BRIGHAM CAMPBELL

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Embedded software engineer with experience upstreaming 11 patches to the Linux kernel. Seeking employment as a Linux kernel developer. Team player with proven track record of fixing problems before they become critical.

Work History

Kernel Development Mentee (Part-Time) May 2025 – November 2025
Linux Foundation *Remote*

- Developed and upstreamed 11 patches during the mentorship, with a focus on display drivers in the drm subsystem
- Invited to return as a mentor during the Spring and Summer 2026 mentorship sessions
- Met weekly via Zoom to learn from established Linux kernel experts and discuss challenges with fellow mentees
- Attended OSS Denver June 2025 to meet with mentors and attend presentations on maintainers' latest efforts

Systems Software Engineer June 2023 – Present
Space Dynamics Laboratory *North Logan, UT*

- Retired an out-of-tree Linux kernel display driver in favor of an upstream driver to eliminate ongoing maintenance
- Fixed flawed assumptions about hardware enumeration by implementing deterministic udev rules
- Led migration from in-house CMake tooling to vcpkg after critical upstream failure, mitigating supply-chain risk
- Identified and fixed a security fault, replacing recoverable password storage with standards-compliant hashing

Hardware Test Engineer May 2020 – March 2021
Campbell Scientific *Logan, UT*

- Collaborated with engineers and project managers to triage and resolve production hardware and software issues
- Identified a firmware flaw affecting date handling in pre-production embedded devices

Software Engineer January 2019 – December 2019
NIATEC *Pocatello, ID*

- Identified and patched public-facing data spillage vector before users' personal data was compromised
- Met with government customer and implemented requested features in bespoke 3D LIDAR viewer software
- Participated in the NIATEC Collegiate Cyber Defense Competition as a member of the red team

Education

Utah State University January 2020 – May 2026 (Expected)
B.Sc. in Computer Science *Logan, UT*

- Vice President and regular speaker, Free Software and Linux Club

Projects

JoinLater | *Python, D-Bus, SQLite, HTTP, WPA2 Enterprise Authentication*

- Reverse engineered closed-source JoinNow software, USU's solution for connecting clients to eduroam
- Used Python and SQLite to scrape data from JoinNow web portals to support software reverse engineering effort
- Developed JoinLater, a fully-functional open-source replacement for authenticating WPA2 enterprise supplicants
- Iterated on user feedback to improve reliability and compatibility across Linux distributions

8-bit Breadboard Computer | *TI 7400-series logic, Oscilloscope*

- Used an oscilloscope to resolve unpredictable behavior caused by noisy clock signal
- Created a Von-Neumann computer on breadboard with a custom instruction set using discrete logic ICs
- Recorded, edited, and published a video on YouTube to share challenges and findings

Technical Skills

Languages: C, C++, Kconfig, bash, Python, Assembly (ARM, Gameboy Z80)
Embedded/Kernel Tools: PetaLinux, Buildroot, Yocto, kgdb, systemd, udev, drm
Development Tools: b4, checkpatch.pl, git, Docker, Jenkins, Google Test, vcpkg, CMake, Agile methodologies