

AHMED ELSABBAN

Senior SDET | Test Automation Lead | AI Quality Engineering

Chantilly, VA | [U.S. Citizen](#) | (202) 509-3261 | ahmed@elsabban.dev
linkedin.com/in/ahmed-elsabban | github.com/EGUS74 | elsabban.dev

PROFILE

Senior SDET and test automation lead with 8+ years in regulated financial services, utilities, and data-intensive systems. At FINRA, built a Cypress/TypeScript framework from scratch to 1,500+ tests, cut regression execution from 6–8 hours to 1–2 hours, led a six-person QA team, and integrated automation into Jenkins release pipelines. Strong in Python/Pytest, Playwright/TypeScript, API and database validation, AWS, distributed-system integration, and test strategy. Now applying that quality engineering background to hands-on LLM evaluation, agent workflow testing, and controlled AI-assisted QA reporting through Tech-Horizonz.

TECHNICAL SKILLS

- **Core automation:** Python, Pytest, Playwright, TypeScript/JavaScript, Cypress, Selenium WebDriver (Java), Node.js; Page Object Model, BDD (Cucumber, Behave); test framework design
- **API & data:** REST API testing (REST Assured, Postman, Karate), microservices, SQL (PostgreSQL, Oracle), MongoDB, ETL/data validation (Databricks, PySpark, Hive), Kafka, JMeter
- **Cloud & CI/CD:** AWS (EC2, S3, Lambda, CloudWatch, DynamoDB), Jenkins, GitHub Actions, Azure DevOps, Kubernetes, Git; CI/CD quality gates
- **AI quality engineering:** LLM evaluation (automated checks, LLM-as-judge), structured outputs, guardrails, tracing (LangSmith), agent workflow testing, LangChain, OpenAI APIs, GitHub Copilot; MCP integration (in development); RAG with embeddings (prototyping); Chroma (prototyping)
- **Leadership & delivery:** QA team leadership and hiring, test architecture, system integration testing, requirements and acceptance-criteria analysis, risk-based testing and traceability, SAFe; qTest, Jira, Splunk, Kibana

PROFESSIONAL EXPERIENCE

Founder & Agentic AI Developer

Jan 2025 - Present

Tech-Horizonz (Independent AI Venture, Part-Time) | Chantilly, VA

- Built an LLM conversation-testing app using GPT-4.1-mini: two agents with distinct roles run 20+ repeatable scenarios, scored with automated checks and LLM-as-judge evaluation; capture transcripts and failure reports.
- Developing an MCP server to expose Playwright test results to an LLM for failure triage; proposed explanations are treated as hypotheses tied to test evidence, not established root causes.
- Designing an AI-assisted engineering QA daily report: deterministic test and defect systems supply calculated facts, while the LLM summarizes controlled structured inputs and is checked for unsupported claims.
- Evaluate agent behavior with guardrails and LangSmith traces; experiment with retrieval, embeddings, Chroma, and agent tools in current AI engineering projects.
- Build Python/TypeScript agent workflows that connect business rules to backend services to assist test creation and maintenance, using structured JSON outputs so responses stay machine-readable for downstream automation.
- Build full-stack applications with Next.js, TypeScript, Python, and Firebase with unit, integration, end-to-end, and SQL data-validation tests; use AI-assisted coding to develop and debug Playwright and Selenium WebDriver/Java automation.

Automation Engineer | Senior SDET

Aug 2025 - Jun 2026

Duke Energy | Charlotte, NC

- Led system integration testing and automation for Duke Energy's NextGen GIS modernization across 10+ integrated enterprise systems, validating UI, API, backend, and cross-system flows with Playwright, Cypress, TypeScript, Selenium/Java, and SQL.
- Led four testers, hired two, and established SIT, automation, and test-design practices across Agile delivery cycles.
- Introduced automation on a largely manual program across 25 user stories and 180 test cases; built reusable page objects and maintained suites as application flows changed.
- Validated enterprise data migration and integrations across AWS, Oracle, and Kafka, including downstream synchronization with Maximo and ADMS for the utility network.

- Reviewed requirements and acceptance criteria for testability and gaps and translated them into functional, integration, and automated coverage; contributed Karate API tests and GitHub Actions workflows.
- Coordinated SIT scope, dependencies, and readiness in SAFe PI Planning; surfaced a data-processing defect ahead of go-live; maintained Business Validation Testing suites and qTest dashboards for results, defects, and release status.
- Used GitHub Copilot and internal AI tools to draft tests and scripts; reported a 40–50% reduction in drafting and automation development time.

QA Team Lead | Senior SDET

Mar 2022 - Dec 2024

FINRA | Rockville, MD

- Led a six-person QA team (database, load, UI, and API testers) across CAT, CAIS, and CAT DD and interviewed three of the hires; set test standards and coordinated testing in a regulated financial environment.
- Built a Cypress/TypeScript (Node.js) framework from scratch and expanded it to 1,500+ automated tests; also created a reusable Playwright framework and introduced coding standards alongside the Selenium/Java framework.
- Reduced regression execution from 6–8 hours to 1–2 hours; integrated suites into Jenkins CI/CD (Mocha with Cypress) with release quality gates across 4–6 releases annually.
- Directed cross-team testing of AWS-hosted microservices and end-to-end data flows, using API (REST Assured), UI, SQL, and security checks to assess release risk.
- Validated PostgreSQL, Oracle, MongoDB, API, and ETL data; checked record-level parity for an AWS S3 and DynamoDB migration.
- Tested transformations, completeness, and accuracy in large-scale Hive and Databricks pipelines processing millions of records with Python and SQL.
- Coordinated cross-team testing and used Kibana and Splunk to investigate failures and report issues across services.

Senior SDET

Oct 2019 - Mar 2022

S&P Global | Richmond, VA

- Developed 150+ Python/Pytest tests in the Cafe framework for complex application workflows.
- Tested APIs, integration flows, and data across AWS-hosted microservices; used Postman and Behave for service checks and business-readable scenarios.
- Validated high-volume Kafka processing on Kubernetes and tested PySpark transformations for dataset integrity.
- Ran JMeter load tests at up to 1,000 concurrent users to assess performance under load.
- Used AWS S3 and Azure DevOps for test execution, monitoring, and release support; supported UAT and knowledge transfer.

SDET

Jan 2019 - Dec 2019

FINRA | Rockville, MD

- Built and maintained data-driven and BDD frameworks with Java and Selenium WebDriver.
- Automated API tests with REST Assured and validated response data and system behavior.
- Wrote complex SQL joins to verify data integrity and migrated records; ran regression and smoke suites in Jenkins.
- Ran an Angular automation pilot with Protractor and performed load testing, working with developers on defects and bottlenecks.

CERTIFICATIONS & EDUCATION

Certifications: AWS CDA; Data Science and Database Management — Northern Virginia Community College (2017)

Professional Development: SuperDataScience AI Engineering program (in progress) — RAG, embeddings and vector databases, MCP, agent tool calling and orchestration, guardrails, LLM evaluation and tracing

Master of Science in Environment Management — Senghor University

Bachelor of Agricultural Production Engineering — Alexandria University

Postgraduate Diploma in English Translation — Alexandria University