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, Object-Oriented Programming, Multi-threading and Concurrency development, compile-time optimization, computer architecture, Operating Systems, Compilers, GDB, automating scripting, Familiar with Unix, and Linux, ffmpeg (C framework), OpenGL, GLFW, Project Management, x86, and ARM32 assembly, CPU emulation development, TCP/IP 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.