Ellen Yiyin Gu

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Education

Ph.D., Computer Science, Purdue University 2023 - 2028 *expected*
Advisor: Dr. Voicu Popescu

B.Sc., Computer Science (Honors), University of North Carolina at Chapel Hill 2019 – 2023
Minor in Mathematics and Cognitive Science
Carolina Scholars (Full Scholarship)
Member of Phi Beta Kappa (Selected in Junior Year)

Research Projects

Co-Located Immersive Visualization for Large Lectures 2024 - *ongoing*
Developed and evaluated in a user study (N = 82) an extended reality (XR) system for large lectures to enhance student engagement.

Stereoscopic Real-World Perspective Sharing for Collaborative Tasks 2024 - *ongoing*
Developed and evaluated in a user study (N = 27) a stereoscopic XR visualization method to increase collaboration efficiency in real world scenes.

ACHIEVE: An Extended Reality System for AI Education [1, 2] 2023 – *ongoing*
Developing an XR platform for education in Artificial Intelligence, which visualizes neural networks to make abstract concepts more intuitive and accessible to learners.

Vision Aid Eyeglasses with Deep Scene Understanding (with Dr. Praneeth Chakravarthula) 2020 – 2022
Developed a voice-guided AR system for the visually impaired to provide hazard detection.

Interaction with Information in Virtual Environments (with Dr. Praneeth Chakravarthula) [3] 2020 – 2021
Developed a virtual reality system to enhance information retrieval.

Publications

1. Yiqun Zhang, Miguel A. Feijoo-Garcia, ***Yiyin Gu***, Voicu Popescu, Bedrich Benes, Alejandra J. Magana. *Virtual and Augmented Reality in Science, Technology, Engineering, and Mathematics (STEM) Education: An Umbrella Review.* Information 2024, 15(9), 515; 10.3390/info15090515. 2024
2. ***Yiyin Gu***, Miguel A. Feijoo-Garcia, Yiqun Zhang, Alejandra J. Magana, Bedrich Benes, Voicu Popescu. *An XR Environment for AI Education: Design and First Implementation.* IEEE VRW 2024; 10.1109/VRW62533.2024.00032. 2024
3. Austin R. Ward, ***Yiyin Gu***, Sandeep Avula, Praneeth Chakravarthula. *Interacting with Information in Immersive Virtual Environments.* SIGIR '21; 10.1145/3404835.3462787. 2021

Technologies

Languages: C#, C++, C, Python, JavaScript
Tools & Frameworks: Unity3D, OpenCV, PyTorch, React
Specializations: Virtual Reality, Augmented Reality, Computer Vision