

Jerry Hsu

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Education

Computer Science, B.S. Mathematics B.S.

Purdue University
Expected May, 2020

Work Experience

Software Developer

Purdue University Envision Center

2017 – Present

- Optimized a GLSL application for visualizing protein molecule interactions in VR. Decreased rendering time from 60 FPS with 1,000 molecules to 100 FPS with 50,000.
- Deployed networked digital learning packages on university courses with Blackboard SCORM API.

Undergrad Teaching Assistant

Purdue University, CS 390VR

2018 - Present

- Supervised students in working with novel VR applications.
- Fostered an explorative atmosphere while providing technical and design guidance.

Proficiencies

- Languages
 - C & C++ & GLSL
 - C#
 - Java
 - JavaScript & CSS 3 & HTML 5
- Frameworks
 - OpenGL & GLM
 - Unity 3D
 - .NET framework / WPF

Personal Projects

C++ Game Engine

2017 – Present

- A 2D game engine written in C++ built on top of OpenGL 4.3 core.
- Built in constraint-based custom physics engine with a SPT broad phase.
- Grid based temperature simulation with OpenGL Compute shaders.
- GUI support with event dispatchers, anchor based automatic UI scaling, instanced atlas text rendering, and sliced sprites rendering.
- Multithreaded call system that allows simultaneous OpenGL compute and CPU based physics operations.

OpenGL Compute Geometry Sampler

2017

- A C++ uniform grid sampler made for approximating the moments and center of mass for complex geometry.
- Parallelized mesh intersection check on GPU synchronized with atomic operations.

C# Ultrawide eBook Reader

2017

- Provides a clean and modern display format that is vastly more suitable for ultrawide monitors compared to traditional top down formats.
- Built with C# .Net framework and Windows Presentation Foundation.
- Multithreaded background fetching and prefetching from online servers.