
Electrical & Computer Engineering

S E M I N A R

Louisiana State University

Adaptive Signal Representations for Color Image Quality Assessment

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Abstract—The true indicator of performance in applications such as imaging and printing is the quality of the resulting image as perceived by a human observer. Image quality assessment algorithms try to obviate the need for a human observer by providing an objective measure of subjective image quality. In this talk I will describe a new framework for quantifying distortions in color images. Starting with the observation that human judgments of image quality are relatively insensitive to small changes in the viewing or imaging conditions, I will motivate the need for a signal representation that is spatially adaptive. In particular, I will exploit the fact that distortions along some directions in the vector space corresponding to the full set of color image pixel values are less perceptible than others, and that these directions generally depend on the content of the original image. This adaptive signal representation is then used to develop an image quality metric that is correlated well with human perception of color images subjected to a variety of different common distortions.

When: Monday, 25 April 2011, 15:30 - 16:30

Where: Room 117 Electrical Engineering Building

Info: <http://www.ece.lsu.edu/seminar>

