"Video Quality and Video Databases"

Plenary Talk

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Digital video is the most voluminous and increasingly important data content being transported over the public IP network. Since most of this data is intended for human visual consumption, service and content providers are increasingly concerned with measurement of video perceptual quality. In this talk I draw analogies between the perception of visual quality and the classical theory of information communication. However, the picture is clouded by the fact that, unlike most engineering problems, the *receiver* and *transmitter* are difficult to access, model or even define.

I will describe my philosophy regarding these models and our recent efforts on quality assessment of visual signals. I'll begin with our successful still image algorithms, the Structural SIMilarity (SSIM) Index and the Visual Information Fidelity (VIF) Index. I will then describe recent efforts on the more complex problem of Video Quality Assessment (VQA). This includes extending the ideas of SSIM and VIF to detect quality along motion trajectories, and efforts to create publicly-available Video Quality Assessment Databases, include large-scale human subjective studies.

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Al Bovik currently holds the Curry/Cullen Trust Endowed Chair Professorship at The University of Texas at Austin. His recent interests are in the areas of perceptual image and video processing and computational vision. He has published over 500 technical articles in these areas and holds two U.S. patents. He is also the author of *The Handbook of Image and Video Processing, Modern Image Quality Assessment,* and two up-coming books, *The Essential Guides to Image and Video Processing.*

Al has received a number of major awards from the IEEE Signal Processing Society, including: the Education Award (2007); the Technical Achievement Award (2005), the Distinguished Lecturer Award (2000); and the Meritorious Service Award (1998). He is also a recipient of the IEEE Third Millennium Medal (2000), and two journal paper awards from the Pattern Recognition Society. He is a Fellow of the IEEE, a Fellow of the Optical Society of America (OSA), and a Fellow of the Society of Photo-Optical and Instrumentation Engineers (SPIE).

Al served on the Board of Governors of the IEEE Signal Processing Society (1996-1998), as Editor-in-Chief of the *IEEE Transactions on Image Processing* (1996-2002), and created and served as the first General Chairman of the *IEEE International Conference on Image Processing,* held in Austin, Texas, in November, 1994.