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

Hardware Technical Skills – Raspberry Pi, Arduino

**WORK EXPERIENCE**

**University of California Berkeley**, Berkeley, CA September 2022 – Present

* Using C++, using the Qt framework and it’s QMake build system.
* Doing bug fixes for the UI that is built and designed using Q t’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](https://github.com/SpinnerX/Game_Engine) 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.

**Holographic Projector**

* **Developed a holographic projector that uses a raspberry pi that uploads visual effects onto a LED display.**
* **3D printed the wooden frame, and corner parts to add support for both bottom and top frame.**
* **Utilized Raspberry Pi, to handle different motion sensors to act as a way of receiving inputs to the devices, representing commands.**

**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.