



RESEARCH SEMINAR

Deep Learning in Point Cloud Compression



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Date : 8 June 2023 (Thu)
Time : 4:30 pm - 5:30 pm
Venue : FJ302

Abstract

Point cloud data arises from 3D sensing and capturing for autonomous driving/ navigation/smart city, as well as the VR/AR playback and immersive visual communication applications. Recent advances in sensor technologies and algorithms, have made point cloud acquisition and processing closer to the wide adoption in real world applications. Given the fact that point cloud often presents an excessive amount of irregularly sampled, unstructured points in a 3D space, efficient compression of point cloud is highly critical for the deployment of point cloud based applications. In this talk, I will review several recent work utilizing sparse convolutional engine for point cloud compression and artifacts removal, as well as deep learning tools for improving standard based point cloud compression.

About the Speaker

Prof. Zhu Li is a professor with the Dept of CSEE, University of Missouri, Kansas City, USA. He directs the NSF I/UCRC Center for Big Learning at UMKC. He received his PhD from Electrical & Computer Engineering from Northwestern University in 2004. He was AFOSR summer faculty fellow with the US Air Force Academy, 2016-18, 2020 and 2022, Sr. Staff Researcher/Sr. Manager with Samsung Research America's Multimedia Core Standards Research Lab in Dallas, from 2012-2015, Sr. Staff Researcher at FutureWei Tech, from 2010-12, Assistant Professor with the Dept of Computing, The Hong Kong Polytechnic University from 2008 to 2010, and a Principal Staff Research Engineer with the Multimedia Research Lab (MRL), Motorola Labs, Schaumburg, Illinois, from 2000 to 2008. His research interests include image/video analysis, compression, and communication and associated optimization and machine learning problems. He has 50 issued or pending patents, 200+ publications in book chapters, journals, conference proceedings and standards contributions in these areas. He is the Associate Editor-in-Chief for IEEE Trans on Circuits & System for Video Tech, 2020~, and served and serving as Associated Editor for IEEE Trans on Image Processing (2019~), IEEE Trans on Multimedia (2015-18), and IEEE Trans on Circuits & System for Video Tech (2016~19). He received a Best Paper Award from IEEE Int'l Conf on Multimedia & Expo (ICME) at Toronto, 2006, and a Best Paper Award from IEEE Int'l Conf on Image Processing (ICIP) at San Antonio, 2007.