Rory Dougherty

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Professional Summary

CSWP-certified Mechanical Engineer with 8+ years uncovering hardware failure modes through purpose-built test methodologies, fixtures, and diagnostic tools. Developed custom MDVT profiles targeting specific failure modes across Cisco's active hardware portfolio, translating accelerometer-captured stress, strain, and resonance data into actionable engineering insight. Leveraged AI-assisted development to build internal lab software that modernized data capture and reporting workflows across a 4-engineer team. Background spans enterprise networking, consumer electronics, and medical devices.

Skills

CAD & Design: SolidWorks (CSWP Certified), AutoCAD, Rapid Prototyping, 3D Printing, Hand/Machine Tools
Testing & Analysis: Vibration & Shock Testing, Thermal Chamber Operation, MDVT, Failure Analysis, Minitab, JMP
Software & Systems: Python, Microsoft Excel (VBA), Agile PLM
Familiar With: Docker, Proxmox, Self-Hosted Linux Environments

Professional Experience

Cisco Systems Mar 2018 – Present
Hardware Engineer *San Jose, CA*

- Developed custom MDVT profiles by analyzing accelerometer-captured motion data to isolate critical frequencies and displacement thresholds. Characterized stress, strain, and resonance outputs across Cisco's router, switch, and gateway product lines to support downstream failure analysis.
- Designed custom adapter plates in SolidWorks for hydraulic shaker tables and managed external fabrication, enabling server rack mounting that replicated real-world deployment conditions for seismic and vibration testing across multiple test platforms.
- Applied GR-1089 and GR-63 standards across Cisco's hardware portfolio, making critical setup and interpretation decisions that qualified products for major telecom provider deployments and directly enabled millions of dollars in enterprise sales.
- Served as technical lead for GR-1089 and Marine standards, mentoring 3 engineers and spearheading the lab's expansion into AC156 seismic certification through collaboration with third-party vibration specialists to develop compliant test profiles and expand lab capabilities.
- Developed a full-stack internal lab tool using AI-assisted rapid development, integrating a front-end entry interface with a SQLite backend and automated Word report generation. Standardized test data capture across a 4-engineer team, saving 20+ hours weekly and enabling equipment utilization tracking for operational metrics.
- Owned mechanical and electrical health of 4 hydraulic shaker tables through scheduled PM and hands-on electrical fault diagnosis using voltage, current clamp, and resistance measurements, while maintaining thermal chamber operability through scheduled PM and first-level troubleshooting.

Apple Inc. — *Supplier Quality Engineer Co-op* Jul 2016 – Dec 2016

- Conducted component-level failure analysis on returned iPhone units through systematic teardowns and board-level isolation techniques to identify manufacturing quality trends.

NxStage Medical — *R&D Engineer Co-op* Jul 2015 – Dec 2015

- Designed and built a custom Instron test fixture to deliver repeatable force measurements on medical device components, validating hardware against ISO and ASTM standards.

Johnson & Johnson (DePuy) — *Quality Engineer Co-op* Jul 2014 – Dec 2014

- Improved quality engineering workflows by automating bi-daily reports through custom Excel macros and implementing a structured document management process within the PLM system.

Technical & Engineering Projects

Self-Hosted Infrastructure & Tool Development

- Built and self-hosted a full-stack Docker application on a Proxmox server integrating third-party APIs, barcode generation, and a dynamic database to automate inventory tracking and storage management across a high-volume sports card collection.

Capstone Prototype Lead

- Led capstone design of a passive airflow-driven louver system, characterizing CFM performance via anemometer measurements and engineering a custom gear assembly in SolidWorks to convert airflow energy into mechanical louver actuation, with components fabricated using 3D printing and acrylic.

Education

Northeastern University Boston, MA
Bachelor of Science in Mechanical Engineering *2017*