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FDUCATION

Cornell University05/2021Bachelor's, Computer ScienceGPA: 3.1

EXPERIENCE

Whiteout Solutions Software Engineer

10/2021 - 10/2023

- Developed Computer Vision tools in Java and C++ leveraging sensor fusion to enable a large scale mapping of endangered habitats.
- Prototyped Virtual Reality visualizations of LIDAR scans in Unity and Unreal using an Octree to achieve a high frame rate on billions of points in C#.
- Pioneered a cross-platform file system in Java to save TBs of server storage space and accelerate user testing with continuous deployment.
- Optimized ML feature recognition and processing speed in C++ to improve cargo ship fuel efficiency.
- Created a user-friendly website with React and WebGL to enable user calculation of biomass volumes.

Kitware Computer Graphics R&D Intern

05/2021 - 08/2021

• Incorporated Computer Vision algorithms and an LLM in C++ to automatically interpret classified documents.

Cornell University Computer Graphics Research Assistant

06/2019 - 12/2020

- Modded a cutting edge language into the Unity game engine to eliminate transformation errors.
- Devised GLSL shaders with subtle graphics errors for a SIGGRAPH paper.
- Built a game engine and render pipeline in C to test a research graphics language.

Capital One Software Engineering Intern

05/2020 - 08/2020

• Prototyped a Virtual Reality visualization of a bank interface in Unity and C# with an incorporated AI model for signature recognition.

PROJECTS

Cloudlight Games Independent Game Developer

07/2019 - Present

- Ship 9 games using Unity and Unreal with over 1000 plays on Itch.io.
- Implement real time rendering techniques using Vulkan and WebGL.

Interactive Water Graphics Engine Team

05/2021

• Built a graphics engine with water, flare, and bloom shaders in C and HLSL.

Panic Painter Mobile Game Development Team

04/2021

• Wrote engine code in C# for a 2D mobile game and supported artists with shaders to win first place in visuals.

Terrain World Graphics Engine Team

12/2019

• Constructed a graphics pipeline and world generator in C and OpenGL with LOD meshing and frustum culling to achieve 60+ FPS at scale.

SKILLS

Topics: Computer Graphics, Computer Vision, VR, Linear Algebra, Game Development

Programming: C#, C++, Java, Python, HLSL, OpenGL,

Vulkan, React, HTML, TS

Tools: Git, Docker, Unreal, Unity, Godot Languages: English, Japanese, Spanish

ADDITIONAL

Mountaineering Instructor

05/2022 - Present

Volunteer to teach glacier climbing and lead student expeditions in Washington.

Honors Java TA

08/2018 - 02/2019

Taught a 40-student lab and held office hours weekly.