JONATHAN HENDRICKSON

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Seattle-based embedded software engineer with experience developing microcontrollers, IoT solutions, and satellite firmware. Skilled at delivering robust, high-performance, low-memory, and safety-critical embedded applications.

SKILLS

C, Rust, Python, C++ programming	Microcontrollers (RISC-V, ARM)	FreeRTOS, Zephyr, Embedded Linux
Serial comms (UART, SPI, I2C)	Networking (BLE, TCP/IP, MQTT)	JTAG/SWD debugging
Internet of Things (IoT)	CMake, GCC, Clang	Git, CI/CD, and shell scripting

EXPERIENCE

Amazon – Software Development Engineer II **Aug 2023 – Present**

Project Kuiper - Satellite Embedded Software Redmond, WA

- Developed satellite systems, libraries, and frameworks in Rust and C++ on Embedded Linux and RTOS
- Contributed to CPU performance improvements to telemetry, commanding, and file transfer components
- Implemented a cross-compilation build system using Clang and CMake for deploying signed images on top of Yocto
- Developed a debugging CLI for config hot reloads, IPC message injection, and real-time diagnostics

Amazon Web Services – Software Development Engineer I/II **Sept 2021 – Aug 2023**

FreeRTOS Maintainer Seattle, WA

- Developed MISRA-compliant embedded C libraries for FreeRTOS such as MQTT, HTTP, and OTA updates
- Wrote and shipped AWS IoT ExpressLink, a FreeRTOS hardware module exposing MQTT over UART commands
- Cut network latency by 85%, resolved race conditions, and reduced memory usage by 27% in MQTT library
- Wrote BLE GAP/GATT command set over UART and implemented a performant prototype on ExpressLink
- Established GitLab CI/CD pipeline for Linux/RPi testbeds, automating Pytest integration tests

Avanade – Backend Developer Intern **June 2021 – Aug 2021**

Altspace VR and Microsoft Teams integrations Seattle, WA

- Developed custom behaviors with Node.js for AltspaceVR such as virtual tic-tac-toe and item-gifting
- Achieved Microsoft Azure Fundamentals certification for understanding of cloud computing principles
- Engaged in agile development methodologies, conducting daily stand-ups and sprint planning
- Conducted code reviews and provided constructive feedback to team members

PROJECTS

cEDH Decklist Database **June 2020 – Present**

GitHub Repository

- Developed authenticated CRUD application for viewing, submitting, and editing links to decks
- Used AWS to power backend of decklist-editing interface (DynamoDB, Lambda, API Gateway, Cognito)
- Created CI/CD in GitHub Actions to automatically validate and deploy website updates on every commit

EDUCATION

RISC-V Foundational Associate – Certificate **July 2024**

- Comprehensive understanding of RISC-V architecture and instruction set
- Focus on low-level programming and hardware-software integration

University of Washington Bothell – BS Computer Science & Software Engineering **Sept 2018 – Aug 2021**

- GPA: 3.77
- Courses: Operating Systems, Hardware and Computer Organization, Embedded Development
- As a Teaching Assistant for CSE 180: taught data manipulation, visualization, and statistics