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Imaging and Multimedia Analytics in a
Web and Mobile World 2018

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Imaging and Multimedia Analytics in a Web and Mobile World 2018

Wednesday, January 31, 2018

Keynote: Deep Learning for Recognition and Detection I

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

9:10 – 10:10 am

Harbour A-B

IMAWM-310 [no paper]

How does building a low cost vision sensor teach us about deep learning?, Tianli Yu, Morpx Inc. (United States)

Dr. Tianli Yu is the CEO and co-founder of Morpx Inc., a startup based in Hangzhou that delivers innovative computer vision hardware and software. He received his PhD in ECE from the University of Illinois at Urbana Champaign (2006). After graduation, he's been a senior computer vision researcher in Motorola Labs working on the embedded stereo depth camera for Motorola's phones. Later, Dr. Yu joined like.com and designed algorithms to assist shoppers in finding their personal styles. Like.com was eventually acquired by Google in 2010. After working for a few years in the design of large scale visual search and recognition algorithms for Google Shopping, Dr. Yu founded Morpx with his friend Frank Ran in late 2013. Morpx is the second time in his career that he is working to build an ultra-compact and super energy efficient computer vision system.

10:00 am – 4:00 pm Industry Exhibition

10:10 – 10:50 am Coffee Break

Deep Learning for Recognition and Detection II

Session Chair: Jane You, The Hong Kong Polytechnic University (Hong Kong)

10:50 AM – 12:30 pm

Harbour A-B

10:50

IMAWM-336

Depth and superpixel extraction for augmenting human detection (Invited), Hussin Ragb, Theus Aspiras, and Vijayan Asari, University of Dayton (United States)

11:30

IMAWM-467

Vision based vehicle re-identification by fusion of multiple features, Geng Yang¹, Jane You², Zhenhua Guo³, and Qin Li⁴; ¹Shenzhen Genvict Technologies Co., Ltd. (China), ²The Hong Kong Polytechnic University (Hong Kong), ³Tsinghua University Shenzhen Graduate School (China), and ⁴Shenzhen Institute of Information Technology (China)

11:50

IMAWM-338

Hierarchical Auto-associative Polynomial Convolutional Neural Network (HAP-CNN), Patrick Martell and Vijayan Asari, University of Dayton Research Institute (United States)

12:10

IMAWM-339

Learn a hybrid collaborative representation for fine-grained image classification, Wen-Yang Xie¹, Bao-Di Liu¹, Xue Li², and Yan-jiang Wang¹; ¹China University of Petroleum (China) and ²Tsinghua University (China)

12:30 – 2:00 pm Lunch

Plenary Session

2:00 – 3:00 pm

Grand Peninsula Ballroom D

Ubiquitous, Consumer AR Systems to Supplant Smartphones, Ronald T. Azuma, Intel, Corp. (United States)

Dr. Ronald T. Azuma, researcher and augmented reality pioneer, shares his vision for achieving ubiquitous, consumer AR systems. Recent large investments in augmented reality reflect the commercial interest in its inherent potential to replace current smartphone technology, but much remains to be done. In his talk, Dr. Azuma gives a vision for achieving this goal, which requires not just solving numerous technical challenges but also determining new, compelling AR experiences that will establish AR as a new platform and novel form of media.

Dr. Azuma leads a team in Intel Labs that designs and prototypes novel experiences and key enabling technologies to enable new forms of media. These technology areas include computational imaging and photography, computational displays, and head-worn displays. Dr. Azuma is recognized as a pioneer and innovator in augmented reality, and has held prominent leadership roles in that research area, including leading and implementing research projects and demonstrations in areas such as AR, visualization, and mobile applications. Dr. Azuma received his BSc (1988) in electrical engineering from University of California, Berkeley, and MS (1990) and PhD (1995) in computer science from University of North Carolina, Chapel Hill. Prior to joining Intel, he was a research leader at Nokia Research Center Hollywood, and a senior researcher at Hughes Research Laboratories.

