Ali AlQattan

Software Engineer — Platform, Cloud Automation & AI Tooling

Manama, Bahrain · +973 38908908 · ali.al8attan@gmail.com · linkedin.com/in/alqattanali · github.com/AlqattanDev · exidex.dev

PROFESSIONAL SUMMARY

Software engineer with over six years shipping production software, currently building the automation and platform layer for a licensed bank on multi-region AWS: Terraform-managed infrastructure across Bahrain and Ireland, Jenkins CI/CD, Python / boto3 automation that replaced manual console work, an internal operations console the operations team uses daily, and monitoring with anomaly detection for AML and payment systems. Outside the bank, ships complete products alone — Flutter apps on the App Store and Google Play, a local voice runtime and MCP server used by AI coding agents, an agent-supervision harness covered by over 1,000 automated assertions, and CLIs and web tools in TypeScript, Python and Go. Owns a system end to end: requirements, architecture, code, CI, release, and the verification that proves it works, in an environment where every change is audited.

TECHNICAL SKILLS

Languages	TypeScript / JavaScript, Python, Dart, Go, SQL, Bash; working Java and C#
Cloud & Infrastructure	AWS (EC2, RDS, EKS, Lambda, S3, IAM, CloudWatch) across a multi-account, multi-region banking estate; Terraform; Ansible; Docker; Linux; Python / boto3 automation
CI/CD & Delivery	Jenkins, GitHub Actions; build, test and promotion pipelines for containerised and serverless workloads; typecheck and test gating before merge; change and release management across dev, UAT, SIT and production
Backend & APIs	REST API design and integration; Node.js / TypeScript; Python (FastAPI, asyncio); local daemons, IPC and HTTP proxies; PostgreSQL, SQLite
Frontend & Mobile	Flutter / Dart (published to the iOS App Store and Google Play), React, Vite, Tailwind CSS, terminal UIs
AI Agent Tooling	Model Context Protocol (MCP) servers; Anthropic Messages API; coding-agent workflows (Claude Code, Codex); agent harnesses and supervision; prompt-injection mitigation for agent output; local speech (whisper.cpp, Kokoro)
Quality & Verification	Playwright, Cucumber (BDD), Cypress, Selenium WebDriver, k6, Apache JMeter; UI, API and database-level assertions; CI-gated suites that boot their own system under test
Practices & Domain	Agile delivery, SDLC, change control in a regulated bank, payment processing and AML monitoring, security-agent rollout (CrowdStrike, Wazuh, Splunk, Qualys), database security auditing

PROJECT DETAILS

1. Multi-Region AWS Platform & CI/CD Pipelines

Organisation Bank ABC, Manama, Bahrain
Duration Nov 2022 – Present
Role Software / Infrastructure Engineer — platform build, deployment automation and release
Environment AWS (EC2, RDS, EKS, Lambda, S3, IAM) in me-south-1 and eu-west-1, Terraform, Ansible, Jenkins, Docker, Linux

Responsibilities

- Architected and maintained multi-region AWS infrastructure across Bahrain (me-south-1) and Ireland (eu-west-1) — EC2, RDS, EKS and Lambda — on reusable Terraform modules for enterprise banking workloads.
- Built CI/CD pipelines in Jenkins for containerised and serverless deployments: build, test, and the promotion stages that move a change through environments.
- Automated rollout and configuration of security agents (CrowdStrike, Wazuh, Splunk, Qualys) across both regions with Ansible, replacing per-host installation.
- Ran deployments, incident response and change management across dev, UAT, SIT and production in a regulated, audited environment; investigated incidents end to end — reproduced the failure, traced it and confirmed the fix below production before release.

2. Lambda Operations Console

Organisation Bank ABC, Manama, Bahrain
Duration Nov 2022 – Present
Role Software Engineer — sole developer
Environment AWS Lambda, Python, boto3, AWS IAM, internal web front end

Responsibilities

- Built an internal operations console for the ops team — a slash-command palette exposing 28 distinct operations, with fuzzy search and full keyboard navigation — now used daily.
- Consolidated 28 previously manual console and CLI procedures behind a single entry point, removing the copy-paste steps that were the most common source of operator error.
- Gathered requirements directly from the operators and iterated on the command set around how they work.

