Muhammad Umer Niaz

Test Automation Architect

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SUMMARY

16+ years in software quality engineering and test automation, with the last 3+ years as Test Automation Architect owning technical direction for a 25+ engineer automation organization at Altus Group. Drove automation coverage from 30% to 80%+, cut defect leakage from 19% to 8%, and raised pass rate from 60% to 90% through a self-healing test automation implementation and a TypeScript/Playwright core framework shipped as a versioned internal package across 30+ repositories. Introduced an AI-agent-driven QA workflow (Claude Code agents integrated with Azure DevOps) that cut test case authoring and automation time by roughly 4–8x, plus LLM-as-judge evaluation testing for non-deterministic AI behavior. Background also includes safety-critical embedded software QA across multiple European and industrial standards (CENELEC EN50128 SIL-3, RTCA DO-178B, EN50271, EN13849-1), with functional safety approvals secured from bodies including TUV and exida.

EXPERIENCE

Test Automation Architect — Altus Group, Canada Feb 2023 – Present

- Own technical direction and framework architecture across a 25+ engineer automation organization, spanning 7+ project teams (~3–4 engineers each) aligned one-per-product across 5 product lines (Altus Performance Platform, Reonomy, Voyanta, StratoDem, Argus Enterprise/Talliance)

> **AI-agent QA automation:** designed and shipped a 4-agent AI-driven workflow (Claude Code agents integrated with Azure DevOps via MCP) that generates test cases from tickets, converts them into Playwright automation, opens PRs, and self-serves developer environment setup — **cut test case authoring from ~2 hours to minutes** (output pushed directly to ADO/Jira) and **test automation time from ~4 hours to ~30 minutes** per test case, with human approval gates at every step

> **LLM-as-judge evaluation testing:** built automated evaluation testing for an AI-powered natural-language commercial real estate valuation assistant — using an LLM as an automated judge to validate multi-turn chat replies against structured before/after valuation-metrics models and verify rendered DOM figures match expected outputs, replacing fixed-string assertions with semantic validation of inherently non-deterministic AI output

> **Quality outcomes:** drove automation coverage from **30% to 80%+**, cut defect leakage from **19% to 8%**, and raised pass rate from **60% to 90%** across all automation projects, powered by a self-healing test automation implementation that reduced flaky-test maintenance overhead

- Architected and led development of a TypeScript/Playwright core automation framework (re-platformed from Python/Selenium), published as a versioned internal npm package and consumed across 30+ repositories — 5,000+ automation scripts covering 7,000+ automated test cases across 4 languages (TypeScript, Python, Java, C#) and web/API/desktop targets

- Built and now lead the organization's flagship UI automation suite and a core microservice's API automation suite, covering 20+ functional domains (portfolio, funds, chart of accounts, security/entitlements, entity management, and more)
- Built integration test coverage across a broad AWS and Azure service footprint (see Skills) — including invoking Lambda functions and verifying S3 outputs to validate a serverless metrics pipeline, contract testing event payloads for producer/consumer agreements across the event-driven (EventBridge/SQS) architecture, and extending the framework's database connector layer to support Databricks for data-pipeline validation
- Established a layered API quality practice: JMeter load testing at 500+ parallel users with a sub-5-second response-time SLA, standardized Postman verification (1-click environment configs, secure token management) ahead of automation handoff, SonarQube SAST integrated into the PR process, and OWASP vulnerability testing every major release
- Built a PAT-authenticated Azure DevOps REST integration that auto-creates test runs, updates per-test-case automation status, posts results, and attaches summary reports, and implemented a Jenkins/Groovy CI quality-gate pipeline on containerized Linux runners — eliminating manual test-run upkeep and enforcing automation checks pre-merge
- Mentor engineers across the automation organization; report automation program health to Delivery Managers

Lead Software Test Automation Engineer — EPAM Systems, Malaga Jul 2022 – Nov 2022

