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 - Sep 2025

Esri — *Portland, OR*

- Collaborated with team to rearchitect high-performant **C++** core providing geospatial and mapping functionality to a wide range of SDKs for different platforms, empowering developers to integrate geospatial data in their applications.
- Enabled saving scenes and their respective geospatial and 3D objects by engineering serialization/deserialization routines which leverage template metaprogramming, dependency injection, and various modern C++ features.
- Improved efficency of ad-hoc testing of 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++.
- Accessed coordinates, geodata and points of interest for **20000+** streets in constant time through custom hashmap.
- 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

- Detected Mahjong tiles from a given image 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