Call-for-Papers

Special Issue on "Computation and Visualization for 3D Data"

Multimedia Tools and Applications

Recent years have witnessed the rapid developments of integral imaging, light field imaging, range sensing and quantitative medical imaging. These facilities can record more information than traditional systems, and bring us many new types of data, especially 3D data. With the help of 3D data, people can extend their viewing dimensions and depth-of-field, and then more deeply understand the mysteries of the natural world. How to exploit the hidden information in the obtained 3D data for better histology analysis, optimize the structure of 3D data for better visualization and other challenging topics are debated in both academia and industry. Computation and visualization for 3D data is a new paradigm to traditional signal processing. Effective tools and methods for 3D data manipulation and visualization are still within their infancy.

This special issue focuses on the most recent progress in computation and visualization for 3D data, from general computational models for 3D object detection, segmentation and recognition to advanced tools for tissue sectioning. With the rapid development of display and communication systems, new 3D vision-based applications include remote visualization and diagnosis, 3D multimedia streaming, 3D reconstruction for dynamic scene or objects and others also attract many attentions from public. This special issue also targets novel 3D vision prototypes or applications.

The overall goal of this special session is to provide a broad understanding of the potential trends of computation and visualization for 3D data. Possible topics includes, but are not limited to:

- Computational models for 3D object detection, segmentation and recognition in both medical imaging and natural scene sensing
- Tissue collection and sectioning methods and tools in medical imaging
- Advanced segmentation models in medical imaging and processing
- Visual and empirical computation models for depth information

- 3D point set/shape/image registration
- Optimization models for range sensing or depth computation for dynamic object
- Dynamic scene reconstruction and motion capturing
- 3D data compression and streaming techniques
- Depth-of-field extension prototypes
- Remote 3D diagnosis prototypes

Submissions to this special issue must be original and must not be under consideration for publication in any other journal or conference. Authors should prepare their manuscript according to the "Guide for Authors" available at http://www.editorialmanager.com/mtap/default.asp. All the papers will be peer-reviewed following the *Multimedia Tools and Applications* reviewing procedures.

Important Dates:

Submission deadline:	May 1, 2015
First notification:	July 1, 2015
Revision due:	August 15, 2015
Final decision:	October 1, 2015
Final manuscript due:	November 15, 2015

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