Rochester Chapter of the IEEE Computer Society

presents

Human in the Loop: Scribble-Based Interactive 3D Reconstruction

by

Dr. Tsuhan Chen

David E. Burr Professor of Engineering, Electrical and Computer Engineering Director
Cornell University

Date: Tuesday, March 29, 2011
Time: 5:30 p.m. to 6:30 p.m.
Location: RIT Inn and Conference Centrer, 5257 West Henrietta Road, West Henrietta, NY 14586
Computer Society announcements and venue information:
   http://ewh.ieee.org/r1/rochester/computer
Cost: Free. Open to IEEE members and non-members.

Note: This event is part of the Rochester Section Joint Chapters Meeting, which does have a fee associated with the dinner and keynote address.

Abstract

Recent development in 3D reconstruction has shown that human interactions can assist computer algorithms where they are unreliable. We present an interactive 3D reconstruction algorithm which renders a planar reconstruction of the scene using simple user interactions in the form of scribbles. In addition, the algorithm can overlay a volumetric rendering of occluding objects. Using simple user interactions in the form of scribbles, the algorithm propagates scene geometry, performs cosegmentation of input images, and renders a complete and pleasing reconstruction of the scene along with volumetric rendering of foreground objects.

Speaker's Biography

Tsuhan Chen has been with the School of Electrical and Computer Engineering, Cornell University, Ithaca, New York, since January 2009, where he is Professor and Director. From October 1997 to December 2008, he was with the Department of Electrical and Computer Engineering, Carnegie Mellon University, Pittsburgh, Pennsylvania, as Professor and Associate Department Head. From August 1993 to October 1997, he worked at AT&T Bell Laboratories, Holmdel, New Jersey. He received the M.S. and Ph.D. degrees in electrical engineering from the California Institute of Technology, Pasadena, California, in 1990 and 1993, respectively. He received the B.S. degree in electrical engineering from the National Taiwan University in 1987.

Tsuhan served as the Editor-in-Chief for IEEE Transactions on Multimedia in 2002-2004. He also served in the Editorial Board of IEEE Signal Processing Magazine and as Associate Editor for IEEE Trans. on Circuits and Systems for Video Technology, IEEE Trans. on Image Processing, IEEE Trans. on Signal Processing, and IEEE Trans. on Multimedia. He co-edited a book titled Multimedia Systems, Standards, and Networks.

Tsuhan received the Charles Wilts Prize at the California Institute of Technology in 1993. He was a recipient of the National Science Foundation CAREER Award, from 2000 to 2003. He received the Benjamin Richard Teare Teaching Award in 2006, and the Eta Kappa Nu Award for Outstanding Faculty Teaching in 2007. He was elected to the Board of Governors, IEEE Signal Processing Society, 2007-2009, and a Distinguished Lecturer, IEEE Signal Processing Society, 2007-2008. He is a member of the Phi Tau Phi Scholastic Honor Society, and Fellow of IEEE.