UNIVERSITY OF CENTRAL FLORIDA
CENTER FOR RESEARCH IN COMPUTER VISION

Dr. Ioannis Kakadiaris

University of Houston

"Unconstrained Face Recognition: Challenges & Opportunities"
Friday, November 15, 2013 · 1:30PM · HEC 101

ABSTRACT

In this talk, I will present our biometrics research in the areas of 3D face (and ear) recognition, 3D-aided 2D Face Recognition, 2D-2D Face Recognition, and profile-based face recognition. First, I will highlight the main element of our approach, which is an Annotated Face Model (AFM) to describe the facial data. The AFM is fitted to the data using a subdivision-based deformable model framework. The deformed model captures the details of an individual's face and represents this 3D geometry information in an efficient 2D structure by utilizing the model's parameterization. Our 3D-3D face recognition software ranked first in the 3D-shape section of the 2007 Face Recognition Vendor Test (FRVT) organized by NIST, while our 3D-2D method outperforms the state of the art 2D face recognition methods. Next, I will highlight our progress in addressing critical challenges including low resolution data, indoor/outdoor illumination, accurate landmark and pose estimation, cross-resolution matching, and score normalization.

BIOGRAPHY

Ioannis A. Kakadiaris is Hugh Roy and Lillie Cranz Cullen University Professor of Computer Science, Electrical & Computer Engineering, and Biomedical Engineering at UH. He joined UH in August 1997 after a postdoctoral fellowship at the University of Pennsylvania. Ioannis earned his B.Sc. in physics at the University of Athens in Greece, his M.Sc. in computer science from Northeastern University, and his Ph.D. at the University of Pennsylvania. He is the founder of the Computational Biomedicine Lab (www.cbl.uh.edu). His research interests include multi-modal biometrics, face recognition, computer vision, pattern recognition, and biomedical image analysis. Dr. Kakadiaris is the recipient of a number of awards, including the NSF Early Career Development Award, Schlumberger Technical Foundation Award, UH Computer Science Research Excellence Award, UH Enron Teaching Excellence Award, and the James Muller Vulnerable Plaque Young Investigator Prize. His research has been featured on The Discovery Channel, National Public Radio, KPRC NBC News, KTRH ABC News, and KHOU CBS News. Selected professional service leadership positions include: General Co-Chair of the 2013 Biometrics: Theory, Applications and Systems Conference (BTAS 2013), General Co-chair of the 2014 SPIE Biometric and Surveillance Technology for Human and Activity Identification, Program Co-Chair of the 2015 International Conference on Automatic Face and Gesture Recognition Conference, and Vice-President for Technical Activities for the IEEE Biometrics Council.