3:00 – 3:30 pm Coffee Break

Deep Learning for Face Recognition

3:30 – 5:10 PM

Harbour A-B

3:30

IMAWM-372 [no paper]

One-shot face recognition: A review (Invited), Yandong Guo and Lei Zhang, Microsoft Research (United States)

4:10

IMAWM-373

Face liveness detection based on joint analysis of RGB and near-infrared image of faces, Lingxue Song and Changsong Liu, Tsinghua University (China)

4:30

IMAWM-374

Robust convolutional neural network cascade for facial landmark localization exploiting training data augmentation, Ruiyi Mao¹, Qian Lin², and Jan Allebach¹; ¹Purdue University and ²HP Labs, HP Inc. (United States)

4:50

IMAWM-421

Empirical study of image compression for palm vein recognition, Zhenhua Guo¹, Qin Li², Yujia Yang¹, and Jane You³; ¹Tsinghua University (China), ²Shenzhen Institute & Information Technology (China), and ³The Hong Kong Polytechnic University (Hong Kong)

Symposium Interactive Papers (Poster) Session

5:30 – 7:30 pm

The Grove

Meet the Future: A Showcase of Student and Young Professionals Research

5:30 – 7:30 pm

The Grove

Thursday, February 1, 2018

Deep Learning for Recognition and Detection III

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

9:10 – 10:10 AM

Harbour A-B

9:10 IMAWM-419

3D Shape retrieval using volumetric and image CNNs: A meta-algorithmic approach, Ruiting Shao¹, Yang Lei², Jian Fan², and Jerry Liu²; ¹Purdue University and ²HP Labs, HP Inc. (United States)

9:30 IMAWM-420 [no paper]

A new fast template matching algorithm for object detection, Jichao Jiao¹, Weihua Tang², Xin Wang¹, and Zhongliang Deng¹; ¹Beijing University of Posts and Telecommunications and ²China State Construction Engineering Corporation (China)

9:50 IMAWM-375

A feature fusion strategy for human detection in omnidirectional camera imagery, Hussin Ragb and Vijayan Asari, University of Dayton (United States)

10:10 – 10:50 AM Coffee Break

Multimedia Analytics in Online Systems

10:50 am – 12:30 pm

Harbour A-B

10:50 IMAWM-443 [no paper]

Has mobile photography changed the users' behavior while ordering printed products? (Invited), Reiner Fageth, CEWE Stiftung & Co. KGAA (Germany)

11:30 IMAWM-444

Application of natural language processing to an online fashion marketplace, Kendal Norman¹, Zhi Li¹, Young-Taek Oh¹, Gautam Golwala², Sathya Sundaram², and Jan Allebach¹; ¹Purdue University and ²Poshmark Inc. (United States)

11:50 IMAWM-445

Multimedia analytics platform for profiling keywords embedded in photo catalogues, Federica Mangiatordi, Andrea Bernardini, Emiliano Pallotti, and Licia Capodiferro, Fondazione Ugo Bordoni (Italy)

12:10 IMAWM-446

Use of color information in the analysis of fashion photographs, Zhi Li¹, Gautam Golwala², Sathya Sundaram², and Jan Allebach¹; ¹Purdue University and ²Poshmark Inc. (United States)

12:30 – 2:00 pm Lunch

Mobile Image Analytics and Augmented Reality

2:00 – 3:20 pm

Harbour A-B

2:00 IMAWM-453

Semantic pose machines (Invited), Ying-Kai Huang and Andreas Savakis, Rochester Institute of Technology (United States)

2:40 IMAWM-454

Learning enhancement with mobile augmented reality, Xunyu Pan, Joseph Shipway, and Wenjuan Xu, Frostburg State University (United States)

3:00 IMAWM-455

Person segmentation using convolutional neural networks with dilated convolutions, David Ho¹ and Qian Lin²; ¹Purdue University and ²HP Labs, HP Inc. (United States)

3:20 – 3:50 pm Coffee Break

Multi-Media Object Detection

Session Chair: Jan Allebach, Purdue University (United States)

3:50 – 4:50 pm

Harbour A-B

3:50 IMAWM-466

Deep learning for moving object detection and tracking from a single camera in unmanned aerial vehicles (UAVs) (Invited), Dong Hye Ye, Jing Li, Qiulin Chen, Juan Wachs, and Charles Bouman, Purdue University (United States)

4:30 IMAWM-337

Logo detection and recognition with synthetic images, Daniel Mas Montserrat¹, Qian Lin², Jan Allebach¹, and Edward Delp¹; ¹Purdue University and ²HP Labs, HP Inc. (United States)