

IEEE VR 2023

Keynote Speaker



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Immersive Video Reality—Technology, Standard and Application

Abstract

Due to recent advances and convergence of image processing, broadband network, XR displaying device, and deep learning, immersive video reality has become a topic of great interest in recent years. Compared with traditional 2D video display, immersive video reality aims to give people new interactive and telepresence experience: from traditional single view to free viewpoint, from traditional passive viewing to active interaction with scenes, and from traditional single view intelligence to free-view intelligence. Immersive video reality is one of the core technologies in the era of the metaverse, which is going to have a great impact on television broadcasting, telecommunication, online education, telemedicine and other related industries. In this talk, we will first review the recent advances of immersive video reality technologies; then introduce the progresses of immersive video reality standardization; and present the contributions of our team in this area, especially the design of complete practical system covering real-time immersive video reality capture, coding, streaming, and displaying, which has been applied in 2022 Beijing Olympic Games.

Biography

Wen Gao is the director of Pengcheng Laboratory, Shenzhen, China. He is also a Boya Chair Professor, and director at the Faculty of Information and Engineering Sciences, Peking University. He served as the vice president of National Natural Science Foundation of China (NSFC) from Feb. 2013 to Feb. 2018.

He received his Ph.D. degree in Electronics Engineering from the University of Tokyo in 1991. He joined with the Harbin Institute of Technology from 1991 to 1995, as a professor, the department head of computer science. He was with Institute of Computing Technology (ICT), Chinese Academy of Sciences (CAS) from 1996 to 2005. He has joined the Peking University as a professor since 2006.

Prof. Gao works in the areas of multimedia and computer vision, including video coding, video analysis, multimedia retrieval, face recognition, multimodal interfaces, and virtual reality. His most cited contributions are model-based video coding and face recognition. He published six books and over 1100 technical articles in refereed journals and proceedings in above areas. He earned many awards including seven State Awards in Science and Technology Achievements as the first accomplisher. He was featured by IEEE Spectrum in June 2005 as one of the "Ten-To-Watch" among China's leading technologists. He is a Fellow of IEEE, a Fellow of ACM, and a member of Chinese Academy of Engineering.