

Profile

Computer Science student at Penn State, with a strong passion for systems programming and writing clean, performant code. Key strengths include a deep understanding of Data Oriented Design philosophies, low level hardware design, and graphics programming.

Education

University Park	Pennsylvania State University	Fall 2020 – Fall 2023
• B.S. in Computer Science, Fall 2023.		Current GPA: 3.28

Technical Abilities

- **Languages:** C++; C; MIPS Assembly; Verilog; Python; JavaScript/HTML/CSS; Odin
- **Tools/Libraries:** Linux; CMake; Vulkan; OpenGL; Git; JetBrains Products; Vivado; Fusion360; KiCAD
- **Skills:** Microcontroller Design; 3D Modelling; 3D Printing; CNC Machining; PCB Design; Public Speaking

Projects

Data-Oriented OpenGL Text Editor (2023):

C; C++; OpenGL; JetBrains IDE

- An extremely performant text editor that makes use of modern OpenGL and Data Oriented Design philosophies. Features a vector of gap buffers in order to reduce the impact of having to insert characters into a string.

Pipelined MIPS Processor (2022):

Verilog; MIPS Assembly; Vivado

- A pipelined microcontroller designed in Verilog, that is capable of running MIPS assembly. It contains built in memory for both instructions as well as data, and supports forwarding between stages in order to avoid stalls.

Stitch (2022):

C; C++; CMake; JetBrains IDE

- A performant, opinionated build system and project initialization/management tool that automatically generates CMakeLists.txt files based on the include tree of the project's module headers.

Fast List (2022):

C; C++; JetBrains IDE

- A linked list implementation designed around minimizing cache misses and amortizing memory overhead. Benchmarks indicate a 3-5x performance improvement over std::list for standard operations.

Employment

Employee	Penn State CMPEN 497 Grader	Spring 2023 - Present
----------	-----------------------------	-----------------------

Summary:

- Graded student assignments and updated scores to the grading portal in a timely manner.
- Made sure grading was transparent and students were understanding of the grades they received.

Volunteer

**Community Empowerment
Northern Virginia**

Summer 2019

Summary:

- Sole data entry specialist in charge of maintaining CENV's consumer information database.
- Scanned vital documents and typed out relevant information into a database in order to keep essential company records.
- Introduced an alternative method of data registry that allowed a more efficient way for consumer information to be directly inputted into the company database.
- Garnered 67.5 total volunteer hours throughout my experience with CENV.

Additional Experience and Awards

- **OSHA Certification (2020):** Completed the online, 10 Hour OSHA Certification Course.