Multi-Dimensional Medical Data Analysis, Visualization & Transmission (MD²AVT)

A special track of the INTERNATIONAL SYMPOSIUM ON VISUAL COMPUTING 2007 (ISVC07)

http://www.isvc.net

Rationale

Medical applications have been a research focus in computer vision, image processing, computer graphics, as well as in virtual reality, remote diagnosis, intelligent searching and modeling, and human computer interaction. Although medical data analysis techniques have been discussed in the literature, traditional methods focus mainly on 2D data. Most surgeons and clinical technicians continue to reply on flat grey images, e.g. X-ray mammography, instead of multi-dimensional color data presented on computer screens. Applications making use of multi-dimensional visualization provide additional information that cannot be available on traditional 2D media. Multi-dimensional information, such as functional MRI data, CT scan, and skin surface, is often collected across disciplines and requires the collaborative expertise of scientists from all fields including, among others, bioinformatics, psychology, computer vision and graphics, engineering, etc.

Topics

In order to inspire future research on multi-dimensional medical data analysis, visualization and transmission in an efficient and interactive global environment, our Special Track covers, but not limited to, the following topics:

a) **Novel methods to analyze and measure multi-dimensional and functional medical data.**
b) **Visualization of multi-dimensional and functional medical data on regular display devices**
   § Including education application and clinical training.
c) **Large scale multi-dimensional and functional medical data visualization in an immersive virtual reality, augmented reality or mixed reality environment**
   § Including applications on large dimension display, multi-panels display and stereo display.
d) **Intelligent search, analysis and modeling of multi-dimensional and functional medical data.**
e) **Human Computer Interface Design and Perceptual Issues**
   § Including remote doctor and surgery, haptic devices, mobile devices and eye-tracking devices.
f) **Security, Privacy, Data Compression and Quality Issues in Remote Diagnosis and medical data transmission.**
   § How much quality can we compromise and how to define an acceptable quality for clinical data?

Submission/Proceedings

Papers submitted to ISVC 2007 must not have been previously published and must not be currently under consideration for publication elsewhere. Manuscripts should be submitted in camera-ready format and should not exceed 12 pages, including figures and tables (see http://www.isvc.net for details). Papers will be reviewed with an emphasis on potential to contribute to the state of the art in the field. Each paper will receive at least two blind reviews and should not contain names or other information revealing authors' identity. Selection criteria include accuracy and originality of ideas, clarity and significance of results, and presentation quality. All papers accepted will appear in the symposium proceedings which will be published by Springer-Verlag in the Lecture Notes in Computer Science (LNCS) series.

Important Dates

Submission deadline:	July 23, 2007
Notification of acceptance:	August 24, 2007
Camera-ready version:	September 7, 2007
Advance Registration:	September 7, 2007

Organizing Committee

Dr. Irene Cheng – *University of Pennsylvania, USA / University of Alberta, Canada*
Dr. Guido Cortelazzo – *University of Padova, Italy*
Dr. Kostas Daniilidis – *University of Pennsylvania, USA*
Dr. Pablo Figueroa – *Universidad de los Andes, Colombia*
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Dr. Lijun Yin – *State University of New York, USA*
Dr. Chunrong Yuan – *University of Tbingen, Germany*
Dr. Karel Zuiderveld – *Vital Images Inc., USA*

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