Adi Ravishankara

Senior Systems Engineer| Automated Test Systems, Data Analysis, Hardware

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Key Skills

Validation: Automated test development, HIL systems, EVT/DVT verification, DOE & parametric testing, failure analysis (FMEA/RCA)

Integration: CMOS/MEMS testing, PCBA bring-up, mixed-signal integration, DAQ & sensor calibration, Python/C++

Execution: Manufacturing readiness (NPI), DFM/DFA & GD&T, supplier & CM coordination, ISO 13485 / IEC 60601, traceability, Cross-functional management

Relevant Experience

Noze - Digital Olfaction Sensing for Medical Diagnostics — Montreal, QC, Canada

Hardware Technical Program Manager, CTO Office — June 2023 - November 2024

- Owned the end-to-end hardware and system validation program for sensing modules, PCBAs, and full device platforms, scaling 25 Python-automated HIL test stations generating 10M+ datapoints and tripling validation throughput while avoiding $400K in projected costs.
- Defined system-level test strategy, acceptance criteria, and validation gates for lab and field deployments, translating requirements into measurable performance metrics and go/no-go decisions.
- Built HIL automation, fixtures, DAQ pipelines, and telemetry dashboards, reducing manual testing 80% and cutting invalid data 40% while enabling data-driven root cause analysis.
- Led failure analysis and FMEA across powered electromechanical systems, raising first-pass yield 25% and shortening debug cycles through automated verification and log-driven triage.
- Authored regulator- and manufacturer-ready validation evidence, reports, and traceability artifacts supporting production readiness, field trials, and external audits.
- Coordinated cross-functional execution across hardware, firmware, software, manufacturing, and external suppliers to drive system bring-up, deployment readiness, and sustained reliability.

Vitalis - Industrial Equipment Manufacturer — Kelowna, BC, Canada

Research & Development Engineer — November 2021 - December 2022

- Integrated spectroscopy modules, optical sensors, process sensors, and ML-based control loops into high-pressure industrial systems improving efficiency by 8% and ensuring safety compliance using interlocks.
- Drove NPI activities and validated a portable low cost hardware system integrating computer vision, chemical sensing, environmental measurements, and analytics that cut crop readiness test costs by 95%.

University of British Columbia - Chemical sensing and robotics lab — Kelowna, BC, Canada

Research & Development Engineer — January 2019 - November 2021

- Developed UAV-based sensing and digital-twin validation platforms using LiDAR and camera simulation to de-risk perception and control integration prior to deployment.
- Designed multimodal robotic systems integrating embedded hardware, actuation, and ROS-based automation to improve system reliability and repeatable testing.
- Modeled microfluidic biosensors in COMSOL/SPICE to inform validation strategy and production design tradeoffs.

Other Projects

Metry AI - Business Intelligence Platform for Beauty & Wellness SMBs — Edmonton, AB, Canada

Technical Cofounder — January 2025 - October 2025

- Founded and led engineering delivery for a production analytics platform serving 30+ SMBs and 13,000+ customer interactions, owning system architecture, reliability metrics, and customer-facing validation loops.

Education

University of British Columbia — Kelowna, BC, Canada

Master of Applied Science, Mechanical Engineering (focused on sensors and automation)

University of Alberta — Edmonton, AB, Canada

Bachelor of Science, Physics (focused on robotics, sensing, and data analysis)