Ben Prisby

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Skills

Languages: C++, Python, QML, JavaScript, C, Shell, HTML, CSS, SQL
Frameworks & Technologies: Qt, Docker, Flask, Nginx, WebAssembly, pytest
Platforms & Infrastructure: Linux (Yocto, Debian, Ubuntu), macOS, Windows, AWS (EC2, IoT, Lambda, S3)
Databases & Communication: SQLite, MongoDB, InfluxDB | MQTT, REST, WebSockets, TCP/UDP
Tools & DevOps: Git, Jenkins, GitHub Actions, Nexus, CMake, Poetry, Grafana, JIRA, Confluence
Specializations: Embedded UI development, 3D printing, device architecture, hardware integration

Experience

Principal Software Engineer, Desktop Metal – Burlington, MA May 2023 – Present

- Architected Maxwell platform as the unified device software foundation for all current and future products, enabling 8-person team to scale across expanding product portfolio through modular, service-oriented design
- Designed and implemented next-generation device UI as core Maxwell service, built in Qt QML with native C++ and remote WebAssembly interfaces, flexible runtime configuration, and shared component libraries
- Implemented and maintain core Maxwell Python services including software updater, network manager, device provisioner, and user authenticator, with consistent MQTT APIs and Docker deployment across the architecture
- Built custom Yocto-based Linux distribution supporting Intel x86 and Raspberry Pi platforms, enabling automated device provisioning at manufacturing, lean runtime environment, and secure OTA updates
- Served as primary technical advisor for device software strategy, leading cross-functional architecture decisions, mentoring engineering team, and establishing API guidelines and code quality standards across the team

Senior Software Engineer, Desktop Metal – Burlington, MA Mar 2021 – May 2023

- Delivered Shop printer UI with Qt QML in under 6 months by evolving Studio UI to modular architecture, creating unified codebase serving both product lines with optimal user experience and code reuse
- Architected Remote Assist support system, dramatically reducing on-site technician visits, saving hundreds of thousands in support costs through secure, global tunnel access to devices with frontend application for CS
- Implemented Live Monitor device-side features, delivering real-time device analytics to production customers
- Built Python and Qt C++ device frameworks with intuitive MQTT messaging abstractions, flexible application logging, and robust persistent settings management, adopted across multiple software components
- Implemented C++ HAL for ABB robot arm, with RWS communication and event-driven MQTT state publishing

Embedded Software Engineer, Desktop Metal – Burlington, MA Jan 2019 – Mar 2021

- Led implementation of second-generation Studio printer UI from monolithic to modular design in Qt QML, trusted with customer-facing UX decisions by design team across all Studio device UIs
- Redesigned software bundling process, eliminating thousands of lines of legacy scripts and creating maintainable Debian package-based deployment system for delivering OTA updates
- Created Qt-based Studio device technician tool enhancements and became maintainer, implementing performance improvements, new device feature support, and comprehensive debugging capabilities
- Developed Debian packages for embedded Linux OS, including system configuration and graphical updater

Projects

- **Homelab:** Self-hosted infrastructure playground with network monitoring, centralized logging, data backup services, and smart home automation tools deployed via Docker Compose across NUC and Raspberry Pi cluster
- **Vice City Dashboard:** Smart home touchscreen with device control, music playback, and network statistics

Education

Northeastern University – BS in Computer Engineering, summa cum laude (GPA: 3.94/4.0) May 2019