2012 Sixth International Conference on Distributed Smart Cameras

(ICDSC 2012)

Hong Kong, China
30 October – 2 November 2012
October 30 (Tuesday)

** Registration **

Tutorial #1
Tuesday 9:30 - 11:30
Faisal Quereshi
*Virtual Vision*

** Lunch **

Tutorial #2
Tuesday 13:00 - 15:00
Christian Micheloni
*Video analysis in Pan-Tilt-Zoom camera networks*

** Coffee break **

Tutorial #3
Tuesday 15:30 - 17:30
Senem Velipasalar
*Smart Cameras Getting Smarter*

** Reception **

October 31 (Wednesday)

Keynote #1: *(chair: Edmund Lam)*
Wednesday 9:00 - 10:15
Yi Ma
*The Pursuit of Low-dimensional Structures in High-dimensional Data*

** Coffee break **

Session Wed.Oral *(chair: Andrea Prati)*
Smart Cameras and Embedded Computer Vision
Wednesday 11:00 - 12:40
11:00 Ahmed Nabil Belbachir and Manfred Mayerhofer
BiCa360:High-speed Rotating Line Sensor for Real-time 360° Panoramic Vision

11:20 Michele Fornaciari and Andrea Prati
Very Fast Ellipse Detection for Embedded Vision Applications

11:40 Mauricio Casares, Koray Ozcan, Akhan Almagambetov and Senem Velipasalar
Automatic Fall Detection by a Wearable Embedded Smart Camera

12:00 Franck Vandewiele, Cina Motamed and Tarek Yahiaoui
Visibility Management for Object Tracking in the Context of a Fisheye Camera Network

12:20 Chih-Wei Chen, Tommi Määttä, Kevin Bing-Yung Wong and Hamid Aghajan
A Framework for Providing Ergonomic Feedback Using Smart Cameras

** Lunch **

Session Wed. Poster+Demo *(chair: Andrea Prati)*
Wednesday 14:30 - 16:00

Krishna Reddy Konda and Nicola Conci
Camera positioning for global and local coverage optimization

Qiang Wang, Jing Wu, Chengnian Long and Bo Li
P-FAD: Real-time Face Detection Scheme on Embedded Smart Cameras

Niki Martinel, Christian Micheloni and Claudio Piciarelli
Distributed Signature Fusion for Person Re-Identification

Franck Ulrich Yonga Yonga, Christophe Bobda and Ali Akbar Zarazadeh
Improving Video Communication in Distributed Smart Camera Systems Through ROI-Based Video Analysis and Compression

Kuan-Hui Lee, Jenq-Neng Hwang, Jang-Hee Yoo and Kyoung-Ho Choi
Effective Car Video Retrieval Using Feature Matching in a Mobile Video Cloud

Akhan Almagambetov, Mauricio Casares and Senem Velipasalar
Autonomous Tracking of Vehicle Taillights from a Mobile Platform using an Embedded Smart Camera

Csaba Beleznai, Nabil Belbachir and Peter Roth
Density-based rare event detection from streams of neuromorphic sensor data
Michael Rauter, Dan Shao and Csaba Beleznai

Demo: Real-time contour-based pedestrian detection

Simen Sægrov, Alexander Eichhorn, Jørgen Emerslund, Håkon Stensland, Carsten Griwodz, Dag Johansen and Pål Halvorsen

Demo: Bagadus: An Integrated System for Soccer Analysis

** Coffee break **

Session Wed.PhD (chair: Abbas Bigdeli)

Wednesday 16:30 - 17:50

Melanie Schranz and Bernhard Rinner

PhD Forum: Consensus in Visual Sensor Networks Consisting of Calibrated and Uncalibrated Cameras

Prabhu Natarajan

PhD Forum: Decision-Theoretic Coordination and Control for Active Multi-Camera Surveillance

Nyan Bo Bo, Sebastian Grünwedel, Peter Van Hese, Jorge Oswaldo Niño-Castañeda, Dirk Van Haerenborgh, Dimitri Van Cauwelaert, Peter Veelaert and Wilfried Philips

PhD Forum: Illumination-robust Foreground Detection for Multi-camera Occupancy Mapping

Junzhi Guan, Peter Van Hese, Jorge Oswaldo Niño-Castañeda, Sebastian Grünwedel, Dirk Van Haerenborgh, Dimitri Van Cauwelaert, Peter Veelaert and Wilfried Philips

PhD Forum: Correlation Coefficient based Template Matching for Indoor People Tracking

November 1 (Thursday)

Keynote #2 (chair: Edmund Lam)

Thursday 9:00 - 10:15

Ronald Chung

The latest development of Structured light based Sensing

** Coffee break **

Session Thu.Oral (Senem Velipasalar / Faisal Qureshi)

Distributed Smart Cameras for Emerging Applications

Thursday 11:00 - 12:40

11:00 Jiuqing Wan and Fan Zhang

Multi-camera People Localization via Cascaded Optimization on Higher-order MRFs
11:20 Sebastian Gruenwedel, Xingzhe Xie, Chih-Wei Chen, Hamid Aghajan and Wilfried Philips

_A Best View Selection in Meetings through Attention Analysis Using a Multi-camera Network_#

11:40 Yixiao Yun, Irene Yu-Hua Gu and Hamid Aghajan

_Maximum-Likelihood Object Tracking from Multi-View Video by Combining Homography and Epipolar Constraints_#

12:00 Chun-Te Chu, Jenq-Neng Hwang, Jen-Yu Yu and Kual-Zheng Lee

_Tracking Across Nonoverlapping Cameras Based On The Unsupervised Learning Of Camera Link Models_#

