AARON DYER

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SUMMARY

Embedded Systems Engineer with 3 years of experience developing firmware for commercial IoT devices and printers. Specialized in **power optimization, RTOS development (ThreadX, FreeRTOS), and embedded web servers**. Proven track record **reducing power consumption by 50% and improving customer ratings from 2.0 to 4.0 stars** through robust firmware design. Experience leading cross-functional teams, modernizing legacy C/C++ systems, and implementing AGILE methodologies.

TECHNICAL SKILLS

Programming Languages: C, C++, Python, Assembly, TypeScript/JavaScript, Bash, Verilog/SystemVerilog, Rust
Embedded Technologies: ThreadX, FreeRTOS, ARM, RISC-V, x86, RTOS, Embedded Systems Development
Tools & Platforms: Git, Docker, Kubernetes, Linux (RedHat, Ubuntu, Debian), JIRA, QT
Specializations: Power efficiency optimization, embedded web servers, legacy system modernization, AGILE/SCRUM

PROFESSIONAL EXPERIENCE

Software Firmware Engineer II

Hewlett Packard, Inc. | Vancouver, WA | June 2022 - May 2025

- Reduced average power consumption by **50%** and improved customer satisfaction ratings from **2.0 to 4.0 stars on Amazon** through design and implementation of Energy Star compliant printer firmware, delivering measurable environmental benefits and enhanced user satisfaction
- Engineered **embedded web server in TypeScript** enabling multilingual user interface control, deployed across multiple printer models to improve accessibility for international markets
- Led development team during **HP AI Hackathon** to deliver AGILE story point estimation prototype using GPT-4 and archived JIRA data, improving forecast accuracy and project schedule predictability
- Served as **AGILE Team SCRUM Master**, executing project planning, fostering collaboration across 10+ person team, and monitoring progress until team restructuring in May 2025
- Troubleshot, ported, and **modernized legacy C systems**, optimizing performance for resource-constrained embedded environments and refining code for integration in high-reliability C++ production applications

IT Technician

Aberdeen School District | Aberdeen, WA | Summers 2018-2019

- Provided technical support, hardware repair, and system installation for K-12 educational technology infrastructure
- Deployed and configured workstations, managed inventory, and resolved hardware/software issues for staff and students

TECHNICAL PROJECTS

Homelab Infrastructure & DevOps | 2025

- Designed and deployed complex **ZFS storage system with 4-tier caching** architecture (HDD, M.2 SSD RAID, Intel Optane RAID, RAM disk) optimizing storage performance and redundancy

- Implemented containerized services using **Docker and Kubernetes** including OpenWebUI for Ollama LLM management, Jellyfin media server, and DNS-based ad filtering

1961 Ford Falcon Custom Digital Gauge Cluster | 2024-Present

- Developing **Arduino-based digital gauge cluster** modeled after 1991 Mazda MX-5 instrumentation, integrating servo-controlled gauge needles and dual OLED displays into a 3D-modeled housing to modernize vintage automotive equipment with digital instrumentation
- Designed electronics integration and **analog sensor input processing** for real-time display; implementing CAD design for mechanical fitment and developing embedded C firmware for microcontroller

NOAA Engineering Capstone | University of Washington | 2022

- Led **project management, technical presentations, and power electronics development** for NOAA-sponsored senior design project
- Coordinated cross-functional student team to deliver working prototype meeting sponsor requirements

EDUCATION

Bachelor of Science - Electrical and Computer Engineering

University of Washington | Seattle, WA | 2018 - 2022

Concentration: Embedded Computing Systems | Minor: Music