IPTA 2018

The Eighth International Conference on Image Processing Theory, Tools and Applications

November 7-10,2018
Xi'an, China

Conference Program

Xi'an, China

Program at glance

Wednesday 7 Nov	Thursday 8 Nov	Friday 9 Nov	Saturday 10 Nov
Registration Open (09:00 – 18:00)	Registration Open (08:30 –)	Registration Open (08:30 --)	Registration Open (08:30 --)
Tutorial (14:00 – 15:00)	Opening (09:00 – 09:30)	Keynote Talk 3 (09:00 – 10:00)	Oral Session (09:00 – 10:00)
Coffee Break (15:00 – 15:30)	Keynote Talk 1 (09:30 – 10:30)	Coffee Break (10:00 – 10:20)	Coffee Break (10:00 – 10:20)
Tutorial (15:30 – 17:30)	Coffee Break (10:30 – 10:50)	Oral Session (10:20 – 11:50)	Oral Session (10:20 – 11:20)
	Keynote Talk 2 (10:50 – 11:50)	Lunch (11:50 – 13:30)	Lunch (11:20 – 13:30)
	Lunch (11:50 – 13:30)	Keynote Talk 4 (13:30 – 14:30)	Oral Session (13:30 – 14:30)
	Oral Session (13:30 – 15:00)	Coffee Break (14:30 – 14:50)	Coffee Break (14:30 – 14:50)
	Coffee Break (15:00 – 15:20)	Oral Session (14:50 – 16:50)	Oral Session (14:50 – 15:50)
	Oral Session (15:20 – 16:50)	Dinner (19:00 – 21:00)	Awards (15:50 – 16:30)
	Reception (19:00 – 21:00)		

Wednesday 7 November 2018

Location: International Conference Center (Room 1) of Northwestern Polytechnical University

14:00 – 15:00	Tutorial — **Chair: Zhaoqiang Xia** **Accelerate Deep Learning Inference at the edge with Intel® Movidius™ VPU Technology**  Dr. Sofiane Yous Engineering Lead / Lead Architect Embedded Machine Intelligence at Intel Corporation USA
15:00 -- 15:30	**Coffee Break**
15:30 -- 17:00	Tutorial (Continues): — **Chair: Zhaoqiang Xia** **Accelerate Deep Learning Inference at the edge with Intel® Movidius™ VPU Technology**

Abstract:

Market research estimates there will be as many as 20 billion connected devices in the market by 2020. These devices are expected to generate billions of petabytes of data traffic between cloud and edge devices. In 2017 alone, there were as many as 8.4B connected devices, highlighting the need to preprocess data at the edge. This has led many IoT device manufacturers, especially those working on vision-based devices like smart cameras, drones, robots, and AR/VR, to bring intelligence to the edge.

Through the recent addition of the Intel® Movidius™ Vision Processing Unit (Intel® Movidius™ VPU) technology to its existing AI edge solutions portfolio, Intel is well positioned to provide solutions to help developers and data scientists pioneer the low-power intelligent edge devices segment. Dr. Sofiane Yous will introduce the key features of Intel Movidius VPU technology and give you a hands-on overview of the Intel® Movidius™ Neural Compute Stick, a miniature deep learning hardware development platform that you can use to prototype, tune, and validate your AI programs (specifically deep neural networks).

Thursday 8 November 2018 Location: International Conference Center (Room 5) of Northwestern Polytechnical University	
08:30 – 16:00	Registration
09:00 -- 09:30	Opening
09:30 -- 10:30	**Keynote Talk #1** Chair: Fabio Roli Novel Machine Learning Solutions for Pertinent Applications Speaker: Prof. Moncef Gabbouj, Department of Signal Processing, Tampere University of Technology, Finland
10:30 -- 10:50	**Coffee Break**
10:50 -- 11:50	**Keynote Talk #4** Chair: Xiaoyi Feng 3D Scene Cognition and Multi-Modal Learning Speaker: Assoc. Prof. Huimin Ma, Director of 3D Image Lab, Tsinghua University, China
11:50 -- 13:30	**Lunch @ Zhenghe Hotel**  

