

SAMUEL CORNISH

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EDUCATION

UNIVERSITY OF CALIFORNIA, SANTA BARBARA

Bachelor of Science in Engineering: Major in Computer Science

Santa Barbara, CA

September 2015-March 2019

RELEVANT SKILLS

- Programming Languages: C++, C, Rust, Python, Bash, Swift
- Frameworks: OatPP, QT embedded, rocket, actix-web, Docker-Compose, Flask
- Technologies: Bitbake, Kubernetes, Podman, Docker, Selinux, PostgreSQL, ApacheThrift, RPM, OpenXPKI, OSTree
- Systems Knowledge: Embedded Linux, Yocto, Fedora, SAFERTOS, ARM, BuildRoot

EXPERIENCE

KARL STORZ IMAGING

Software Engineer II

Goleta, CA

April 2021- Present

- Create pipelines for generating and applying Over-The-Air updates for OSTree based linux devices
- Define and implement container network policies for microservices in Kubernetes edge clusters
- Implement microservices for a system of medical devices that communicate internally via DBUS and embedded RPC interfaces
- Core maintainer for a custom Linux distribution deployed in medical devices
- Construct build pipelines for building and packaging individual software components and the custom Linux distribution that consumes those individual software packages
- Design, implement, maintain multiple containerized services in Rust, C++, and Python that communicate with each other over virtual container networks in medical devices using RESTful api's to satisfy OpenAPI contracts.
- Write RPM spec files to build and package software, kernel modules, microservices that are deployed to medical products.
- Refactor existing backend services to meet software license requirements and eliminate technical debt.
- Travel to and collaborate with teams located in Europe to identify solutions for other portfolios of network enabled medical devices using the Yocto Build System
- Utilize multi-stage build containers to break out our team's core network library stack from a legacy build system
- Conduct research investigations into evaluations of different technologies to inform lead Software Architect's design decisions for a new medical product. Technologies include:
 - prototyping a Linux based OS with the Yocto Build System
 - RPM packaging and deployment
 - container building, development, and deployment of microservices with docker compose, k3s Kubernetes
- Prototype containerized microservices in Rust to showcase and promote an alternative to usual C++ development in the workplace

KARL STORZ IMAGING

Software Engineer I

Goleta, CA

April 2019- April 2021

- Implemented features and bug fixes in legacy code repositories for monolithic C++ applications used in systems of embedded linux medical devices to meet stakeholder needs
- Applied best practices to meet IEC 62304 and ISO 13485 standards including participating in all stages of the software development lifecycle, performing regular risk analysis, document control, and software maintenance in post-market products
- Worked closely with hardware engineers to integrate features for low-level embedded microcontrollers running SafeRTOS
- Created mocked devices to aid in testing and feature development when hardware shortages blocked the development team. These mock devices enabled the team to complete features ahead of schedule and are now used in software integration testing scenarios
- Wrote Selinux policy modules to harden security of medical grade products in operating room environments
- Promoted agile methodologies in a waterfall-oriented company
- Worked with senior engineers to prototype and test Yocto Linux system images and showcase the Yocto Build System as possible alternative to complex in-house solutions for current and legacy products