

**THURSDAY
OCTOBER 13, 2005**

**Scaife Hall Auditorium
Room 125**

**4:00 PM
Refreshments—3:30 PM**



BIR BHANU

UNIVERSITY OF CALIFORNIA AT RIVERSIDE

Bir Bhanu is the Professor EECS at the University of California at Riverside since 1991 and the Director of the Center for Research in Intelligent Systems (CRIS) since 1998. Previously, he was a Senior Honeywell Fellow at Honeywell Inc. He has been on the faculty of the Department of Computer Science at the University of Utah, and has worked at Ford Aerospace and Communications Corporation, INRIA-France and IBM San Jose Research Laboratory. He has been the PI of various programs in the areas of learning and vision, image understanding, pattern recognition, target recognition, navigation, image databases, and machine vision applications. He is the co-author of books on Computational Learning for Adaptive Computer Vision (2006), Evolutionary Synthesis of Pattern Recognition Systems (2005), Computer Vision Beyond the Visible Spectrum (2004, edited), Computational Algorithms for Fingerprint Recognition (2003), Genetic Learning for Adaptive Image Segmentation (1994), and Qualitative Motion Understanding (1992). He has received two outstanding journal paper awards and has received industrial and university awards for research excellence, outstanding contributions and team efforts. He holds 11 U.S. and international patents and over 230 reviewed technical publications in the areas of his interest. Bir Bhanu received the S.M. and E.E. degrees in EECS from the Massachusetts Institute of Technology, the Ph.D. degree in EE from the Image Processing Institute, University of Southern California, and the M.B.A. degree from the University of California at Irvine. Prof. Bhanu is a Fellow of AAAS, IEEE, IAPR and SPIE.

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For more information:
<http://www.ece.cmu.edu/seminar>

PREDICTING PERFORMANCE FOR OBJECT RECOGNITION

Object recognition by computer is an essential capability for automation. It is desired to design recognition systems that can reliably achieve predictable results in complex real-world tasks. However, most of the current model-based object recognition research is of empirical nature which addresses the problem of object/clutter discrimination. It is challenging to address fundamental questions about the performance limits of object recognition algorithms.

This talk will present an approach that explicitly models performance for object/object discrimination as a function of data distortion factors (feature uncertainty, occlusion and clutter), and model factors (similarity). The talk will provide examples from practical applications for recognizing vehicles and people using video, range, infrared and radar images.