- Built unit/integration/system test automation (Scala, IntelliJ) for a stock investment applications suite managing billions of dollars in client assets for one of the world's largest portfolio investment firms
- Implemented Azure-based integration testing and a CI pipeline; ran parallel executions across multiple clients
- Verified dynamic data through databases; reported automation performance to Delivery Managers; communicated directly with clients

Principal Software Development Engineer in Test — Contour Software, Lahore Jul 2018 – Jun 2022

- Designed a BDD (Cucumber/Gherkin) automation framework (Java, Selenium, TestNG, Appium, extent-Reports, PMD) supporting web and mobile test coverage for up to 500 clients on a single codebase for a real estate applications suite
- Built a Jenkins CI pipeline (Bitbucket, Confluence) with parallel execution across 10 servers via multi-threading; implemented dynamic data verification through databases
- Reported automation performance to Product Managers; owned succession planning, hiring, and training for the automation department

Pr. SQA Engineer / Functional Automation Lead — NetSol, Lahore Jan 2016 – Jul 2018

- Pioneered NetSol's Functional Automation department from the ground up, building a keyword/action-driven automation framework (TestComplete, Python) for a loan management system handling up to 100,000 live contracts across 100+ client-driven branches; led automation of 4,000+ test scenarios, including custom text/image recognition support for a legacy PowerBuilder application
- Led a separate SQL-driven Selenium/Java/Maven framework automating 200+ scenarios for a 1,000-concurrent-user credit application (700+ fields)
- Directed automation of exposed web services; reported results to management
- Managed growth planning and training for a 13+ person automation team; conducted performance evaluations

Test Engineer → QA Engineer → Sr. QA Engineer / Software QA Team Lead — Powersoft19, Lahore
Jun 2010 – Dec 2015

- Progressed from Test Engineer to QA Engineer to Sr. QA Engineer / Software QA Team Lead over 5 years, growing from manual test execution to leading safety-critical QA for embedded and industrial automation products
- Verified software compliance against CENELEC EN50128 (SIL-3, German Rail Control System), EN50271/EN50402/EN61508 (SIL-1, gas detection devices), EN13849-1 (industrial automation), and RTCA DO-178B (a separate European railcar automation software project), including white-box dynamic test strategies and source-code compliance verification
- Secured functional safety approvals from SIRA, TUV, EBA, and exida; created and managed 5,000+ test cases for industrial automation devices
- Directed SQL database and device-communication testing for device-upgrading software covering 20,000+ devices across 10 variants
- Managed succession planning, hiring, training, and performance evaluations for the SQA department

EDUCATION

Post Graduate Diploma – Computer Science Mar 2020 – Apr 2021
Virtual University of Pakistan, Lahore

Bachelor of Applied Science (B.A.Sc.) – Communications Engineering Aug 2006 – Jun 2010
National University of Computers and Emerging Sciences, Lahore

SKILLS

AI & Agentic Engineering: Claude Code Agents, Agentic QA Pipelines, Azure DevOps MCP Integration, LLM-as-Judge Evaluation, Non-Deterministic AI Testing, Self-Healing Test Automation

Expert: TypeScript, Playwright, Java, Python, Selenium, TestComplete, TestNG, Cucumber, Gherkin (BDD), SQL, Jenkins, IntelliJ, Jira, Azure, AWS

Cloud & Integration: AWS (S3, Lambda, EventBridge, Step Functions, SQS, SSM, RDS, Redshift, DynamoDB, ECS, CloudWatch, Secrets Manager), Azure (Blob Storage, Data Factory, Data Lake Storage, Key Vault), Databricks, Azure DevOps REST API (PAT-based automation)

Performance, Security & API Testing: JMeter, Postman, SonarQube (SAST), OWASP Testing, Appium, Contract Testing (Event-Driven APIs), Containerized (Linux) CI/CD

Intermediate: Ruby, Scala, C#, Docker, Agile Methodologies

LICENSES & CERTIFICATIONS

TestComplete Expert 2016
SmartBear

Certified Mobile Application Tester 2015
iSQI

Certified Technical Test Analyst 2014
ISTQB

Certified Tester Foundation Level 2011
ISTQB