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, 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 , Valgrind/Calgrind, 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 it's 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 | Assignment
- In Computer Architecture, an assignment that I had to do was create a very basic compiler.
- Using ARM32 assembly and C++ to utilize tokenization and input parsing.
- Whereas using ARM32 to handle most of the logic such as conditionals, and basic arithmetic that would be done in assembly.

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.