Information Science and Technology Seminar Speaker Series

Stanley R. Rotman
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Dept. of Electrical and Computer Engineering

"Evaluating Sub-Pixel Target Detection Algorithms in Hyper-Spectral Imagery"

Wednesday, July 11, 2012
3:00 - 4:00 PM
TA-3, Bldg. 1690, Room 102 (CNLS Conference Room)

Abstract: Our goal in this talk is to demonstrate that detectors behave differently for different images and targets and to propose a novel approach to proper detector selection. To choose the algorithm, we analyze image statistics, the target signature, and the target's physical size, but we do not need any type of ground truth. We demonstrate our ability to evaluate detectors and find the best settings for their free parameters by comparing our results for various stochastic algorithms for target detection. We test our concepts by using the dataset and scoring methodology of the Rochester Institute of Technology (RIT) Target Detection Blind Test project. The results show that we can correlate our simulated results to actual target detection performance.

Biography: Rotman was born in Boston Massachusetts in 1958. He received the B.S., M.S. and Ph.D. degrees in Electrical Engineering from the Massachusetts Institute of Technology, in 1979, 1980 and 1985, respectively. His present position is full professor at Ben-Gurion University of the Negev, Dept. of Electrical and Computer Engineering, Beer-Sheva, Israel. His main research areas are target detection and digital signal processing. He is a member of SPIE and IEEE.

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