Zannatun Sheum

Senior SDET · AI Quality Engineer · Founder, Validate.QA

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SUMMARY

Senior SDET and quality engineering lead: 13+ years building test automation frameworks, CI/CD quality gates and test strategy in healthcare, home care, finance, banking and media; leads 5 teams (18 engineers in test) at Sandata Technologies. Founder of Validate.QA, shipping AI products end to end: LLM-driven Playwright test generation, Model Context Protocol (MCP) servers and multi-agent engineering workflows.

SKILLS

Test Automation: Playwright, Selenium WebDriver and Grid, Appium, XCUITest, Rest Assured, Postman, Cucumber (BDD), TestNG, JUnit

AI Engineering: LLM agents and multi-agent orchestration, Model Context Protocol (MCP), LLM-driven test generation and self-healing, LLM evaluation (LLM-as-a-judge), prompt design, agent guardrails, Claude Code, Codex, Gemini CLI, Grok, GitHub Copilot

Languages: TypeScript, JavaScript, Java, Python, Swift, C#, Kotlin, SQL, Gherkin

Web and Backend: Node.js, React, Next.js, Express, REST, GraphQL, WebSockets, WebRTC (LiveKit), microservices

Mobile, 3D and XR: SwiftUI, Capacitor, Unity, OpenXR (Meta Quest), three.js, Rapier physics, App Store Connect, TestFlight

Data: PostgreSQL, Prisma, MySQL, Oracle, SQL Server, MongoDB, Redis, Amazon S3, MinIO, Cloudflare R2

Cloud and DevOps: AWS (ECS Fargate, RDS, Lambda), Terraform, Docker, Kubernetes, CI/CD pipelines, Jenkins, Bamboo, GitHub, Bitbucket, Coolify, Traefik, WireGuard, Cloudflare

Performance and Observability: JMeter, BlazeMeter, Splunk, New Relic, Sauce Labs, BrowserStack, Jira (Xray, Zephyr)

Practices: test strategy, quality metrics and KPIs, API, integration, end-to-end and performance testing, BDD and TDD, Agile

AI ENGINEERING

Founder and Software Engineer, Validate.QA and World of Z LLC — Present

Independent, alongside the full-time role. validate.qa

- Founded and solo-built Validate.QA, an AI QA platform for web, API and mobile: it turns voice narration, browser recordings and autonomous AI exploration into reviewable Playwright tests, then runs and self-heals them in CI/CD.
- Architected a TypeScript monorepo of 10 npm workspaces (Express and Prisma API, React apps, Electron desktop app, Chrome extension, test runners) on AWS: ECS Fargate, RDS PostgreSQL, Lambda-dispatched per-run runners, Terraform.
- Built and published a Model Context Protocol (MCP) server exposing 64 tools, so AI coding agents can create, run and debug tests (npm: @validate.qa/mcp, @validate.qa/runner).
- Designed the LLM test-generation pipeline: tool-calling agents, prompts routed across several models, and an LLM-as-a-judge gate that scores planned scenarios and drops low-value ones before a test is written.
- Operate a multi-agent engineering fleet (Claude Code, Codex, Gemini, Grok) across Macs and Linux machines with automated test, review, merge and deploy gates, plus boxpool, a self-built worker pool for the agents' test and build jobs.
- Run production on a self-hosted Coolify PaaS on Oracle Cloud: a WireGuard mesh of worker servers behind Traefik with shared PostgreSQL, Redis and MinIO (S3); release iOS apps through App Store Connect and TestFlight.

PROFESSIONAL EXPERIENCE

Senior Software Quality Engineer in Test, Sandata Technologies, Port Washington, NY — Sep 2019 – Present

Quality engineering for Sandata's home-care platform, including electronic visit verification (EVV) for home care agencies and state Medicaid programs.

- Lead 5 teams of software engineers in test (18 engineers): set QA strategy, priorities and timelines, and define the quality metrics and KPIs reported to senior management.
- Created the core test automation framework used company-wide for microservices, web and mobile testing (Java, Selenium WebDriver, Appium, TestNG, Rest Assured).
- Engineered a mock API that simulates end-client behavior to test the concurrency and thread safety of backend services.
- Build backend, API and UI performance tests with JMeter and Selenium, and use Splunk and New Relic for log analysis and monitoring.

