

Miles Glapa-Grossklag

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EDUCATION

University of California Santa Cruz | Bachelors of Science (B.S.) in Computer Science **June, 2023**

- GPA of 3.7/4.0, on the Dean's Honors List.
- Coursework includes: Data Structures and Algorithms, Computer Architecture, Natural Language Processing, Graduate Computer Systems Seminar, Cryptography, Computer Graphics.

SKILLS

5+ years **C, C++, Python, Git, GNU/ Linux**
3-5 years **Rust, Bash, Make, GDB, LLDB, Valgrind**
1-3 years **Haskell, Go**

EXPERIENCE

Apple | Cupertino, CA June 2022 - September 2022

Software Engineer Intern, Apple Silicon GPU Software team

- Designed and wrote software to generate hardware-abstraction layer code for a GPU device driver debugger.
- Moved test pass rate from 7% to 100% by automatically generating unit tests and integration tests upon the release of each new Apple GPU register specification.
- Improved version control system workflow by contributing to bots that allow developers to manage their branches and integration testing.

Center for Research in Storage Systems | Santa Cruz, CA May 2021 - October 2022

Undergraduate Research Assistant

- Helped develop Twizzler, a research operating system designed for accessing persistent data on large-scale byte-addressable non-volatile memory.
- Authored and integrated the red-black tree responsible for the kernel's scheduling and networking capabilities. Ensured the red-black tree could be shared between multiple threads by eliminating race conditions.

Baskin School of Engineering | Santa Cruz, CA January 2021 - Present

Computer Science Tutor

- Tutored 1,000+ students in the C programming course and the Design of Computer Systems course.
- Worked with graduate teaching assistants to explain class concepts and debug students' assignments in C, Bash, and Git.
- Maintained the teaching staff's Git repository by preparing and distributing example binaries for the ARM architecture.

PROJECTS

Compression with the Lempel-Ziv 78 and Huffman Algorithms | C

- Wrote programs to compress and decompress data quickly and efficiently.
- Added the ability to view statistics on the compression/decompression process, including the file-size before and after, the compression ratio, and the entropy of the data.

Unit Test Library | C

- Designed and implemented a unit testing library for C code that takes advantage of custom assert macros and test suites.
- Used to debug and assess students' code in various courses as one part of the grading process.

RSA Encryption and SSH Keys | C

- Implemented the RSA cryptosystem in C using the GMP arbitrary-precision integer library.
- Implemented the reading and writing of RSA-encoded SSH keys.
- Code was used as a teaching example for 1,200+ students.