Considering Binocular Spatial Sensitivity in Stereoscopic Image Quality Assessment

SPEAKER  Mr WANG Xu  
PhD Student  
Department of Computer Science  
City University of Hong Kong  
Hong Kong

DATE  11 November 2011 (Friday)  
TIME  10:00 am - 10:30 am  
VENUE  CS Seminar Room, Y6405, 6th Floor  
Yellow Zone, Academic 1  
City University of Hong Kong  
83 Tat Chee Avenue  
Kowloon Tong

ABSTRACT

Developing reliable and generic perceptual quality metrics is a challenging issue in three-dimensional (3D) visual signals processing, although many two dimensional (2D) image quality metrics have been proposed and work well on 2D images. In this paper, the binocular spatial sensitivity influenced by the binocular fusion and rivalry properties is considered in the quality measurement. Firstly, the binocular spatial sensitivity map is modeled to reflect the properties. Then, a framework of integration of binocular spatial sensitivity map into quality assessment is presented. Experimental results show that the proposed metric correlate well with human perception of quality on a dataset of 3D images and human subjective scores.

This paper will be presented in the 2011 Visual Communications and Image Processing (VCIP) conference, Tainan City, Taiwan, 6-9 November 2011.

Supervisor: Prof KWONG, Tak Wu Sam  
Research Interests: Stereoscopic Image Quality Assessment; Rate Control in Multiview Video Coding

All are welcome!