

Amr Adel Elkholy

Test Engineering Lead | Performance Testing Lead | Automation Lead

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PROFESSIONAL SUMMARY

Test engineering lead with 14+ years across banking, fintech, payments, telecom and government. Owns quality end to end — regression and release strategy, SIT and UAT coordination across integrated enterprise systems, and formal go / no-go release sign-off — alongside deep hands-on performance engineering and automation framework ownership. Has executed load tests at 200,000+ concurrent users, led protocol-level testing of ISO 8583 payment and POS flows, and built Java automation frameworks from scratch in every organization joined.

KEY ACCOMPLISHMENTS

- **AI-Assisted QA Adoption:** Introduced AI-assisted engineering into regulated banking environments — air-gapped LLM inference, custom MCP servers and agent-based test design, with validation and guardrail rules governing every AI-generated artifact — cutting scripting effort by approximately 40% with no source code leaving the internal network.
- **Release Ownership & Sign-Off:** Owned regression scope and release readiness across banking and payment platforms, defining entry and exit criteria and providing formal go / no-go sign-off to delivery, business and executive stakeholders.
- **SIT & UAT Leadership:** Coordinated system integration testing across core banking, payment switch, CRM, CDC pipelines and third parties, then supported business users through UAT — owning test data, defect triage and closure.
- **Dual-Track Leadership:** Led performance engineering and test automation functions simultaneously within the same organisation — a scope usually split across two separate roles — owning strategy, standards, tooling and delivery for both tracks.
- **Frameworks & Pipelines Built from Scratch:** Delivered automation frameworks from zero at every organisation joined — Java / Selenium, Java / TestNG / REST Assured and Python / Playwright — and wired them into CI/CD with automated pass-fail quality gates.

TECHNICAL SKILLS

Performance Testing Tools: Apache JMeter (advanced), LoadRunner, k6, BlazeMeter, Taurus, Postman, Charles Proxy / HAR analysis

Performance Engineering: Workload modelling, NFR and SLO definition, load, stress, endurance, spike, volume and capacity testing, performance quality gates, baseline design, capacity planning

Payments & Protocols: ISO 8583 construction and field-level validation, POS transaction flows, switch and simulator integration, mTLS, REST, SOAP, JSON, XML, WebSocket, JDBC

APM & Observability: Dynatrace, Instana, Grafana, InfluxDB, JVM heap and GC analysis, thread dump and query correlation, server, network and container profiling

Test Automation Frameworks: Java with TestNG and REST Assured, Selenium, Appium, Playwright (Python), Robot Framework, Cucumber / BDD, Page Object Model, Extent Reports, Allure

Programming & Scripting: Java (primary), Python, Groovy, BeanShell, JavaScript, SQL, Bash, object-oriented design and design patterns

AI-Assisted QA Engineering: Google ADK agents, Cline, custom MCP servers, self-hosted vLLM inference (Qwen, Gemma), prompt design, output validation and guardrails for AI-generated artifacts

DevOps & Infrastructure: CI/CD pipelines, Jenkins, GitLab CI, Docker, Kubernetes fundamentals, AWS, Git, Maven, Linux / Unix administration and log analysis

Release & Test Management: SIT and UAT planning and execution, regression strategy, release readiness, go / no-go sign-off, entry and exit criteria, test data management, defect triage, Jira, Xray / Zephyr, Agile / Scrum

Enterprise Integration Testing: Core banking, payment switch, CRM, CDC pipelines and third-party interfaces; contract validation, simulator and service-virtualization testing, cross-system message tracing

PROFESSIONAL EXPERIENCE

AtForce (outsourced to Neoleap) — Riyadh, Saudi Arabia

Software Performance Test Supervisor | Feb 2025 – Present

- **AI-Assisted Engineering:** Architected an air-gapped AI-assisted development environment (IntelliJ, Cline, custom MCP servers, self-hosted LLM inference), cutting scripting effort by approximately 40% with no source code leaving the bank network.
- **Payments & POS Testing:** Led functional and performance testing of ISO 8583 transaction flows and POS terminal journeys for a national payment processor, covering message construction, switch and simulator integration and mTLS-secured endpoints.
- **Release & Regression Ownership:** Own regression scope and release readiness for payment platform releases, defining entry and exit criteria and giving formal go / no-go sign-off to delivery and business stakeholders.
- **SIT & UAT Coordination:** Lead system integration testing across core banking, payment switch, CRM, CDC pipelines and third parties, and support business users through UAT — test data, defect triage and closure.
- **High-Scale Performance Engineering:** Design and execute capacity and peak-load assessments for the UrPay wallet and POS gateway tiers, establishing measured capacity ceilings and headroom ahead of seasonal transaction peaks.
- **Diagnostics & Optimization:** Instrument Dynatrace dashboards and lead root cause analysis across application, JVM, database and network layers, driving remediation with development and infrastructure teams.
- **Automation Leadership:** Established the backend automation practice from the ground up (Java, TestNG, REST Assured, Maven) and led the core automation team, defining coding standards and review governance.

TestCrew — Riyadh, Saudi Arabia

Performance & Automation Test Specialist | Feb 2023 – Feb 2025

- **Massive-Scale Load Testing:** Engineered and executed load tests up to 200,000 concurrent users, including the Ministry of Education examination results platform — a single-event spike where the entire national user base arrives within minutes of publication.
- **Advanced JMeter Engineering:** Applied Groovy and BeanShell inside JMeter to simulate complex stateful journeys with dynamic correlation and reusable components.
- **Payments Domain:** Delivered ISO 8583 and POS transaction performance testing for Neoleap, including simulator integration and field-level validation.
- **SIT, UAT & Release Support:** Executed test cycles across SIT and UAT environments for multiple client programs, validating integrations and contributing release readiness assessments.
- **Government & Banking Portfolio:** ZATCA, Bank Albilad (T24 portal), Ministry of Tourism, Social Development Bank, Board of Grievances and Ministry of Education.