Location: International Conference Center (Room 1) of Northwestern Polytechnical University	
13:30 -- 15:00	**Oral session: Object detection and Tracking** Chair: Zhaoqiang Xia ➢ On the use of contextual information for robust colour-based particle filter tracking *Mourad Oussalah* ➢ Video Tracking of Insect Flight Path: Towards Behavioral Assessment *Yufang Bao*; Hamid Krim* ➢ Detection proposal method based on shallow feature constraint *Hao Chen** ➢ Pedestrian Detection in Infrared Images Using Fast RCNN *Asad Ullah** ➢ Hyperspectral Anomaly Detection Incorporating Spatial Information *Huihui Ju** ➢ 3D lymphoma detection in PET-CT images with supervoxel and CRFs *Su Ruan*; Jierui Zha*
15:00 -- 15:20	**Coffee Break**
15:20 -- 16:50	**Oral session: Object detection and Tracking** Chair: Zhaoqiang Xia ➢ Driver Drowsiness Detection in Facial Images *Fadi Dornaika*; Fawzi Khattar; Ignacio Arganda Carreras; Abdelmalik Moujahid; Yassine Ruichek* ➢ Detection and identification method of medical label barcode based on deep learning *Guoliang Shi** ➢ Joint Deep Learning and Clustering Algorithm for Liquid Particle Detection of Pharmaceutical Injection *Miao Zhao** ➢ Acoustic Based Method for Automatic Segmentation of Images of Objects in Periodic Motion: detection of vocal folds edges case study *Bartosz Michał Kopczyński*; Paweł Strumiłło; Marcin Just; Ewa Niebudek-Bogusz* ➢ Deformation-Based Abnormal Motion Detection using 3D Skeletons *Renato Baptista*; Girum Demisse; Djamila Aouada; Bjorn Ottersten* ➢ Using Adaptive Trackers for Video Face Recognition from a Single Still Per Person *Francis Charette Migneault*; Eric Granger; fania mokhayeri*
19:00 -- 21:00	**Conference Reception @ Zhenghe Hotel**

Friday 9 November 2018

Location: International Conference Center (Room 1) of Northwestern Polytechnical University

08:30 – 16:00	**Registration**
09:00 -- 10:00	**Keynote Talk #3** Chair: Xiaoyi Feng Combining human computation and visual content analysis Speaker: Prof. Vincent Charvillat, Department of Computer Science & Applied Maths, School of ENSEEIHT Engineering, University of Toulouse, France
10:00 -- 10:20	**Coffee Break**
10:20 -- 11:50	**Oral session: Machine Learning** Chair: Xiaoyue Jiang ➢ Image classification based on log-Euclidean Fisher Vectors for covariance matrix descriptors *Sara Akodad*; Lionel Bombrun; Charles Yaacoub; Yannick Berthoumieu; Christian Germain* ➢ A Measurement Method for Vehicle Queue Length of Intersection Based on Image Processing *Zhan Qi** ➢ Developing and Validating A Predictive Model of Measurement Uncertainty for Multi-beam Lidars: Application to The Velodyne VLP-16 *Quentin Péntek*; Tristan Allouis; Olivier Strauss; Christophe Fiorio* ➢ Image Super-Resolution based on multi-pairs of dictionaries via Patch Prior Guided Clustering *Dongfeng Mei*; Xuan Zhu; Yue Cheng; Qingwen Cao; Lei Wang; Longfei Zhang; Qiheng Song* ➢ Human—Computer Interaction using Finger Signing Recognition with Hand Palm Centroid PSO Search and Skin—Color Classification and Segmentation *Zoubir M Hamici** ➢ A Study of Measures for Contour-based Recognition and Localization of Known Objects in Digital Images *Baptiste Magnier*; Hasan Kareem abdulrahman*
11:50 -- 13:30	**Lunch @ Zhenghe Hotel**

13:30 -- 14:30	**Keynote Talk #4** Chair: Fabio Roli Deep Structure Learning: A Scale-based Paradigm Speaker: Prof. Hamid Krim, Department of Electrical & Computer Engineering, North Carolina State University, Raleigh, USA
14:30 -- 14:50	**Coffee Break**
14:50 -- 16:50	**Oral session: Machine Learning** Chair: Xiaoyue Jiang ➢ A Method for Automatic Tracking of Cell Nuclei in 2D Epifluorescence Microscopy Image Sequences *Alexandr Kondratiev; Hideyuki Yaginuma; Yasushi Okada; Dmitry V. Sorokin** ➢ A multiple classifiers-based approach to palmvein identification *Marco Micheletto; Giulia Orrù; Imad Rida; Luca Ghiani; Gian Luca Marcialis** ➢ A new image enhancement algorithm for low illumination environment based on fog-degraded model *Feiyan Cheng*; Junsheng Shi; Lijun Yun; Zhenhua Du; Zhijian Xu; Xiaoqiao Huang; Zaiqing Chen* ➢ Interval-valued JPEG decompression for artifact suppression *Vincent Itier*; Florentin Kucharczak; Olivier Strauss; William J.-P. Puech* ➢ An image compression scheme based on Block Truncation Coding using real-time block classification and modified threshold for pixels grouping *Zheng Hui** ➢ Is the transmission of depth data always necessary for 3D video streaming? *Li Yu *; Moncef Gabbouj* ➢ Single-image Super-resolution via De-biased Sparse Representation *Jian Pu*; Yingbin Zheng; Hao Ye* ➢ Image Registration Algorithm Based on Super pixel Segmentation and SURF Feature Points *Wei Weiyi; A Chengfeng**
19:00 -- 21:00	**Social Dinner @ Tangyuegong**