- Run containerized test suites in CI/CD pipelines: Docker images executed through Bamboo and Jenkins, with Bitbucket, Nexus and Xray reporting in Jira.
- Use GitHub Copilot and ChatGPT to speed up framework development; review pull requests and train QA engineers.

Software Development Engineer in Test, NBCUniversal Media, New York, NY — May 2019 – Sep 2019

- Built a REST API test framework for microservices (Rest Assured, Java) and a data-driven Selenium and TestNG Page Object Model framework for the UI, run cross-browser on Sauce Labs from Jenkins.

QA Team Lead, Jefferies Group, New York, NY — May 2018 – May 2019

- Led and trained a team of 15 QA engineers, and built a hybrid BDD framework in Python from scratch covering web, mobile and REST API automation with cloud and local execution.
- Set up mobile automation infrastructure from scratch with the network team; evaluated Sauce Labs, BrowserStack and Experitest for iOS.

Software Engineer in Test, Mobile, TD Bank, Mount Laurel, NJ — Feb 2017 – Apr 2018

- Built an Appium and Python Page Object Model framework for TD's iOS and Android apps, with nightly Jenkins regression runs and Applitools visual validation across parallel devices.
- Managed an on-premises mobile lab of 100+ devices and an offshore team of 5 engineers in India and Canada.
- Automated CI/CD reporting through the Confluence REST API and sentiment analysis of production app reviews.

Senior QA Engineer, Wells Fargo, Richmond, VA — Jan 2015 – Jan 2017

- Built a data-driven Page Object Model framework (Selenium WebDriver, TestNG, Maven, Java) and trained the team on it.
- Ran cross-browser, parallel and headless suites from Jenkins; wrote JMeter performance, load and stress tests and API tests with Postman and Rest Assured.

QA Engineer, DIRECTV, New York, NY — Feb 2013 – Dec 2014

- Built a data-driven framework (Java, TestNG, Selenium, Appium) for mobile and web apps accessed by millions of users, with iOS and Android automation on Sauce Labs.
- Tested REST APIs with Rest Assured and validated the databases behind them; managed tests in Zephyr for Jira.

QA Engineer, Blue Cross Blue Shield, Jacksonville, FL — Jan 2012 – Jan 2013

- Wrote test plans and cases from business requirements, converted manual HP ALM cases into Java, JUnit and Selenium automation, and ran regression, smoke and SQL database testing.

SIDE PROJECTS AND WEEKEND BUILDS

Street Racer (streetracer.app): 3D racing game for the web, iOS and Android with four-player online rooms and voice chat; a native Meta Quest 3 build, cross-play in progress. three.js, Rapier physics, React, Capacitor, Node.js WebSockets, PostgreSQL, LiveKit (WebRTC), Unity/C#, OpenXR.

Hivefloor (hivefloor.worldofz.info, npm @hivefloor/cli): live mission control where Claude Code, Codex, Cursor and Gemini sessions report tasks, machines and pull requests over MCP. Hono, WebSockets, React, PostgreSQL.

Agent Control Panel (agentcontrolpanel.dev): an AI agent office that plans a mission and coordinates coding agents to build, test and review it.

SecurAI (in development): Rust guardrails that watch AI coding agents through hooks and block destructive actions, with a hash-chained, signed ledger; tested by replaying ten real agent incidents.

Chartroom (charts.worldofz.info): trading charts with 88 indicators, alerts, a screener and a strategy tester with bar replay and paper trading. Fastify, Drizzle ORM, PostgreSQL, Redis, WebSockets, React.

QuarterLine (quarterline.worldofz.info): bots for 15-minute Kalshi prediction markets with time-series backtesting and paper trading, on the web and native iOS. Node.js, PostgreSQL, SwiftUI, Swift Charts, XCUITest.

Open source (playwright-reborn, browgent, talkback): a single-file HTML reporter for Playwright; a co-browse runtime where an AI agent over MCP and Playwright over CDP drive the same Chromium tabs; a Claude Code voice plugin with local text-to-speech.

EDUCATION

Bachelor's degree in Management Information Systems (MIS)