Electrical Engineering Colloquium
Dallas Chapter of IEEE Signal Processing Society Presents

Monitoring Video Quality Inside a Network

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We consider the problem of evaluating the quality of transported, compressed video from the perspective of a network service provider. Traditional video quality metrics require original and decoded pixels to be available. However, neither are easily available inside the network. Therefore, we have developed no-reference techniques that estimate visual quality, relying only on (potentially lossy) bitstreams available inside the network.

In this talk, we present an overview of the problem with measuring video quality in the network, and present three quality metrics: two for broadcast MPEG-2 video and one for streaming Internet video.

Bio - Amy R. Reibman received the B.S., M.S. and Ph.D. degrees in electrical engineering from Duke University in 1983, 1984, and 1987, respectively. From 1988 to 1991, she was an assistant professor in the Department of Electrical Engineering at Princeton University. In 1991 she joined AT&T Bell Laboratories, and became a Distinguished Member of Technical Staff in 1995. She is currently a Technical Consultant in the Communication Sciences Research Department at AT&T Laboratories. She was elected Fellow of the IEEE in 2005, for her contributions to video transport over networks. In 1998, she won the IEEE Communications Society Leonard G. Abraham Prize Paper Award. She was the Technical co-chair of the IEEE International Conference on Image Processing in 2002; the Technical Co-chair for the First IEEE Workshop on Multimedia Signal Processing in 1997; and the Technical Program Chair for the Sixth International Workshop on Packet Video in 1994. Dr. Reibman's research interests include video compression systems for transport over packet and wireless networks, and video quality metrics.

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