IBM — Cairo, Egypt

Performance Test Lead | Feb 2022 – Feb 2023

- **Performance Strategy:** Directed enterprise performance testing on IBM Lighthouse, defining test strategy, tooling selection and non-functional acceptance criteria across multiple project streams.
- **Shift-Left Integration:** Embedded automated performance tests into CI/CD pipelines with pass-fail thresholds, giving delivery teams continuous feedback per build.
- **Monitoring & Analysis:** Configured and analyzed APM telemetry in Dynatrace and Instana, correlating client, server, database and infrastructure metrics to isolate bottlenecks.
- **Release Gating & Mentorship:** Defined non-functional exit criteria used in release decisions, and trained cross-functional engineers on performance methodology and workload design.

VOIS (Vodafone Intelligent Solutions) — Germany Market — Cairo, Egypt

Performance & Automation Technical Lead (SME) | Feb 2020 – Feb 2022

- **Mein Vodafone Portal:** Owned performance and automation activity within the web factory guild, running regression and performance cycles in SIT and UAT and aligning them to release schedules.

- **Technical Leadership:** Subject Matter Expert across multiple squads — removing technical impediments, providing architectural guidance and standardizing performance processes and reporting.

SiliconExpert (an Arrow Electronics company) — Cairo, Egypt

Principal Software Quality Control Engineer | Q4 2018 – Feb 2020

- Owned enterprise cloud testing programs end to end, coordinating test strategy with global engineering leads and DevOps, and running pre-production load assessments that validated capacity and drove architectural recommendations.
- Led automation and performance teams, assessed delivery risk and release readiness, presented sign-off recommendations to stakeholders and mentored junior engineers.

SiliconExpert (an Arrow Electronics company) — Cairo, Egypt

Senior Software Quality Control Engineer I & II | Feb 2015 – Q3 2018

- Designed and built hybrid Java automation frameworks using Selenium and the Page Object Model, integrating end-to-end suites into CI/CD pipelines.
- Introduced regression automation coverage across web and data platform products, reducing manual release testing effort and shortening release cycles.

SiliconExpert (an Arrow Electronics company) — Cairo, Egypt

Software Quality Control Engineer | Feb 2012 – Feb 2015

- Developed structured test cases, automated test scripts and test data matrices for functional, system and regression cycles.
- Executed regression and integration cycles in SIT environments, logging and tracking defects through to resolution with development teams.

RECENT PROJECTS

UrPay Digital Wallet — Peak Capacity Assessment | Neoleap

- Ran the peak capacity assessment across the four highest-volume journeys — login, wallet-to-wallet, international transfer and beneficiary management — with script-generated unique test data so caching and record locking could not mask real contention.
- Isolated constraints at four independent layers via Dynatrace: MQ resource limits, inefficient code paths, expensive stored procedures, and connection pool sizing at the nginx, DataPower and database tiers.
- Drove remediation across code, configuration and infrastructure — cutting average response time by 80%, reducing CPU and memory utilization by 25% and lifting sustained throughput from 120 to 350 TPS.

POS Payment Gateway — Capacity Model & Production Sizing | Neoleap

- Built a JMeter harness generating raw ISO 8583 messages directly against the Access Gateway (NAC) tier, removing any dependency on terminal hardware or third-party switch availability for load execution.
- Executed 1,000 concurrent terminals and 400 TPS per gateway node across six nodes (2,400 TPS aggregate), against a 0% error acceptance criterion rather than a latency percentile, since the traffic represents live sales.
- Established that a tuned node sustains 1,000 concurrent sessions at ~1s average response with ~25% headroom, and converted that ceiling into the production sizing model — six nodes for 6,000 concurrent terminals at zero errors, adopted as deployed capacity.

AI-Assisted QA Platform — Test Design & Execution Agents | Neoleap

- Architected an agent-based platform on Google ADK: a design agent generating structured test cases against the team's Jira / Xray hierarchy, and an execution agent driving Playwright browser automation with a vision-capable model.
- Ran the full stack on self-hosted vLLM inference inside the bank network with an MCP layer to Jira, so no source code or test data left the internal environment, and defined guardrails — including a hard ban on screenshot-derived selectors — keeping generated tests reviewable.

Backend Automation Framework — Built from Scratch | Neoleap

- Delivered a layered Java framework (TestNG, REST Assured, Maven, Extent Reports) from an empty repository, with coding standards, review governance and documented project structure.

- Engineered thread-safe parallel execution with isolated test data and deterministic synchronization, cutting full regression from over 4 hours to approximately 45 minutes and eliminating the flaky failures that had undermined trust in automated results.

LEADERSHIP & PROFESSIONAL SKILLS

Stakeholder Communication: Translates deep technical findings into clear risk and business impact for delivery managers, architects and executive stakeholders in both Arabic and English

Mentoring & Enablement: Subject Matter Expert across multiple squads; trains cross-functional engineers on performance methodology, workload design and framework usage, and authors onboarding documentation and internal standards

Analytical Problem Solving: Systematic root cause analysis across application, infrastructure and network layers, working from incomplete and conflicting evidence to an isolated cause

Release Judgement: Comfortable holding or approving a release on evidence; communicates residual risk clearly to stakeholders rather than deferring the decision upward

Adaptability: Effective in outsourced, multi-client and multi-country delivery models across Saudi Arabia, Egypt and Germany

EDUCATION & LANGUAGES

Bachelor of Computers and Information — Computer Science

Menoufia University, Shebin El-Kom, Egypt | 2011

Languages: Arabic (native) · English (professional working proficiency)