

Jonathan Rarey

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Senior Software Engineer (11+ Years) specializing in test-authoring platforms, simulation tooling, and automation infrastructure.

WORK EXPERIENCE

Massive

April 2025 – Present

Software Development Engineer in Test/QA

Remote

An institutional trading API platform; owned quality end-to-end as sole SDET across all API products serving institutional trading clients.

- **Key Result:** Grew engineering test authors 400% and cut test flakiness 15x in under 3 months.
- Built a test-as-configuration system with a custom DSL and UI for authoring tests, growing the pool of engineering test authors 400% and cutting test flakiness 15x in under 3 months.
- Developed custom API test software with entitlement-aware features and built-in LLM tooling across 150+ endpoints, increasing deep test coverage (contract, business logic, data quality, entitlements) by 41% in 3 months.
- Applied hands-on trading-systems knowledge built while operating a personal real-time trading platform to detect edge cases and anticipate client needs.
- **Tech Stack:** Go, React, Python, Claude, AWS, Argo, Git

Independent Consultant — Stealth Startup (CA)

2023 – 2025

Independent Consultant

California

A stealth-mode California hardware startup; owned custom test-electronics design and embedded controls development as a part-time consulting engagement alongside full-time roles.

- **Key Result:** Cut test-electronics costs by more than 67%.
- Designed, fabricated, and programmed a custom electronic load to test a bi-directional converter, cutting the cost of required test electronics by more than 67%.
- Wrote highly configurable embedded code for a self-healing inverter architecture with 10x the switches per phase, enabling automatic switch-over across 8 distinct fault-driven control modes.
- **Tech Stack:** Python, Altium, Embedded C, Code Composer Studio, Saleae Logic 2

ANGI Energy Systems

March 2022 – March 2025

Sales Engineer, Hydrogen

April 2023 – March 2025 Remote

A hydrogen refueling equipment manufacturer; owned simulation tooling and software automation for the hydrogen engineering and sales organization.

- **Key Result:** Increased quote-generation throughput 12x.
- Designed and built a patent-pending hydrogen refueling-station simulation tool, recognized at the board level of ANGI's parent company (Vontier), running thousands of scenario simulations per customer to find the most cost-effective configuration.
- Modeled refueling protocols (J2601-x) achieving simulated fill accuracy within 1% of specification, often surfacing cost-saving or performance-boosting configurations for customers.
- Partnered with sales and product teams to design bespoke energy system solutions.
- **Tech Stack:** Python, AWS (EC2, Lambda, S3)

Electrical Engineer, Hydrogen

March 2022 – April 2023 Remote

- Developed electrical systems for hydrogen refueling technology compliant with global standards.
- Contributed PCB design and embedded software work supporting hydrogen station products.
- **Tech Stack:** Altium, Embedded C

Veeder-Root

January 2020 – April 2022

Embedded Engineer

Simsbury, CT

A fuel-forecourt equipment manufacturer for the oil & gas industry; owned embedded firmware and hardware-validation tooling for next-generation products.

- Built Python-based tools to test and characterize embedded systems, cutting test time from hours to minutes and surfacing new quality-improvement opportunities.
- Analyzed RF radio solutions and selected an off-the-shelf mesh network device, cutting deployment time for wireless infrastructure upgrades from months to weeks.
- Developed firmware in C/C++ for STM-based electronics, applying RTOSs and HALs where applicable.
- **Tech Stack:** C, C++, Python, STM32

Bloomy Controls

July 2016 – January 2020

Senior Electrical Systems Engineer

July 2018 – January 2020 Windsor, CT

A test-systems design and integration firm serving automated-test, aerospace, and military customers; owned electrical design and automation tooling for large-scale test systems.

- **Key Result:** Follow-on orders exceeded 5x the initial contract value.
- Led electrical design on a 3-rack, 9000+ relay test system for an aerospace and defense customer using Bloomy off-the-shelf integration technology, NI SLSC, and PXI instrumentation, delivering a versatile, expandable environment made of over 95% off-the-shelf components in under 12 months.
- Led electrical design for a company of 50+ people, spanning circuit boards from simple breakouts to advanced 8-layer MIL-SPEC designs.
- Spent 6+ months onsite in the customer's lab hardening software integrations and rewiring electrical shelves, building trust that led to follow-on orders exceeding 5x the initial contract value.
- Built the company's first automated test system for its NI SLSC products, extending automated coverage to products already conceived and designed in-house.
- **Tech Stack:** LabVIEW, TestStand, VeriStand, Front Panel Express, NI PXI, NI SLSC, Altium, Embedded C, Python

Project Engineer

July 2016 – July 2018 Windsor, CT

- Conceived and designed many of the company's most innovative NI-based technologies for large-scale test systems, reducing lead time, cost, and risk.
- Developed software in NI LabVIEW, TestStand, and Veristand; won companywide coding challenges.
- **Tech Stack:** LabVIEW, TestStand, Veristand

Magna-Power Electronics

May 2014 – October 2015

Embedded Engineer

Flemington, NJ

A power-electronics manufacturer building high-power converter products; owned firmware and hardware design for new product R&D.

- Designed first production PCBA from scratch on a team of three engineers, owning circuit design, layout, and test.
- Wrote firmware and designed hardware for custom converters using C, Python, and Altium, helping scale product power capacity past 1MW.
- **Tech Stack:** C, Python, Altium, Matlab, Simulink

SKILLS

- **Languages:** Python, Go, C, C++
- **Testing & QA:** pytest, Test Automation, API Testing, Git, CI/CD
- **Cloud/DevOps:** AWS (EC2, Lambda, S3, Fargate, DynamoDB, SQS, Cognito, CloudFormation, Secrets Manager, API Gateway, Route53, SageMaker, Amplify), Docker, GitHub Actions, Argo
- **Web/Frontend:** React
- **Embedded & Test Systems:** LabVIEW, TestStand, Veristand, Altium, Matlab/Simulink, STM32, NI PXI/SLSC
- **For Fun:** Run a Proxmox home server with an RTX GPU for local ML training

EDUCATION

University of Connecticut

May 2014

Bachelor of Science in Electrical Engineering

Storrs, CT

- 1st Place, UConn Senior Design Challenge 2014 — "Linear Induction Motor Test Bed"