Department of Electrical Engineering
Electronics
Computers
Communications

Technion—Israel Institute of Technology

Signal Processing and Systems (SP&S) Seminar

You are invited to attend a lecture by

הנכם מוזמנים להרצאה של

Dror Porat *

Department of Electrical Engineering
Technion

בנושא:

Context-Based Multiple Description Wavelet Image Coding

Multiple Description (MD) coding is a coding technique that represents a single source of information (e.g., an image) with several chunks of data, called descriptions, in such a way that the source can be approximated from any (non-empty) subset of the descriptions. The purpose of MD coding is to provide error resilience to information transmitted on lossy networks, such as the Internet, where inevitable loss of data may severely degrade the performance of conventional coding techniques (e.g., layered coding, where a lost layer may also render other enhancement layers useless).

Among prior work, MDs were generated via the utilization of a decomposition into polyphase-like components (a polyphase transform) and selective quantization, performed in the wavelet domain. Our proposed MD image coding system aims to provide improved coding efficiency, in the same general framework, via effective utilization of the special statistical properties of the wavelet decomposition, based on contextual information. This is accomplished by means of various coding procedures, such as context-based classification of subband coefficients, parametric model-based adaptive quantization, efficient optimal bit allocation (performed in the general framework of Lagrangian optimization), and adaptive entropy coding. We also provide a detailed analysis of the proposed system, as well as various experimental results and demonstrations.

* M.Sc. Research under the supervision of Prof. David Malah.

The lecture will take place on Wednesday, 16/09/2009
at 13:30 in room 1061
Electrical Eng. Building
Technion City

ההרצאה תתקיים ביום רביעי, 16/09/2009
בשעה 13:30 בחדר 1061
בבניין הפקולטה להנדסת חשמל
קריית הטכניון

כיבוד קל יוגש לפני תחילת ההרצאה

הזמנה זו מהווה אישור כניסה עם רכב לטכניון