JONATHAN HENDRICKSON

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Embedded software engineer with experience with microcontrollers and satellite firmware. Skilled with IoT and embedded operating systems (FreeRTOS, Zephyr, Embedded Linux).

EXPERIENCE

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

Project Kuiper - Satellite Embedded Software

- Developed satellite systems, libraries, and frameworks in Rust and C++ on Embedded Linux
- Created a debugging CLI for reading, modifying, and injecting asynchronous messages
- Contributed to telemetry, commanding, and file transfer components in Rust and C++

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

FreeRTOS Maintainer

- Developed embedded C libraries for FreeRTOS such as ExpressLink, HTTP, BLE, OTA, and provisioning
- Designed and implemented a multithreaded MQTT library in MISRA-compliant C99, with UART support
- Cut network latency by 85%, resolving race conditions, and reducing memory usage by 27%
- Established GitLab CI/CD pipeline for Linux/RPi testbeds, automating Pytest integration tests
- Received the highest performance rating (Exceeds High Bar) in yearly reviews

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

- 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**

- Developed authenticated CRUD application for viewing, submitting, and editing 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

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

- GPA: 3.70
- Courses: Operating Systems, Hardware and Computer Organization, Embedded Development
- As a Teaching Assistant for CSE 180: taught data manipulation, visualization, and statistics

SKILLS

- Languages: C, Rust, C++, Python, JavaScript/TypeScript, Java, Kotlin, SQL, R, Go, CMake
- Technologies: Linux, Zephyr, AWS, Azure, GCP, Docker, HTTP, MQTT, BLE, QEMU, GitHub Actions, GitLab CI/CD
- Concepts: Operating Systems, Embedded, Drivers, Build Tools, CI/CD, Networking, Security, Performance, Cloud, IoT