

Ryan Pham

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PROFESSIONAL SUMMARY

Software and systems engineer with an M.S. in Software Engineering and hands-on experience troubleshooting, diagnosing, and resolving complex hardware and software issues. Skilled in Python, SQL, and Linux, with a track record of Tier 2 escalation support, root cause analysis, and building automation and monitoring tools that improve system reliability. Strong cross-functional collaborator with a customer-focused, problem-solving mindset.

TECHNICAL SKILLS

Test & Reliability: Test protocol & plan development, root cause corrective action (RCCA), failure analysis, FMEA, automated test execution, burn-in & functional testing, hardware bring-up, calibration

Quality & Process: CAPA, nonconformance management (NCR), 8D, statistical process control (SPC), process improvement, Six Sigma (Yellow Belt), ISO 9001 principles, quality metrics

Hardware & Systems: UART debugging, embedded Linux (Raspbian, Ubuntu, Debian), firmware flashing & updates, storage recovery, USB-C / connector troubleshooting, bench instrumentation

Software & Data: Python, SQL (PostgreSQL, MySQL, Redshift), JavaScript (React), Bash/Zsh/PowerShell, dbt data modeling, REST & spreadsheet APIs, HTML/CSS

Infrastructure & Tools: Linux admin, SSH, networking (TCP/IP, DNS, DHCP, VPN), Docker, Git/GitHub, AWS (S3, Redshift, QuickSight), Samba, Jira, Confluence, Asana

Methodologies: Agile/Scrum (sprint planning, daily standups, retrospectives, Jira-based tracking)

PROFESSIONAL EXPERIENCE

Trace	Huntington Beach, CA
Software Engineer	Oct. 2024 – Present
- Built Python and PowerShell automation for device testing and quality-verification workflows, increasing daily test throughput 96% (from 100–130 to 220–230 devices) and reducing verification cycle time 40%. - Performed root cause corrective action (RCCA) on hardware, firmware, and embedded-Linux failures, investigating kernel and firmware logs to identify failure modes and implement corrective actions that prevented defect recurrence. - Designed automated test-execution and data-collection systems with documented procedures for consistent product validation prior to customer shipment. - Created cross-platform CLI tools for remote device administration over SSH, managing Linux file permissions, user access, and configuration across the test fleet. - Built SQL-driven reliability and quality dashboards integrating cloud databases, object storage, and APIs to track device performance, test results, and nonconformance trends; modeled data with dbt and eliminated manual data entry via spreadsheet and Slack API integration.	
Trace	Huntington Beach, CA
Hardware Technician	Dec. 2022 – Oct. 2024
- Led quality verification and troubleshooting of camera devices and sensors, reducing warehouse backlog 87% (from 550 to 70 devices) through optimized repair and test workflows. - Diagnosed and repaired field-returned hardware — component replacement, firmware updates, corrupted SD-card recovery, and USB-C connector failures — using UART debugging and data-recovery tools. - Served as Tier 2 escalation for customer support, resolving complex hardware and software failures, documenting nonconformances with root cause analysis, and implementing corrective and preventive actions that reduced recurring defects. - Deployed a Linux-based network file server with Samba to centralize test data and logs across Windows and macOS systems, managing OS configuration, storage mounting, and user access.	

PROJECTS

Naval Intelligence Platform — CSUF Capstone	Completed: 2026
Full-stack fleet-monitoring system providing real-time situational awareness of vessels via AIS WebSocket streams and NOAA marine weather APIs — live tracking, system-health dashboards, and fleet analytics (React, Node.js).	
Student Information System — Team Project	Completed: 2025
Delivered a full-stack web application in an Agile/Scrum team through sprint planning, daily standups, retrospectives, and Jira-based tracking; built features including authentication, transcript viewing, and course management.	

EDUCATION

M.S., Software Engineering — California State University, Fullerton	Graduated: 2026
B.S., Cognitive Science, Design & Interaction — University of California, San Diego	Graduated: 2024