Dominic Orlando

Senior Embedded Systems Engineer

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Summary

Senior embedded systems engineer with demonstrated success scaling production platforms from early requirements development through design, verification, customer deployment, validation, and sustainment. Shipped hardware and embedded software solutions to production environments for fielded fleets of hundreds of units.

Skills

- **Embedded software:** Linux kernel, U-Boot, board support package (BSP) bring-up, Yocto, Buildroot, OpenWrt, systemd, NetworkManager, NTP/RTC synchronization, Mender OTA, provisioning, bootloader and kernel-level debugging, GDB, ZeroMQ, OpenCV, GStreamer
- **Hardware design:** board bring-up, schematic capture, layout, Altium, signal integrity, high-speed interconnect, gigabit Ethernet, high-density DIMM, I2C, SPI, UART, MIPI CSI, JTAG, oscilloscope, logic analyzer
- **Test engineering & test automation:** thermal validation (thermal chambers), system stress and soak testing, burn-in, SIL/HIL, test automation, LabVIEW, TestStand, LabWindows/CVI
- **DevOps & software:** Python, Bash, Git, GitHub Actions, CI/CD, Docker

Experience

LineVision Inc. — Boston, MA

Senior Hardware Engineer · Jan 2025 – Oct 2026
Hardware Engineer II · Jan 2023 – Jan 2025

LineVision develops optical transmission-line sensors deployed to eight of the ten largest US utilities for grid intelligence and dynamic line ratings.

- Owned the embedded software for two production sensor platforms — the RS-1 and LUX — and delivered hardware features and solutions across their lifecycle, from board bring-up and validation through release and support of a fielded fleet of hundreds of units.
- Took sole ownership of the full OS stack on the RS-1 platform following the departure of design contractors; all embedded Linux BSP and kernel-layer drivers on the NXP i.MX8 compute module originate here (U-Boot, MIPI CSI camera, HID, UART).
- Owned the over-the-air update infrastructure and fleet management tooling for the RS-1 platform, delivering fail-safe firmware updates to devices on constrained duty cycles over private cellular; built and maintained the automated CI/CD pipeline for OTA and provisioning artifacts, and led development of the hardware-in-the-loop test automation system integrated with it.
- Led the firmware initiative enabling aggressive sleep/wake duty cycling across the LUX fleet, resolving persistent winter outages while migrating the LiDAR platform from a discontinued Velodyne VLP-32 to the Ouster OS-1 following Ouster's acquisition — a **48% reduction in device power consumption**, with the fleet meeting reliability and uptime KPIs.
- Designed and integrated a hardware watchdog circuit into the production LUX PCB in Altium, including power rail filtering and layout and silkscreen cleanup; provides hard-reset recovery from kernel lockups during sleep/wake cycles and recovered multiple fielded remote devices.
- Proposed and led adoption of ISA/IEC 62443 as the device security framework for the field fleet: identified gaps, drove remediation, and served as the embedded team's primary cross-functional liaison to Hardware, Quality, Field Operations and DevOps.
- Twice served as technical lead for LineVision-sponsored Olin College capstone teams, guiding five-person undergraduate teams through year-long projects delivering embedded R&D for the product team.

Raytheon Technologies — Andover, MA

Electrical Engineer · May 2021 – Dec 2022
Engineering Intern, Test Development · May 2020 – Jan 2021

- Designed and maintained electrical test equipment for acceptance and test engineering of electrical products in factory production and field environments (LabVIEW, LabWindows/CVI, TestStand).
- Built and maintained thermal-validation, system-stress and soak-test systems used to qualify production RF (radar) equipment.
- Developed a database-driven test-station diagnostics platform supporting analysis, automated testing and predictive maintenance (Python, LabWindows/CVI).
- Supported several international fly-away service teams for maintenance and upgrades of fielded equipment, and traveled to customer sites overseas to lead operational training.
- DOD Secret Clearance.

RailPod Inc. — Boston, MA

University Capstone Project · Sep 2020 – May 2021
Engineering Intern (Summers) · May 2016 – Aug 2019

- Designed a hardware module supporting neural-network inference for real-time railroad track sign detection on an NVIDIA Jetson; integrated the final system onto a custom PCBA implementing gigabit Ethernet and high-density DIMM electrical interfaces.
- Revitalized the company codebase and Linux development environment to satisfy long-term support requirements — updated packages, managed dependencies, and patched resulting issues.

Education

BS, Electrical Engineering — University of Massachusetts, Amherst · Sep 2017 – May 2021