Chu Yi Aaron Herr

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<https://github.com/SpinnerX>

**OBJECTIVE:** Hardware engineer seeking experiences and opportunities in real-time Embedded Systems development.

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| **B.S., Computer Science**  San Francisco State University, San Francisco, CA |  |  |  | May 2026 |
| **A.S., Computer Science**  Clovis Community College, Clovis, CA, GPA: 3.13  **Software Technical Skills**  C, C++, Java, Python , CMake, Software Design Patterns, Agile, Scrum methodologies, Multi-threading and Concurrency development, compile-time optimization, computer architecture, Operating Systems, GDB, automating scripting, Familiar with Unix and Linux, ffmpeg (C framework), OpenGL, GLFW, Project Management, x86, and ARM32 assembly, CPU emulation development, Networking, Boost (C++ Framework), Bash  **Hardware Technical Skills**  Arduino, Raspberry Pi’s, Soldering, CAD using OnShape and SolidWorks  **WORK EXPERIENCE** |  |  |  | May 2023 |
| **University of California**  **Berkeley**, Berkeley, CA |  |  | September 2022 - Present | |

**EDUCATION**

* I worked in the Advance Bio-imaging Center as a C++ Software Engineer using the Qt Framework.
* Developing application tools designed to monitor data flow for the application user.
* My involvement included designing the UI using QTCreator in a Linux Development environment.
* Problem solving in multithreaded applications handling error handling such as race conditions and incorrect data.

**PROJECT EXPERIENCE**

**6502 CPU Emulator | Personal Project | GitHub** Spring 2023 - present

* Reverse engineering the 6502 8-bit processor represented using a higher language, C++.
* Developing how data are sent from the address and data bus to the CPU.
* Develop the fetch, decode, and execute cycle for the 6502.
* Reading the 6502-microprocessor datasheet
* Implementing an ALU to handler the adder function, arithmetic, and other logic operations.

**Libhal Framework | Opensource Contributor | GitHub** Summer 2023 - present

* Contributing to mentor’s Libhal robotics framework in implementing a serialize mirror that uses the UART protocol.
* Implementing a serial mirror, which essentially is a serial port taking in N number of serial ports.
* Learning and using the Logic Analyzer for testing the serial mirror feature part of the Libhal framework extension, Libhal-soft.

**CLUB and ACTIVITIES**

**Robotics Club | GitHub** Fall 2023 - Present

* In the Intelligent Systems team, building test cases checking for race conditions in the codebase, in concurrent environment.
* In python developed the rover navigation system to navigate terrain efficiently.
* Testing rover’s navigation system and developed improvements computing the distance and spatial awareness.

**Logs Git Bash Script | Summer Project | GitHub** Summer 2023

* Developed Git Bash script for students to fetch previous versions of assignments in the case students wipe their code for the assignment.
* Git script to submit logs and with the goal of detecting when students are cheating on professor’s server by pulling those logs using commit ID’s.
* When students compile their code. The script will flag if there are suspicion of students cheating by a given threshold using time stamp of most recent edited file.