Charles Faisandier

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OVERVIEW

Junior-standing computer science student passionate about systems programming.

EDUCATION

University of Washington — Seattle, WA
Paul G. Allen School of Computer Science – GPA: 3.62 — *Sept 2021 – June 2026*

- CSE 332 — Data Structures and Parallelism - cur.
- CSE 333 — System's Programming - 3.4
- CSE 351 — Hardware Software Interface - 3.6
- MATH 126 — Calculus III - 3.9
- CSE 123 — Computer Programming III - 3.8
- PHYS 122 — Electromagnetism - 4.0

EXPERIENCE

Flight Computer Engineer — Jan 2025 – Present
UW Society for Advanced Rocket Propultion (SARP) — *Seattle, WA*

- Developped an **SDMMC** driver for the **STM32** microcontroller capable of writing data to a SD card.
- Developed a **Real-Time Clock** driver for **STM32** microcontroller able to set and get the time.
- Pivoted to writing a client for the **SDMMC driver** that writes telemetry data to a micro-SD card midway through driver development to better establish required driver capabilities.

Ground Systems Engineer — Oct 2024 – Mars 2024
UW Society for Advanced Rocket Propultion (SARP) — *Seattle, WA*

- Remotely initiated a **Flask** HTTP server with frontend for rocket monitoring and control on a local network using rasberry pies. Troubleshooted node versioning issues which had stopped ground system initialization process.
- Improved **documentation** for communication system initiation procedure by correcting outdated info and providing troubleshooting guides for common issues.

PROJECTS

Linux PC and VPS | *GNU/Linux, POSIX utilities, OpenSSH, NGINX* — June 2024 - Sept 2024

- Augmented **GNU/Linux** with custom-patched Wayland compositor to create personal development environment.
- Customized text editor **nvim** into IDE-like notetaking system using **Lua** code.
- Configured **NGINX** on a VPS to serve HTTPS with certbot, as well as outgoing **PostFix** server w/ correct NDS records.

Search Engine and Web Server | *C, C++, GNU/Linux* — Jan 2024 – March 2024

- Implemented a file crawler, indexer and search engine using **hashmap** and **linked-lists** implementations.
- Wrote an **inverse-index** file writer and reader able to perform lookups, then wrapped it around query processor able to serve queries from multiple on-disk indices
- Created **mult-threaded** web server serving front-end to query processor.

TECHNICAL SKILLS

Languages: C, C++, Python, Bash, Lua, Java, C#
Developer Tools: Git, POSIX utilities (grep, sed, awk), make, GNU Debugger
Frameworks: POSIX, Flask
General: Math, Physics, Software Architecture