Shutong Wu

+1 2157761847 | shutong@seas.upenn.edu | LinkedIn | Personal Website

EDUCATION

University of Pennsylvania, School of Engineering and Applied Science — **Aug 2022 - May 2024**
Master of Science in Engineering, Computer Graphics and Game Technology — Philadelphia, PA

- Cumulative GPA 3.8/4.0

Syracuse University, College of Engineering and Computer Science — **May 2020**
Bachelor of Science, Computer Science — Syracuse, NY

- Magna Cum Laude; Cumulative GPA 3.8/4.0; Dean's List (2018-2020); JASSO Scholarship Awarded by Tohoku University (Summer 2018); member of Tau Beta Phi since 2019

Featured Coursework:

- **GPU Programming (CUDA, Vulkan, C++)**, **Computer Graphics (C++)**, Computer Animation (Houdini, Maya, Python, C++), **Game Design (Unity, C#)**, Data Structures and Algorithms (Java), **Entrepreneurship**, Software Development

WORK EXPERIENCE

Penn Medicine Ophthalmology — **Dec 2022 - Present**
VR Software Developer — Philadelphia, PA

- Developed VR vision tests on the Quest 2 platform, using Unity VR, XR Interaction, Shaders, and post-processing techniques to design a virtual alternative to a widely used physical vision test for low-vision patients.
- Secured two patents for vision testing methodologies.
- Developed, tested, and refined an end-to-end VR software solution within 9 months.

University of Pennsylvania School of Engineering and Applied Science — **Dec 2022 - Present**
Research Assistant for Prof. Lingjie Liu — Philadelphia, PA

- Developed Unity framework and animation infrastructure to support a NeRF Research Project, utilizing C# for development
- Conceived and designed several plugins using C++ to accelerate the research process by quickly converting SMPL files to FBX animation

ByteDance Ltd. — **Oct 2021 - Apr 2022**
Platform Engineer Intern — Shanghai, China

- Collaborated with ByteDance game studios to develop efficient tools including Overdraw and Mipmap Collector using C# and C++
- Increase Mobile game performance by 15FPS at max and successfully analyze UI design and graphics optimization issues.

TECHNICAL SKILLS

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

Tools and Frameworks: Git, OpenGL, CUDA, Unity, Unreal Engine, Vulkan, Maya, Houdini, QT, RealityKit/ARKit

PROJECTS

ARCreation (Unity, CUDA, C++):

- 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 is also implemented.

Grass Generation (Vulkan):

- A renderer that renders physically accurate grass using Vulkan Compute Shaders to simulate wind and gravity motions.

GPU Path Tracer (CUDA, C++):

- 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.

Bonuses: CUDA Denoiser using A-trous Wavelet filter, Boids Flocking Simulation, Individual Unity AR Game Projects, etc.

ACTIVITIES & LEADERSHIP

Penn Upgrade(Member and Anchor Programmer)

- Prototyped and developed games with club members using Unity and Unreal
- Taught undergraduate students how to use Unity in a small team setting
- Lead group members to compete in game jams regularly