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Curriculum Vitae

I-Chun Huang

Educations

National Tsing Hua University *2022 – Present*

- Masters, Computer Science
- Thesis Topic: On Motion Compensation in Error Concealment for Dynamic 3D Point Cloud Streaming

National Tsing Hua University *2018 – 2022*

- Bachelor, Computer Science, GPA 4.08/4.3

Research Interests

- Multimedia networking, 3D point clouds, scene reconstruction, point cloud compression, and point cloud error concealment

Publications

- Tzu-Kuan Hung, **I-Chun Huang**, Sam Cox, Wei Tsang Ooi, and Cheng-Hsin Hsu, "Error Concealment of Dynamic 3D Point Cloud Streaming," in Proc. of ACM International Conference on Multimedia (Multimedia'22), Lisbon, Portugal, October 2022
- Yuan-Chun Sun, **I-Chun Huang**, Yuang Shi, Wei Tsang Ooi, Chun-Ying Huang, and Cheng-Hsin Hsu, "A dynamic 3d point cloud dataset for immersive applications," in Proceedings of the 14th ACM Multimedia Systems Conference (MMSys '23), Vancouver, Canada, June 2023

Honors and Awards

- SIGMM Student Travel Grant *October, 2022*
- NTHU Exchange Student Scholarship *January, 2022*
- NTHU Academic Achievement Award *June, 2020*

Working Experience

Research Assistant: *September, 2021 - Present*

- Networking and Multimedia Systems Lab, Department of Computer Science, NTHU

Research Assistant: *June, 2023 – December, 2023t*

- NUS-NCS Joint Laboratory for Cyber Security, NUS

Research Experience

Point Cloud Error Concealment: *September, 2021- Present, NMSL Lab*

- Recently standardized MPEG Video-based Point Cloud Compression (V-PCC) codec has shown promise in achieving a good rate-distortion ratio of dynamic 3D point cloud compression by building on top of state-of-the-art techniques for 2D video compression proposed by MPEG. Current error concealment methods of V-PCC, however, lead to significantly distorted 3D point cloud frames under imperfect network conditions. To address this problem, we propose a general framework for concealing distorted and lost 3D point cloud frames due to packet loss.

Block Chain: *June, 2020 – June, 2021, Logos Lab*

- Create a new consensus and selection algorithm to solve problems of Bitcoin, such as slow

transaction speed, high energy consumption, rich getting richer, bifurcation leading to malicious attacks, etc. Use javascript to build a blockchain prototype, simulating multiple nodes on a workstation while maintaining the performance