binary local descriptor for high-performance dense stereo matching, Svorad Štolc, Kristián Valentín, and Reinhold Huber-Mörk, AIT Austrian Institute of Technology GmbH (Austria)

2:20 IPMVA-388
Noise tolerant histogram voting for gender classification based on LBP, Sanghun Lee and Chulhee Lee, Yonsei University (South Korea)

2:40 IPMVA-389
Sudoku texture classification, Graham Finlayson and Seth Nixon, University of East Anglia (United Kingdom)