

Shutong Wu

Rochester | swu85@ur.rochester.edu | 1-585-351-8170 | Personal Website | LinkedIn | Github

Research Interest

My research focuses on AR/VR and Generative AI, with a focus on building immersive, interactive experiences and designing innovative interaction techniques that enhance user engagement and productivity.

Education

- University of Rochester**, PhD in Computer Science Sept 2024 - Present
- Advisor: Prof. Zhen Bai
 - GPA: 4.0/4.0
 - **Concentration:** Augmented/Virtual Reality, 3D Generative AI, Computer Graphics, Human-Computer Interactions
- University of Pennsylvania**, MS in Computer Science Sept 2022 - May 2024
- GPA: 3.8/4.0, Magna Cum Laude
 - **Coursework:** Computer Graphics, Computer Vision, GPU Programming, Game Design and Development
- Syracuse University**, BS in Computer Science, Magna Cum Laude Sept 2016 - May 2020

Experience

- VR Software Developer**, Penn Medicine Ophthalmology - Philadelphia, PA Dec 2022 - April 2024
- Designed and implemented VR vision tests on the Quest 2 platform (Unity XR, shaders, post-processing), providing an accessible virtual alternative to widely used physical vision tests for low-vision patients
 - Secured two patents for novel VR-based vision testing methodologies
 - Developed, tested, and refined an end-to-end VR software solution within 9 months
- Research Assistant**, Penn CG Lab - Philadelphia, PA Dec 2022 - April 2024
- Collaborated with Prof. Lingjie Liu on a NeRF-based research project, creating a Unity animation infrastructure in C# to streamline volumetric scene generation
 - Designed and developed several plugins using C++ to accelerate the research process by quickly converting SMPL files to FBX animation
- Platform Engineer Intern**, Shanghai, China Oct 2021 - Apr 2022
- Collaborated with ByteDance game studios to develop efficient tools including Overdraw and Mipmap Collector using C# and C++
 - Analyzed and resolved UI design and graphics optimization issues, reducing average frame time by 10

Projects

- Unity-MCP** Github
- Maintainer and main contributor to the Unity-MCP project that enables MCP clients to perform Unity In-Editor actions.
- AGen: Personalized Analogy Generation through LLM** Springer
- An analogy generation platform that can generate tailored analogies based on user profile and education level. Received best LBW paper nomination at AIED 2025.
- EmbodiedCreate**
- EmbodiedCreate is an in-situ 3D authoring toolkit that empowers learners and educators to dynamically reshape virtual analogical learning environments in real-time to encourage democratization and personalized learning. Submitted to CHI 2026.
- Diminished Reality**
- An adaptive Mixed Reality technique that leverages semantic understanding to remove daily objects and improve user focus/productivity in AR

ARCreation

Github

- ARC is an AR Application that uses the Unity Compute Shader to implement sophisticated procedurally generated L-System Trees and Foliage to a live camera feed. A Unity plugin to generate GPU-driven L-Systems has also been implemented.
- Tools Used: Unity Thread Programming, ARCore, C#

GPU Path Tracer

Github

- A CUDA-based path tracer capable of rendering globally-illuminated 3D scenes quickly, with features including BVH acceleration structure, parallel stream compaction, and radix sorting algorithms
- Tools Used: CUDA, C++

Technologies

Languages: C++, C#, Python, Java, Swift, Kotlin

Tools and Framework: Git, OpenGL, CUDA, Unity/UE, Vulkan, Llama, OpenAI, React, PyTorch