Guodong Chen

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RESEARCH INTERESTS

My primary research interests include Augmented and Virtual Reality (AR/VR) Systems, Computer Networks, Wireless Sensing and Communications, Mobile and Wearable Computing. Currently, I mainly focus on AR/VR, 3D Mesh/Point Cloud compression, and spatial/volumetric video streaming. I am also interested in AI-based 3D content compression and streaming technologies.

EDUCATION BACKGROUND

Northeastern University, Boston, US *Sep. 2024 - May 2029 (expected)*
Ph.D. Computer Engineering

Nanjing Normal University, Nanjing, China *Sep. 2020 - Jun. 2024*
B.S.E Computer Science and Technology
GPA: 4.03/5.0 (90.27/100) Major Ranking: Top 2%

PUBLICATIONS

Guodong Chen, Libor Váša, Mallesham Dasari. "TVMC: Time-Varying Mesh Compression Using Volume-Tracked Reference Meshes", *The 16th ACM Multimedia Systems Conference, 2025, under review*

Guodong Chen, Sizhe Wang, Jacob Chakareski, Dimitrios Koutsonikolas, Mallesham Dasari. "Spatial Video Streaming on XR Headsets", *The 26th International Workshop on Mobile Computing Systems and Applications, 2025, under review*

RESEARCH EXPERIENCES

Research Assistant in SINRG Group *Nov. 2023 - Present*
Northeastern University, Supervised by Prof. Mallesham Dasari *Boston, MA*

- Developing a live spatial video streaming system for visionOS, supporting both broadcast and video conferencing applications.
- Obtained preliminary results in streaming spatial videos using iPhones and Apple Vision Pro XR headsets; submitted findings to *2025 HotMobile*.
- Evaluated advanced spatial video codecs that support MV-HEVC videos, including x265 4.0, FFmpeg 7.1, Spatial tool, and AVFoundation; analysed payload difference between layers of spatial videos.
- Designed and implemented a novel time-varying mesh compression method, TVMC, utilizing volume-tracked reference meshes; submitted to *2025 ACM MMSys*.

Research Assistant in DTXR Group *May. 2021 - Sep. 2022*
Nanjing Normal University, Supervised by Prof. Richen Liu *Nanjing, China*

- Developed an immersive virtual reality platform for medical diagnostics by converting computerized inspection reports into 3D medical volume data.
- Optimized and deployed ray-casting algorithm for immersive 3D environment medical volumetric data interpretation.
- Implemented a track seeding algorithm based on continuous scale space theory to facilitate 2D to 3D imaging migration.
- Implemented advanced gesture-recognition technology and touchless control to manipulate angles and locations of volumetric medical data for visualization on Oculus Quest 2.

TECHNICAL SKILLS

Programming: C/C++, Python, C#, Java, Swift, SQL, JavaScript, Git, LaTeX
Languages: Bilingual in English and Chinese