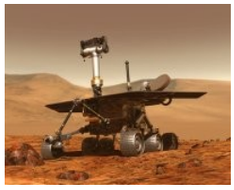

The Fourth IEEE International Workshop on Embedded Computer Vision

Saturday, June 28, 2008

Anchorage, Alaska, USA

http://ecvw08.inf.uth.gr

in conjunction with IEEE CVPR 2008

Program

8.45-9.00	**Organization/Announcements**
9.00-10.00	**First Keynote Speaker : Dr. Alan Lipton, Chief Technology Officer, ObjectVideo, Inc.** Video Analytics: Taking it to the Next Level
10-10.30	**Break**
10.30-11.45	**Mobile and Stereo Vision Applications** Detecting and Locating Crosswalks using a Camera Phone Volodymyr Ivanchenko, James Coughlan, Huiying Shen An Improved Real-Time Miniaturized Embedded Stereo Vision System (MESVS-II) Bahador Khaleghi, Siddhant Ahuja, Q.M.Jonathan Wu Stereo Vision in a Smart Camera System Xinting Gao, Richard Kleihorst, Ben Schuler Extending two Non-Parametric Transforms for FPGA based Stereo Matching using Bayer Filtered Cameras Kristian Ambrosch, Martin Humenberger, Wilfried Kubinger, Andreas Steininger
11.45-12.45	**Image Analysis Applications** Model-Based Mapping of a Non-Rigid Image Registration Algorithm to Heterogeneous Architectures Yashwanth Hemaraj, Mainak Sen, William Plishker, Raj Shekhar, Shuvra Bhattacharyya Interleaved Pixel Lookup for Embedded Computer Vision Kota Yamaguchi, Yoshihiro Watanabe, Takashi Komuro, Masatoshi Ishikawa Embedded Contours Extraction for High-Speed Scene Dynamics Based on a Neuromorphic Temporal Contrast Vision Sensor Ahmed Nabil Belbachir, Michael Hofstaetter, Martin Litzenberger, Peter Schoen
12.45-2.15	**Lunch**
2.15-3.15	**Second Keynote Speaker : Dr. Sharathchandra Pankanti, IBM Research Labs** A Journey towards Small Secure Scanner
3.15-3.45	**Break**
3.45-5.00	**Tracking Applications** A Moving Object Detection Algorithm for Smart Cameras Yongseok Yoo, Taesuh Park A Parallel Color-Based Particle Filter for Object Tracking Henry Medeiros, Johnny Park, Avinash Kak Tracking Multiple Pedestrians in Real-Time Using Kinematics Senyo Apewokin, Brian Valentine, Ryan Bales, Linda Wills, Scott Wills Toward low latency gesture control using smart camera network Zoran Zivkovic, Richard Kleihorst, Alexander Danilin, Ben Scheuler, Chung-Ching Chang, Hamid Aghajan, Giuseppe Arturi, Vitaly Kliger
5.00-5.15	**Best paper awards/Announcements**

Speakers

Dr. Alan Lipton

The first keynote presentation provides an introduction to an up-and-coming application of computer vision called video analytics. This application concerns detecting real-time human activities and behaviors in surveillance and monitoring video streams. The presentation covers the technology, its market applications, and the real market requirements that drive the technology into firmware. As an illustration, an embedded DSP-based video analytics system is presented and analyzed. Finally, the presentation considers both commercial and technological challenges for video analytics into the future.

Dr. Sharathchandra Pankanti

Worldwide retail checkout “shrink” (loss) is estimated to be a $22B USD business opportunity. An important component of this loss is main ticket switching: not claiming the valid item at the point of sale. This talk presents a visually augmented checkout system that is completely automatic in operation ranging from image capture, object segmentation, training/learning, and matching. The presentation also proposes a small footprint revision of this technology to be embedded within a (bioptic) laser scanner. It elaborates on various additional challenges associated with this new design in terms of capture, segmentation, and matching and finally, will present preliminary results from the new design.