

Department of Computer Science and Engineering

Distinguished Speakers Series Presents

J. K. Aggarwal
ECE Department, University of Texas at Austin

Recognition of Human Activities



Motion is an important cue for the human visual system. The computer vision driven research in motion has gradually progressed over the past thirty years from the study of motion of rigid objects like boxes to more flexible objects like the human body. The developments in cameras, computers and memory have contributed in part to this maturing of computer vision. Systems that are able to detect humans and recognize their activities are part of a broad effort with applications in areas including virtual reality, *smart* monitoring and surveillance systems, motion analysis in sports, patient monitoring and choreography, vision-based user interfaces, etc. The understanding of human activity is a diverse and complex subject that includes tracking and modeling human activity, and representing video events at the semantic level. Its scope ranges from understanding the actions of an isolated person to understanding the actions and interactions of a crowd, or the interaction of objects like pieces of luggage or cars with persons.

At The University of Texas at Austin, we are pursuing a number of projects on human motion understanding. Professor Aggarwal will present his research on modeling and recognition of human actions and interactions, and human and object interactions. The work includes the study of interactions at the gross level as well as at the detailed level. We consider atomic actions, composite actions and interactions, and continued and recursive activities. In addition, we consider the interactions between a person and a movable object like a piece of luggage or an immovable object like a fence. The issues considered in these problems will illustrate the richness and the difficulty associated with understanding human activities. Application of the above research to monitoring and surveillance will be discussed together with actual examples.

J. K. Aggarwal has served on the faculty of The University of Texas at Austin College of Engineering since 1964 and is currently a Cullen Professor of Electrical and Computer Engineering and Director of the Computer and Vision Research Center. His research interests include computer vision, pattern recognition and image processing focusing on human motion. A Fellow of IEEE (1976), IAPR (1998) and AAAS (2005), he received the Senior Research Award of the American Society of Engineering Education in 1992, the 1996 Technical Achievement Award of the IEEE Computer Society and the graduate teaching award at The University of Texas at Austin in 1992. More recently, he is the recipient of the 2004 K S FU prize of the International Association for Pattern Recognition, the 2005 Kirchmayer Graduate Teaching Award of the IEEE and the 2007 Okawa Prize of the Okawa Foundation of Japan. He is a Life Fellow of IEEE and Golden Core member of IEEE Computer Society. He has authored and edited a number of books, chapters, proceedings of conferences, and papers.

Monday, April 7, 2008 3:00–4:00 PM

University at Buffalo North Campus - 330 Student Union

This talk is free and open to the public Refreshments for attendees after the talk in 224 Bell Hall