

Chu Yi Aaron Herr

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## Education

### B.S., Computer Science

Fall 2025

San Francisco State University, San Francisco CA

### A.S., Computer Science

Clovis Community College, Clovis, CA, GPA 3.13

**Software Technical Skills** – C++(17, 20), Python, CMake, Git, Valgrind/Calgrind, Multithreaded/Concurrency development, Parallel Programming Paradigms, Linux/Unix Environments, Agile/Scrum Methodologies, Software Design Patterns, Bash scripting, Data Profiling, Performance Analysis, Data Structures and Algorithms, Object Oriented Programming, Graphs Algorithms, Operating Systems, Virtual memory analysis, Networking protocols (TCP, UDP), Multi-platform development

## WORK EXPERIENCE

### University of California Berkeley, Berkeley, CA

September 2022 – Present

- Using C++, using the Qt framework and its QMake build system.
- Doing bug fixes for the UI that is built and designed using Qt's QtCreator.
- Developed multiple worker threads that have a single source process for streaming data to docking windows, doing multithreaded programming.
- Perform standard software design practices in designing the User Interface with Qt.
- Assisted in developing integration testing using Qt's QTest framework and continuous unit testing in the code base core.

## Project Experience

### Game Engine in OpenGL | [GitHub](#)

Fall 2023 - Present

- Using C++ as the core language during the development of this Engine.
- Implementing a 2D Batch renderer that can render in batches minimizing draw calls when rendering shaders and textures.
- Entity Component System implemented in the engine to allow for loading different entities, that may contain different components.
- Basic camera systems that can handle multiple camera components.
- Profiling tooling in the engine to help debugging and monitoring function call stack and time stamping.

### 6502 Emulator | [GitHub](#)

Fall 2023 - Present

- Reversed engineered an 8-bit processor called the 6502.
- Emulated how virtual ram and rom read, write data to and from virtual memory.
- Developed the adder functions for the ALU as part of the emulator to do basic arithmetic operations.

### Asm Compiler

- In Computer Architecture, an assignment assigned by the professor was to make a simple visual basic compiler.
- The purpose is to teach how C++ works with assembly.
- Utilizing assembly to handle conditional, and arithmetic.
- Whereas using C++ to handle command and string parsing, including tokenizing commands to do basic visual basic logic.

## CLUB/ACTIVITIES

### SJSU Robotics Club | [GitHub](#)

Fall 2023 – Present

- Worked in the Intelligence Systems division, collaborating and working with my team on the autonomy side of building the rover.
- Worked in fixing the GPS locking connection to the satellite.