BANQUET KEYNOTE TALK Tuesday, December 2, 2008 8:30PM-9:30PM / Ballroom 4-5

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Computer Vision: Past, Present and Future

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Abstract

Computer Vision is the use of a camera and a computer to recognize objects, people and/or events, automatically. It is a relatively young field of research and development that has had its beginning in the early 60's. However, it has matured fairly quickly. Today it is contributing to the solution of some of the most serious societal problems. The overall goals of computer vision include the construction of scene description from images, understanding of images or making useful decisions about physical objects through sensed images. In general, the construction of 3D scene from 2D images is an ill-posed problem. Noise, occlusion, loose clothing, variable lighting conditions and distortion due to projection make the problem difficult and the solution very domain specific. The talk will describe what computer vision entails and its components, issues, accomplishments and challenges. In addition, the talk will focus on 'motion', an important part of current computer vision scene. The subject of motion has been the center of interdisciplinary studies since the time when Zeno posed his paradox circa 500BC. Professor Aggarwal's interest in motion started with the study of motion of clouds and other inanimate objects, and guickly graduated to the recognition of human activities, human-human interactions, and human-object interactions. The results on activity recognition and their application to surveillance will be discussed. Other recent applications, products and the future directions of computer vision research will also be explored.



Speaker Bio-Sketch: Prof. 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.