

CALL FOR PAPERS

International Journal of Computer Vision

Special Issue on 3D Imaging, Processing and Modeling Techniques

Overview

In the last few years there has been a renewed interest in 3D contents in the general public, partly due to the aggressive marketing of 3D Movies and TVs, as well as the availability of low cost consumer stereoscopic and depth cameras. However easy-to-use tools to manipulate these raw data are still at their infancy.

From a research standpoint, the additional images or direct depth measurement from the sensors provide great opportunities for many vision tasks, which traditionally relies on 2D information and often from a single viewpoint. It has been demonstrated in a number of recent papers that utilizing the 3D information can simplify tasks from segmentation, tracking, to pattern recognition.

Given the above advancement, we envision a new era of computer vision algorithms and tools, which relies on 3D information to make the system performance robust enough for wider adoption by the general public. This proposed special issue will foster focused attention on the latest research results in this interesting area.

Aim and Scope

The central theme of the special issue will be novel systems and algorithms for 3D imaging and modeling. Topics of interests include, but not limited to

- **ACQUISITION & MODELING**
 - 3D scanning sensors, software, and systems
 - 3D view registration
 - Automated view planning for acquisition
 - 3D photography
 - Multi-view geometry and calibration
 - Shape reconstruction from point clouds
 - Surface/solid modeling from images
 - Shape and appearance modeling

- **3D PROCESSING**

- Geometric signal processing
- Multi-resolution 3-D representations
- 3D shape retrieval and recognition
- Shape analysis and morphology
- Simplification and resampling of shapes with photometric data
- Compression and transmission of 3D scenes
- Streaming and progressive refinements

- **APPLICATIONS**

- Reverse engineering, dimensional inspection & metrology
- Cultural heritage
- Object/human/environment modeling
- Medical applications
- 3D television and free-viewpoint video
- 3D tele-immersion and remote collaboration
- Mobile Applications

All submitted papers will be peer reviewed by following the IJCV reviewing procedures. Prospective authors will be asked to submit an electronic copy of their complete manuscript according to the following tentative timetable:

- Full paper due: October 15, 2011
- First notification: December 15, 2011
- Revised manuscript due: February 15, 2012
- Final Decision: March 15, 2012
- Publication of the special issue: end 2012

Authors should submit their papers via the IJCV website <http://visi.edmgr.com/> and choose the Article Type "SI: 3D Imaging, Processing and Modeling".

Guest Editors

Guy Godin (NRC, Canada)
Michael Goesele (TU Darmstadt, Germany)
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Ryusuke Sagawa (AIST, Japan)
Ruigang Yang (University of Kentucky, USA)