KEYNOTE TALK Wednesday, November 28, 2007 9AM-10AM

ISVC 2007: International Symposium on Visual Computing Lake Tahoe, November 26-28, 2007

Hybrid Deformable Modeling Methods for Segmentation and Tracking

Dimitris Metaxas

Rutgers University

Abstract

Recent advances in deformable models have lead to new classes of method that borrow the best features form level sets as well as traditional parametric deformable models. In this talk I will first present a new class of such models termed Metamorphs whose formulation integrates shape, intensity and texture by borrowing ideas from level sets and traditional parametric deformable models. Further extensions to these models include the inclusion of shape and texture priors. These new models can be used in medical segmentation and registration where organ boundaries are fuzzy and with no assumptions on the noise distribution. In the second part of the talk I will present novel body and face tracking methods based within a novel generative and/or discriminative modeling framework.



Speaker Bio-Sketch: Dr. Dimitris Metaxas is a Professor II in the Division of Computer and Information Sciences and Professor in the Department of Biomedical Engineering at Rutgers University since 2001. He is also directing the Center for Computational Biomedicine, Imaging and Modeling (CBIM). Dr. Metaxas has been conducting research towards the development of formal methods upon which both computer vision, computer graphics and medical imaging can advance synergistically. His focus is on the development of novel deformable models and statistical methods and algorithms for segmentation, registration, tracking, recognition and simulation in the above areas. Dr. Metaxas has published over 230 research articles in these areas and has graduated 22 PhD students. His research on the modeling of the heart and on fluid modeling has received several best papers awards. He is a recipient of an ONR YIP and is a Fellow of the American Institute of Medical and Biological Engineers. He is also the program chair of ICCV 2007 and the general chair of MICCAI 2008.