Tutorial Lecture

Advanced Video Processing Techniques for 3DTV

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Abstract:

In recent years, various multimedia services have become available and the demand for three-dimensional television (3DTV) is growing rapidly. Since 3DTV is considered as the next generation broadcasting service that can deliver real and immersive experiences by supporting user-friendly interactions, a number of advanced 3D video processing techniques have been developed. In this tutorial lecture, we explain the basic principles and the state-of-the-art video processing techniques for 3DTV. After reviewing the current status of 3DTV research activities, we are going to analyze several challenging issues of 3D video processing, such as camera calibration, image rectification, illumination compensation, color correction, depth map estimation, multi-view video-plus-depth coding, and intermediate view synthesis at virtual viewpoints.

Biography:

Yo-Sung Ho has been developing video processing systems for digital TV and HDTV, first at Philips Labs in New York and later at ETRI in Korea.

He is currently a professor of Information and Communications Department at Gwangju Institute of Science and Technology (GIST) in Korea, and also a Director of Realistic Broadcasting Research Center at GIST.

He gave several tutorial lectures at various international conferences, including the 3DTV Conference, the IEEE International Conference on Image Processing (ICIP), and the IEEE International Conference on Multimedia & Expo (ICME).

He earned his Ph.D. degree in Electrical and Computer

Engineering at the University of California, Santa Barbara. He has been an Associate Editor of IEEE Transactions on Circuits and Systems for Video Technology (T-CSVT).

His research interests include Digital Image and Video Coding, Three-dimensional Image Modeling and Representation, Advanced Source Coding Techniques, and Three-dimensional Television (3DTV).