

# 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

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### 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 for 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

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### Utah State University

Expected May 2026

*B.Sc. in Computer Science*

*Logan, UT*

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

## PROJECTS

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### 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

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**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