Christofer Sanrow

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Education

University of California, Los Angeles (UCLA) Expected Jun 2027

Computer Science, B.S. *GPA: 3.75*

- Relevant Coursework: Computer Architecture, Operating Systems, Computer Graphics, Software Construction, Data Structures & Algorithms, Linear Algebra, Differential Equations, Discrete Math, Probability, Optics

Experience

Software Engineer Intern Jun 2025 - Present

Esri *Portland, OR*

- Engineered highly testable and performant serialization/deserialization routines, enabling persistence of geospatial and 3D objects by leveraging template metaprogramming, dependency injection and C++ smart pointer semantics.
- Improved efficency of ad-hoc testing of graphical/geospatial features and allowed developers to easily interact with and modify scenes by implementing a menu-based user interface for an internal testing app utilizing ImGUI and GLFW.
- Facilitated saving state upon crash through interprocess piping for thread-safe signal handling in multithreaded app.
- Delivered 3D object stats while maintaining responsive UI, by leveraging pplx library for async/concurrent fetching.
- Ensured integrity of complex scenes and objects by implementing O(N) BFS algorithm to serialize nested layers.
- Increased suite code coverage by 20% by architecting CI/CD pipelines in Jenkins and tests wth GTest and GMock.
- Raised test app visibility and usage by authoring documentation and presenting enhancements to 50+ stakeholders.

Software Engineer Intern Sep 2022 – Nov 2022

AI Camp: AI on Thumbs *Remote*

- Led crossfunctional team to refactor machine learning education app, using JavaScript to produce interactive lessons.

Projects

Westwood Tour Generator | *C++* | GitHub

- Generated console-based tours of the Westwood area with commentary and navigational instructions using C++.
- Leveraged custom hashmap to access coordinates, geodata and points of interest for 20000+ streets in constant time.
- Reduced compute and produced 50% shorter routes with custom stops through A* path-finding implementation.

Raytracer | *C++* | GitHub

- Simulated diffuse, dielectric, and metal materials on 3D surfaces using raytracing techniques implemented in C++.
- Produced realistic 3D scenes utilizing geometric and graphical methods such as gamma correcting and antialiasing.

MeldsFind | *C++, OpenCV* | GitHub

- Provided users live Mahjong suggestions through computer vision powered app leveraging OpenCV and C++.
- Preprocessed images for Mahjong tile separation by applying grayscale, gaussian blur and canny edge detection.

Technical Skills

Programming Languages: C++, C, C#, Bash, Python, SQL

Libraries: STL, Boost, OpenGL, OpenCV, GLFW, ImGui, C++ Rest SDK

Frameworks: Clang, GTest, GMock, Qt, LLVM

Tools & Technologies: CMake, Git, gdb, Valgrind, Unity, Unreal Engine, Linux, Docker