# Christofer Sanrow

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## Education

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

*Computer Science, B.S.* *GPA: 3.75/4.0*

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

## 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, Linux, Docker

## Experience

**Esri** Jun 2025 - Sep 2025

*Software Engineer Intern* *Portland, OR*

- Rearchitected high-performance **C++** core serving cross-platform 3D geospatial and mapping SDKs to consumers.
- 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 ad-hoc testing by implementing scene modification and performance windows with **ImGUI** and **GLFW**.
- Supported crash recovery via inter-process piping for thread-safe signal handling in a multithreaded application.
- Delivered 3D object stats while maintaining responsive UI, by leveraging pplx library for async/concurrent fetching.
- Increased suite code coverage by **20%** by architecting CI/CD pipelines in Jenkins and tests with GTest and GMock.
- Raised test app visibility and usage by authoring documentation and presenting enhancements to **50+** stakeholders.

## Projects

**Westwood Tour Generator** | *C++* | GitHub

- Generated console-based tours of the Westwood area with commentary and navigational instructions using **C++**.
- Optimized route planning for **20,000+** streets, cutting compute time by **50%** using custom hashmaps and A*.

**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 detection and analysis of Mahjong tiles in images through desktop app leveraging **OpenCV** and **C++**.
- Achieved **95%** tile separation accuracy by applying grayscale, gaussian blur and canny edge detection techniques.

**Empathetic Chatbot - jAIce** | *Python, Pandas, Pytorch/aitextgen* | GitHub

- Led back-end architecture on a team of 5 for NLP web application, designing the **Flask API** and **Docker** deployment strategy to ensure reliable, low-latency communication between the user interface and the model service.
- Achieved **88%** human relevance score by fine-tuning GPT-2 model via **Pytorch/aitextgen** on a dataset of over 25,000 emotionally-grounded conversations, which was cleaned and processed using **Pandas** and **NLTK**.