

## Paper Submission

Authors are encouraged to submit high-quality, original work that has neither appeared in, nor is under consideration by, other journals. All open submissions will be peer reviewed subject to the standards of the journal. Manuscripts based on previously published conference papers must be extended substantially.

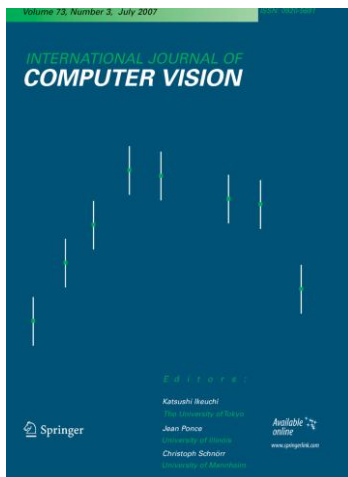
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Manuscripts should be submitted to: <http://VISI.edmgr.com>. This online system offers easy and straightforward log-in and submission procedures, and supports a wide range of submission file formats.

## Important Dates

- Manuscript submission: 15th October 2014
- Preliminary results: 30th March 2015
- Revisions due: 30<sup>th</sup> July 2015
- Notification: 30th November 2015
- Final manuscripts due: 30th December 2015

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## Special Issue Call for Papers

### Human Activity Understanding from 2D and 3D data

#### Guest Editors

**Junsong Yuan**, *Nanyang Technological University, Singapore*

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Automatic analysis of human motion has been one of the most active research topics in computer vision due to the scientific challenges of the problem and the wide range of applications. Such applications include intelligent video surveillance; human-computer-interface (HCI); intelligent humanoid robots; diagnosis, assessment and treatment of musculoskeletal disorders; sports analysis; realistic synthesis and animation of human motion; and monitoring of elderly and disabled people at home. Extensive studies have been conducted in the past decade using 2D visual information captured by single or multiple cameras. However, the problem, especially robust and viewpoint independent recognition of diverse human actions and activities in a real environment is far from being solved.

Recent advances in 3D depth cameras using structured light or time-of-flight sensors, 3D information recovery from 2D images/videos, and the availability of portable human motion capture devices have been nurturing a potential breakthrough solution to the problem of human activity recognition by using 3D data. The release of Microsoft's Kinect Sensors and ASUS's Xtion Pro Live Sensors including their Software Development Kit (SDK) have provided a commercially viable approach and hardware platform to capture 3D data in real-time. This special issue seeks high quality and original research on human activity understanding using 2D and 3D data. The goal of this special issue is two-fold: 1) advocate and promote research in human activity recognition using 2D and 3D data; 2) present novel human activity understanding techniques applicable to diverse applications.

Manuscripts are solicited to address a wide range of topics on human action understanding and applications, including but not limited to the following:

- Acquisition of 3D data, including:  
Multi-camera systems (with markers or marker-less) ; Motion capture devices and systems; Depth cameras; Active and passive 3D body scanning systems; 3D from 2D image/videos (including tracking and pose estimation); Benchmark datasets
- Representation and feature descriptors, including  
Representation of 3D human body and articulation; Representation of human body language; Hybrid 3D and 2D representations; 3D feature descriptors; Detection and tracking of 3D interest points
- Learning and recognition, including  
Modelling of 3D body and human motion; Cross-dataset learning and recognition; Incremental and online learning; Recognition of gestures, actions and group activities; Detection of actions and activities in videos; Interactions between humans and objects
- Applications, including  
Sports analysis; Synthesis and animation of 3D human motions; Human-Computer-Interface (HCI); Surveillance and monitoring; Medical diagnosis, assessment and treatment (e.g. musculoskeletal disorders)

Guidelines for authors can be found at <http://www.editorialmanager.com/visi/>. Prospective authors should submit high quality and original manuscripts. If a preliminary version of the paper appeared in a prior conference, a detailed description of the differences between the submissions is required.

All papers will undergo the same rigorous IJCV review process.. Please refer to the IJCV website for detailed instructions on paper submission. Please choose "SI: Human Activity Understanding from 2D and 3D Data" as the Article Type.

