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PROCEEDINGS

Imaging and Multimedia Analytics in a Web and Mobile World 2017

Editors: **Jan P. Allebach,** Purdue Univ. (United States),
Zhigang Fan, Apple Inc. (United States),
Qian Lin, Hp Labs, Hp Inc. (United States)

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Imaging and Multimedia Analytics in a Web and Mobile World 2017

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Imaging and Multimedia Analytics in a Web and Mobile World 2017

Wednesday, February 1, 2017

Keynote: Web Scale Multimedia Analysis I
Session Chair: Jan Allebach, Purdue University (United States)
9:10 – 10:10 am
Cypress A

The internet on things: Delivering augmented reality experiences in context, *Michael Gormish, Blippar (United States)* (IMAWM-157)

Michael Gormish is Principal Scientist at Blippar on the infrastructure team working on image retrieval and multiple computer vision products. Gormish is an image processing and computer vision scientist and engineer who invented algorithms used in products including video games, digital cinema, satellite and medical image acquisition and transport. He earned a PhD in electrical engineering dealing with image and data compression from Stanford University. In his twenty year career at Ricoh, he led several aspects of the JPEG 2000 standardization and provided key inventions used in photocopiers, digital cameras, tablets and imaging services. He was awarded the status of Ricoh Patent Master for being a co-inventor on more than 100 US patents. He has served the research community as an Associate Editor of the IEEE Signal Processing Magazine, *Associate Editor of the* Journal of Electronic Imaging, *Program Chair of the Document Engineering Conference, and technical committee member and reviewer for numerous conferences and journals. Currently he is interested changing the world via mobile image understanding.*

10:00 am – 4:00 pm Industry Exhibition

10:10 – 10:50 am Coffee Break

Web Scale Multimedia Analysis II

Session Chair: Binu Nair, University of Dayton Research Institute (United States)

10:50 am – 12:30 pm
Cypress A

10:50
MS-Celeb-1M: A review of large-scale face recognition (Invited), *Yandong Guo and Lei Zhang, Microsoft Research (United States)* (IMAWM-158)

11:30
Evaluation of Hadoop and HPCC for multimedia big data analysis, *Vishnu Chinta, Hari Kalva, and Borko Furht, Florida Atlantic University (United States)* (IMAWM-159)

11:50 5
Creating the world's largest real-time camera network, *Ryan Dailey, Ahmed S. Kaseb, Chandler Brown, Sam Jenkins, Sam Yellin, Fengjian Pan, and Yung-Hsiang Lu; Purdue University (United States)* (IMAWM-160)

12:10 13
Multimedia instant messaging with real-time attribute-based encryption, *Xunyu Pan and Christopher Gill, Frostburg State University (United States)* (IMAWM-161)

12:30 – 2:00 pm Lunch Break

EI 2017 Wednesday Plenary and Symposium Awards
Session Chairs: Joyce E. Farrell, Stanford University, and Nitin Sampat, Rochester Institute of Technology (United States)
2:00 – 3:00 pm
Grand Peninsula Ballroom D

Designing VR video camera systems, *Brian Cabral, Facebook, Inc. (United States)*

Brian Cabral is Director of Engineering at Facebook, leading the Surround 360 VR camera team, specializing in computational photography, computer vision, and computer graphics. He has published a number of papers in the area of computer graphics and imaging including the pioneering Line Integral Convolution algorithm. Cabral discusses developing Facebook Surround 360, an open, high-quality 3D-360 video capture system. VR video capture systems are composed of multiple optical and digital components - all of which must operate as if they are one seamless optical system. The design of VR video cameras, optical choices, SNR, etc., require a new set of technologies and engineering approaches, with tight coupling to the computational system components.

