

SUMMARY

I am an experienced engineering leader who has developed and shipped embedded systems products at companies large and small. Through strong technical leadership, deep product ownership, and proactive cross-functional collaboration, I steer technical efforts for management to meet business objectives.

INDUSTRY EXPERIENCE

ZITARA

SAN FRANCISCO, CA

Head of Product Engineering

Dec 2023 – May 2025

I led the Product Engineering team responsible for **Zitara Live**. In addition to managing the software team, I guided system architecture design and directly implemented high-priority product features.

- Overhauled engineering operations to bring the team from repeatedly slipping deadlines and issuing critical hotfixes to delivering multi-month feature development efforts on time and at scope.
- Established a strong testing culture, driving investment in automated regression and validation testing.

BASENOTE

LOS ANGELES, CA

Cofounder and CEO

Dec 2020 – Dec 2022

BaseNote was a music tech startup working to redefine how artists fund their work. We built and launched an SEC-registered app-based platform that let artists sell shares of future royalties to fans. As CEO I set product direction to navigate the technical and regulatory landscapes, led partnership development to sign artists, and directed the efforts of external resources providing branding, marketing, design, and PR services.

- Successfully signed a launch cohort of 6 artists constituting \$400k+ deal volume.

ASTROHAUS

ROYAL OAK, MI

Lead Firmware Engineer

Feb 2019 – Oct 2020

I owned the electronics, firmware, and software of Astrohaus's products. I brought **Traveler**, a portable smart typewriter, from a works-like prototype to product launch despite multiple vendor-support hurdles. I also delivered performance improvements and features to customers of **Freewrite**, Astrohaus's existing product.

- Saved several dollars of BoM cost by developing custom drivers and hardware to unlock unsupported functionality of a low-cost Wi-Fi module.
- Prevented a major launch delay after the PMIC vendor de-committed by devising a method for in-situ customization on the factory line, avoiding a late-stage redesign.

LEIA INC.

MENLO PARK, CA

Firmware Engineer

Mar 2018 – Jan 2019

I extended the Android HAL to showcase Leia 3D display capabilities and to provide developer APIs enabling a robust app ecosystem for the launch of the **RED Hydrogen One** smartphone. I also prototyped future strategies for Leia's technology, and implemented Linux drivers to evaluate new LCD panels and LED driver chips.

- Created product prototypes, including the **Lume Pad** 3D tablet, using new and existing hardware.

SNAP INC.

LOS ANGELES, CA

Firmware Engineer

Mar 2015 – Mar 2018

I was a tech lead of the SnapLab hardware division ideating and developing **Spectacles**. I interfaced with design, supply chain, and other engineering teams to support effective product decisions, and worked directly on-site with vendors in Taiwan and China to achieve product milestones.

- Architected and implemented key features of **Spectacles** firmware, bringing V1 from concept to launch and laying groundwork for V2 development.
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SKILLS

Languages: Expert in C / proficient in C++ | Experienced in Java, Verilog, Python, ARM assembly, Perl | Familiar with Rust, Javascript/Typescript, Next.js, ChakraUI, Dart, Flutter, ObjectiveC, Swift.

Technical Specialties:

- Application firmware design, implementation, and verification of features such as device drivers, task schedulers, power management, ICC protocols, networking implementations, and logging frameworks, targeting bare-metal SoC, RTOS, and embedded Linux platforms.
- Developing hardware bringup plans, executing bringup and validation of new hardware, and creating solutions for hardware issues/limitations.
- Targeted root-cause failure analysis and hardware rework.
- Debugging hardware/firmware issues by tracing firmware behavior over JTAG/SWD or with logging frameworks, reading datasheets/schematics, and observing behavior with scopes and logic analyzers.
- Characterizing and optimizing power consumption and thermal performance.
- Bootloader (e.g.- uboot) design for secure boot, firmware update (i.e.- FOTA), and recovery.
- Rapid prototyping for evaluation of new features.
- Coordinating with other engineering disciplines as well as with design and management teams to make effective technical decisions.

Protocols: I2C, SPI, UART, USB, MIPI, BLE/Bluetooth, SDIO, eMMC

Toolchains/Environments: Experience with generic gcc/clang toolchain and vendor-specific (ST, TI, etc.) toolchains, as well as make/cmake, buildroot, and bazel build systems. Comfortable with Linux / Mac CLI development environments as well as Windows GUI IDEs such as KEIL.

Collaboration: Proficient with Agile work management and JIRA task tracking. Proficient in git.

EDUCATION

UNIVERSITY OF MICHIGAN
Master of Science, Computer Engineering

ANN ARBOR, MICHIGAN
Sep 2013 – Dec 2014

UNIVERSITY OF MARYLAND
Bachelor of Science, Electrical Engineering
Minor, Computer Science

COLLEGE PARK, MARYLAND
Sep 2009 – May 2013

PATENTS & PUBLICATIONS

WarpPool: Sharing Requests with Inter-warp Coalescing for Throughput Processors	Published in MICRO-48
Temperature Management in Wearable Devices	U.S. Patent 12,599,171
Adaptive Power Estimation System	U.S. Patent 10,809,304
Vehicle Computing Systems and Methods for Delivery of a Mobile Device Lockout Icon	U.S. Patent 9,998,547
Password Topology Monitoring and Enforcement	U.S. Patent 9,230,095

INTERESTS

Cooking, trying new foods, knitting, martial arts, building guitars, piano, hiking, reading.