Electrical Engineering Colloquium
Dallas Chapter of IEEE Signal Processing Society Presents

Face Identification by Computer and by Human: Two Sides of the Same Coin, or Not?

Professor Tsuhan Chen, CMU
IEEE Signal Processing Society Distinguished Lecturer

11am, Thursday, April 17, 2008
ECSS 2.102 (TI Auditorium)

While human perception is fine-tuned to detect and recognize face images with great precision, existing computer algorithms for face recognition still perform worse than humans. Can we learn from human perception to improve the performance of face identification by a computer? Or, is it that such a biologically-inspired approach, or biomimetic, is not a good idea at all? In this talk we will start by introducing some interesting facts in human perception of faces. We will then present examples of image analysis techniques that are inspired by human perception. Comparing these techniques with face recognition algorithms based on conventional pattern recognition techniques, we will outline some promising research directions.

Tsuhan Chen has been with the Department of Electrical and Computer Engineering, Carnegie Mellon University, Pittsburgh, Pennsylvania, since October 1997, where he is currently a 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 at the Carnegie Mellon University in 2006. He is elected to the Board of Governors, IEEE Signal Processing Society, 2007-2009. He is a member of the Phi Tau Phi Scholastic Honor Society. He is Fellow of IEEE, and a 2007-2008 Distinguished Lecturer of the Signal Processing Society.

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