12:20 Le An, Mehran Kafai and Bir Bhanu

_Face Recognition in Multi-Camera Surveillance Videos using Dynamic Bayesian Network_#

** Lunch **

**Session Thu.Oral.Special (chair: Vincent Tam)**

*Uses of Smart Cameras/Mobile Devices for Human Well-Being*

*Thursday 14:00 - 16:00*

14:00 Feng Tian and Zu-ren Feng

_Coordinating the Navigation of Multiple Wheelchairs in Indoor Environment with Wireless Sensor Networks_#

14:20 Xiang Meng, Chung-Ming Cheung, Ka-Lok Ho, King-Shan Lui, Edmund Y. Lam, and Vincent Tam

_Building smart cameras on mobile tablets for hand gesture recognition_#

14:40 Bingshu Yang, Jinshi Cui, Hongbin Zha, Hamid Aghajan and Tian Lu

_Visual Context Based Infant Activity Analysis_#

15:00 Andrew Kwok-Fai Lui, Ka-Fai Wong, Sin-Chun Ng, Ka-Hing Law

_Development of a Mental Stress Relaxation Tool based on Guided Imagery and Microsoft Kinect_#

15:20 Wilton Fok and Jacqueline Lam

_Real-time interactive learning through smart mobile devices_#

15:40 Hui Zhao, Qinghua Zheng and Weizhan Zhang

_A Mobile Learning System for Supporting Heterogeneous Clients based on P2P Live Video Streaming_#

** Tour and Banquet **

November 2 (Friday)
Keynote #3 (chair: King-Shan Lui)  
Friday 9:00 - 10:15
Klara Nahrstedt  
*View-Based TeleCast for Distributed Multi-Camera Systems*  

** Coffee break **

Session Fri.Oral.am (chair: Jie Yang)  
Visual Sensor Networks  
Friday 11:00 - 12:40

11:00 Bernhard Dieber, Lukas Esterle and Bernhard Rinner  
*Distributed Resource-aware Task Assignment for Complex Monitoring Scenarios in Visual Sensor Networks*  

11:20 Lukas Esterle, Peter R. Lewis, Bernhard Rinner and Xin Yao  
*Improved Adaptivity and Robustness in Decentralised Multi-Camera Networks*  

11:40 Rahul Raman, Pankaj K. Sa and Bansidhar Majhi  
*Occlusion prediction algorithms for multi-camera network*  

12:00 Chong Ding, Akshay A. Morye, Jay A. Farrell and Amit K. Roy-Chowdhury  
*Opportunistic Sensing in a Distributed PTZ Camera Network*  

12:20 Prabhu Natarajan, Trong Nghia Hoang, Kian Hsiang Low and Mohan Kankanhalli  
*Active Multi-Camera Surveillance of Targets in Uncertain, Partially Observable Environments*  

** Lunch **

Session Fri.Poster+Demo (chair: Faisal Qureshi)  
Friday 14:00 - 15:30

Keren Fu, Chen Gong, Yu Qiao, Jie Yang and Irene Gu  
*One-Class SVM Assisted Accurate Tracking*

Alex Susu  
*Using Python for Cross-platform Video Surveillance Mobile Application Development*

Fang Zhu, Chen Zhao and Jinmei Cheng  
*ECLC: edge character and latency connection enhanced inter-frame difference algorithm for real-time outdoor surveillance*
Maarten Slembrouck, Michaël Heyvaert, Dimitri Van Cauwelaert, David Van Hamme, Peter Veelaert and Wilfried Philips
*Time complexity of traditional vision algorithms on a block-based image processor (BLIP)*

Jose Luis Alarcon Herrera and Xiang Chen
*Real-Time Configuration of PTZ Camera Networks*

Qiao Huang, Jie Yang and Yu Qiao
*Person re-identification across multi-camera system based on local descriptors*

Fatemeh Rezaei and Babak Hossein Khalaj
*Distributed Human Tracking in SmartCamera Networks by Adaptive Particle Filtering and Data Fusion*

Carsten Grenz, Uwe Jaenen and Joerg Haehner
*Demo: CamInSens - A Distributed Smart Camera System for In-Situ Threat Detection*

Hui Zhao, Qinghua Zheng and Weizhan Zhang
*Demo: SkyClass: a Large-scale Mobile Learning System for Heterogeneous Clients*

Quentin De Neyer, Li Sun, Christophe Chaudy, Christophe Parisot and Christophe De Vleeschouwer
*Demo: Point Matching for PTZ Camera Auto-tracking*

** Coffee break **

*Session Fri. Oral pm (chair: Abbas Bigdeli)*

**Distributed Computer Vision**

*Friday 16:00 - 17:40*

16:00 Michael Bredereck, Xiaoyan Jiang, Marco Körner and Joachim Denzler
*Data Association for Multi-Object Tracking-by-Detection in Multi-Camera Networks*

16:20 Xingzhe Xie, Sebastian Gruenwedel, Vedran Jelaca, Jorge Oswaldo Nino Castaneda, Dirk Van Haerenborgh, Dimitri Van Cauwelaert, Peter Van Hese, Peter Veelaert, Wilfried Philips and Hamid Aghajan
*Learning about Objects in the Meeting Rooms from People Trajectories*

16:40 Jiajia Luo and Hairong Qi
*Motion Local Ternary Pattern for Distributed Multi-View Human Action Recognition*

17:00 Mohamed Helala, Luis A. Zarrabeitia and Faisal Z. Qureshi
*Mosaic of near ground UAV videos under parallax effects*

17:20 Zhixing Jin and Bir Bhanu
*Integrating Crowd Simulation for Pedestrian Tracking in a Multi-Camera System*