Saturday 10 November 2018

Location: International Conference Center (Room 1) of Northwestern Polytechnical University

08:30 – 16:00	**Registration**
09:00 -- 10:00	**Oral session: Machine Learning and Deep Learning** Chair: Rachid Jennane ➢ Research on Interactive Bicycle Roaming System *Liu Yang*; Yangyu Fan; Zhe Guo* ➢ MLANs: Image Aesthetic Assessment via Multi-Layer Aggregation Networks *Xuantong Meng; Fei Gao*; Suguo Zhu* ➢ A New Generative Adversarial Network for Texture Preserving Image Denoising *zhipin qu; YuanQi Zhang; Yi Sun*; Xiangbo Lin* ➢ Unsupervised Facial Image De-occlusion with Optimized Deep Generative Models *Lei Xu*; Honglei Zhang; Jenni Raitoharju; Moncef Gabbouj*
10:00 -- 10:20	**Coffee Break**
10:20 -- 11:20	**Oral session: Deep Learning** Chair: Rachid Jennane ➢ Pedestrian Detection Using Regional Proposal Network with Feature Fusion *Xiaogang Lv; Xiaotao Zhang; Yinghua Jiang; Jianxin Zhang** ➢ Image Classification Method in DR Image Based on Transfer Learning *Yahya Abdalhakim Lutf Alsabahi*; Lei Fan* ➢ Spontaneous Facial Micro-expression Recognition via Recurrent Convolutional Networks *Zhaoqiang Xia** ➢ Comparative study of visual saliency maps in the problem of classification of architectural images with Deep CNNs *Abraham Montoya-Obeso*; Jenny Benois-Pineau; Kamel Guissous; Valérie Gouet-Brunet; Mireya Sarai García-Vázquez; Alejandro Alvaro Ramirez-Acosta*
11:20 -- 13:30	**Lunch @ Zhenghe Hotel**

13:30 -- 14:30	**Oral session: Deep Learning and Database** Chair: Rachid Jennane ➢ Classification of LiDAR point cloud based on multi-scale features and PointNet *Zhao zhongyang*; Cheng yinglei* ➢ Extracting painted pottery pattern information based on deep learning *Jinye Peng; Kai Yu; Jun Wang*; Qunxi Zhang; Cheng Liu; Lin Wang* ➢ FACE - Face At Classroom Environment: Dataset and Exploration *Oscar Karnalim*; Setia Budi; Sulaeman Santoso; Erico Handoyo; Hapnes Toba; Huyen Nguyen; Vishv Malhotra* ➢ A Look At Non-Cooperative Presentation Attacks in Fingerprint Systems *Emanuela Marasco*; Stefany Cando; Larry Tang; Luca Ghiani; Gian Luca Marcialis*
14:30 – 14:50	**Coffee Break**
14:50 – 15:50	**Oral session: Deep Learning and Database** Chair: Rachid Jennane ➢ An experimental investigation on self adaptive facial recognition algorithms using a long time span data set *Giulia Orrù*; Gian Luca Marcialis; Fabio Roli* ➢ InNet: Learning to Detect Shadows with Injection Network *Zhongyun Hu*; Xiaoyue Jiang* ➢ Research on Low-Resolution Pedestrian Detection Algorithms based on R-CNN with Targeted Pooling and Proposal *Peng Shi*; Jun Wu; Kai Wang; Yao Zhang; JiaPei Wang; JuneHo Yi* ➢ A New Database for Evaluating Underwater Image Processing Methods *Yupeng Ma*; Xiaoyi Feng; Zhaoqiang Xia; Dong Huang; Xiaoyue Jiang*
15:50 -- 16:30	**Awards & closing** Chair: Xiaoyi Feng