3:00 – 3:30 pm Coffee Break

Deep Learning

Session Chair: Zhigang Fan, Apple Inc. (United States)

3:30 – 4:50 pm
Cypress A

3:30 20
Distracted driver detection: Deep learning vs handcrafted features, *Murtadha Hssayeni, Sagar Saxena, Raymond Ptucha, and Andreas Savakis, Rochester Institute of Technology (United States)* (IMAWM-162)

3:50 27
Training object detection and recognition CNN models using data augmentation, *Daniel Mas Montserrat[1], Qian Lin[2], Jan Allebach[1], and Edward Delp[1]; [1]Purdue University and [2]HP Labs, HP Inc. (United States)* (IMAWM-163)

4:10 37
Detection and characterization of Coordinate Measuring Machine (CMM) probes using deep networks for improved quality assurance of machine parts, *Binu Nair, Vidur Prasad, and Nilesh Powar; University of Dayton Research Institute (United States)* (IMAWM-164)

4:30 45
Robust person recognition using CNN, *Ming Chen[1], Qian Lin[2], Fengqing Zhu[1], and Jan Allebach[1]; [1]Purdue University and [2]HP Labs, HP Inc. (United States)* (IMAWM-165)

Symposium Interactive Papers (Poster) Session
5:30 – 7:00 pm
Atrium

Thursday, February 2, 2017

Multimedia Analysis

Session Chair: Reiner Fageth, CEWE Stiftung & Co. KGAA (Germany)

8:50 – 10:30 am
Cypress A

8:50
Analytics for body worn cameras (Invited), *Quanfu Fan, Thomas J. Watson Research Center (United States)* (IMAWM-166)

9:30 51
Interactive segmentation for indoor scenes, *Chun-Jung Tai[1], Tongyang Liu[1], Judy Bagchi[2], Fengqing Zhu[1], and Jan Allebach[1]; [1]Purdue University and [2]DzineSteps (United States)* (IMAWM-167)

9:50 60
Drone detection by acoustic signature identification, *Andrea Bernardini, Federica Mangiatordi, Emiliano Pallotti, and Licia Capodiferro, Fondazione Ugo Bordoni (Italy)* (IMAWM-168)

10:10 65
Aesthetics of fashion photographs: Effect on user preferences, *Zhi Li[1], Shuheng Lin[1], Yang Cheng[1], Ni Yan[1], Gautam Golwala[2], Sathya Sundaram[2], and Jan Allebach[1]; [1]Purdue University and [2]Poshmark Inc. (United States)* (IMAWM-169)

10:30 – 10:50 am Coffee Break

Face / Body Detection and Recognition

Session Chair: Andreas Savakis, Rochester Institute of Technology (United States)

10:50 am – 12:10 pm
Cypress A

10:50 70
Local boosted features for illumination invariant face recognition, *Almabrok Essa and Vijayan Asari, University of Dayton (United States)* (IMAWM-170)

11:10
High precision 3D reconstruction of the human face, *Michael Wang, Daran He, Frankie Li, Wiley Wang, and Sergey Surkov, Ditto Technologies (United States)* (IMAWM-171)

11:30 74
Chromatic domain phase features with gradient and texture for efficient human detection, *Hussin K. Ragb and Vijayan K. Asari, University of Dayton (United States)* (IMAWM-172)

11:50 80
A real-time smile elegance detection system: A feature-level fusion and SVM based approach, *Lili Lin[1], Yiwen Zhang[1], Weini Zhang[1], Zhihui Chen[1], Yan Yan[1], and Tianli Yu[2]; [1]Department of Computer Science, Xiamen University (China) and [2]Morpx Inc. (United States)* (IMAWM-173)

12:10 – 2:00 pm Lunch Break

Analytics for Mobile Applications

Session Chair: Qian Lin, HP Labs, HP Inc. (United States)

2:00 – 3:00 pm
Cypress A

2:00
MU, the ultra mobile visual analytic sensor for toys and IOTs, *Tianli Yu, Morpx Inc. (United States)* (IMAWM-174)

2:20
Are mobile phones changing the order behavior and content for printed photo products?, *Reiner Fageth, CEWE Stiftung & Co. KGAA (Germany)* (IMAWM-176)

2:40 86
Texture re-rendering tool for re-mixing indoor scene images, *Tongyang Liu[1], Chun-Jung Tai[1], Fengqing Zhu[1], Judy Bagchi[2], and Jan Allebach[1]; [1]Purdue University and [2]DzineSteps (United States)* (IMAWM-177)

3:20 – 4:00 pm Coffee Break