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 – 5+ C++ development(14, 17, 20), Python, Java, glsl/gslang (shaders), OpenGL, Vulkan, SPRIV-V, GDB (gnu-debugger), Valgrind/Calgrind, Profiling, Data Structures and Algorithms, Computer Architecture, Operating Systems, Linux/Unix environments, Graphics pipeline, Graphics Architecture design, CMake, OpenCL (GPU development), Strong fundamentals of Linear Algebra, YAML

WORK HISTORY

University of California Berkeley, Berkeley, CA   September 2022 – Present
- Developed GUI Applications using C++ and the Qt framework.
- Participated in meetings discussing new features to implement part of the GUI applications.
- Implemented docking windows for data analysis.
- Worked in a multithreaded environment where managed worker threads have process for streaming data to the docking windows, where users can receive feedback.

PROJECT

3D Graphics Engine | GitHub   Fall 2023 – Present
- Concurrently developing a 2D/3D game engine in C++
  - Learning GLSL for implementing the shader system.
  - Added Batch rendering to minimize draw calls being made.
  - Added a UI editor for easier interaction for saving/loading/playing scenes.
  - Created profiling tool to monitor by timing performance.
  - Added Serialization/Deserialization enabling users to load/save scenes using YAML.
  - Entity Component System(ECS) for representing objects as entities allowing to contain multiple components.

6502 Emulator | GitHub   Fall 2023
- Developed an emulator to emulate 8-bit microprocessor.
  - Reversed engineered an 8-bit processor called the 6502.
  - Emulated how virtual RAM and ROM for reading, writing data to and from virtual memory.
  - Added the decoding/execution of instructions with different opcodes.

Asm Compiler   Spring 2022
- Computer Architecture project, which the objective was to create a basic compiler inspired by visual basic.
- Using C++ to represent a basic tokenizer, and reinterpreting commands typed from the user into assembly.
- Implemented basic arithmetic and conditional operations then doing those operations using ARM32 assembly.

CLUB/ACTIVITIES

SJSU Robotics Club | GitHub   Fall 2023 – Present
- Collaborated in the SJSU Robotics club as part of the Intelligence Systems team, using Python for development.
  - Implemented fixes with the GPS for locking a connection with the satellite.
  - Collaborative with my team in working on autonomous tracking for the rover.
  - Openly communicating with the development on autonomy with teammates regarding deadlines to be met.