EURASIP Journal on Advances in Signal Processing

# Special Issue on Video Analysis for Human Behavior Understanding

## Call for Papers

Video cameras are becoming increasingly ubiquitous and pervasive in our daily life. Along with the fast growing number of exchanged and archived videos, there is an urgent need for advanced video analysis techniques that can systematically interpret and understand the semantics of video contents, within the application domains of security surveillance, intelligent transportation, health/home care, video indexing/retrieving, video summarization/highlighting, and so on. Understanding human behaviors based on video analysis calls for even greater challenges due to very large variations of human bodies and their motion activities under all kinds of contexts such as different viewing perspectives, dressing colors, changing human poses, human-human occlusions, and body parts self-occlusions. To overcome these challenges, not only the traditional image processing, computer vision, pattern recognition, and machine learning techniques are required, but also advanced estimation theory and statistical inference, articulated 2D/3D human body modeling and synthesis, sophisticated database or rules for events/behaviors, and so on are critically desired.

The primary focus of this special issue will be on the advanced video analysis techniques for understanding human behaviors, starting from human object detection, segmentation and tracking, 2D/3D spatial and temporal features extraction, 2D/3D human body modeling and synthesis, event discovery and behavior learning, system performance evaluation, and potential applications of these techniques. The special issue is intended to become an international forum for researches to summarize the most recent developments and ideas in the field. The topics to be covered include, but are not limited to:

- Modern wireless communication system techniques such as multiantenna and multiaccess, spectrum sensing and cognitive radio, wireless ad hoc and sensor networks, cooperative signal processing, and information theory
- Human object detection and segmentation
- Tracking of human objects
- Tracking under multiple cameras
- Crowd estimation and crowd behavior analysis
- Occlusions and segmentation errors handling
- 2D/3D articulated human body modeling
- Modeling and learning of human behaviors
- Knowledge interpretations of human behaviors

Before submission authors should carefully read over the journal's Author Guidelines, which are located at http://www.hindawi.com/journals/asp/guidelines.html. Prospective authors should submit an electronic copy of their complete manuscript through the journal Manuscript Tracking System at http://mts.hindawi.com/ according to the following timetable:

| | |
|---|---|
| Manuscript Due | December 15, 2009 |
| First Round of Reviews | March 15, 2010 |
| Publication Date | June 15, 2010 |

### Lead Guest Editor

**Jenq-Neng Hwang,** Department of Electrical Engineering, Box 352500, University of Washington, Seattle, WA 98195, USA; hwang@u.washington.edu

### Guest Editors

**Changick Kim,** Department of Electrical Engineering, Korea Advanced Institute of Science and Technology (KAIST), Daejeon 305-701, South Korea; cikim@ee.kaist.ac.kr

**Hsu-Yung Cheng,** Department of Computer Science and Information Engineering, National Central University, Jhongli, Taiwan; chengsy@csie.ncu.edu.tw