3. PostgreSQL Security-Audit Automation

Organisation Bank ABC, Manama, Bahrain
Duration Nov 2022 – Present
Role Software / Infrastructure Engineer — automation design and implementation
Environment PostgreSQL, SQL, Python, boto3, AWS RDS, Linux, Git

Responsibilities

- Engineered automation for recurring PostgreSQL security audits previously run by hand across the bank's database estate, cutting manual audit effort by approximately 80%.
- Translated the manual audit checklist into repeatable scripted checks over database configuration, privileges and user access, producing consistent evidence for internal audit; validated the output against the manual results before adoption, so the replacement was demonstrably equivalent.
- Replaced manual Terraform and console workflows with Python / boto3 automation, making provisioning and verification identical on every run.

4. Monitoring & Anomaly Detection for AML and Payment Systems

Organisation Bank ABC, Manama, Bahrain
Duration Nov 2022 – Present
Role Software / Infrastructure Engineer
Environment AWS CloudWatch, Python, SQL, Linux, dashboarding and alerting tooling

Responsibilities

- Developed real-time monitoring dashboards with automated anomaly detection for AML processing and payment systems, so deviations surface as alerts instead of being found during periodic review.
- Defined the expected-behaviour baselines and thresholds the detection runs against, in a domain where a missed anomaly is a regulatory issue and not only an operational one.
- Worked with operations and security teams to route alerts to the right responders and tune thresholds.

5. Vox — Local Voice Runtime and MCP Server for AI Agents — PERSONAL PROJECT

Organisation Personal project — not client or employer work. exidex.dev/vox
Duration 2026 – Present (ongoing)
Role Software Engineer — sole designer and developer
Environment Python, Model Context Protocol (MCP), whisper.cpp, Kokoro, macOS audio and global-hotkey APIs, daemon / IPC

Responsibilities

- Built a local-only voice runtime that gives Claude Code, Codex and any MCP client a shared microphone and speaker. Speech-to-text and text-to-speech run on the machine through whisper.cpp and Kokoro, and the runtime refuses to start unless every speech endpoint resolves to a loopback address — no audio leaves the Mac.
- Split the design into a persistent audio daemon and small reconnectable MCP adapters, so restarting or updating an agent host neither tears down the audio engine nor corrupts session state.
- Designed an explicit OFF → IDLE → LISTENING / SPEAKING lifecycle: competing turns from several agents queue in arrival order with a bounded wait, and cancel / stop drain the queue instead of orphaning it.
- Gated microphone capture so audio reaches the endpointer only while a turn is running and the device is released when idle; macOS's own microphone indicator lights only when the runtime can genuinely hear.
- Added system-wide hotkeys (hold to dictate at the cursor, tap to read a selection aloud, flip who speaks next mid-utterance), a floating waveform indicator, watchdog health probes with bounded restarts of the local speech services, and replay and diagnostics controls.

6. room — Agent-Supervision Harness for tmux — PERSONAL PROJECT

Organisation Personal project — not client or employer work. Private repository.
Duration 2026 – Present (ongoing)
Role Software Engineer — sole designer and developer
Environment Bash, tmux, hooks for Claude Code, Codex, Grok, pi and opencode, shell test harness with fake tmux and fake agents

Responsibilities

- Built a tool that paints what every AI coding agent on the machine is doing — working, idle, errored, waiting on a permission — onto tmux pane borders, window tabs and the status bar, from a scanner, a writer and per-tool hooks, plus an ask menu that gathers every agent's pending question in one place.
- Found in an audit that the chrome itself was an execution path: tmux expands `#(cmd)` inside format strings, and every rendered field came from agent output. Wrote one `untrusted()` filter that all rendering passes through — control bytes to spaces, $ and ~ dropped, # doubled — with seven assertions covering the injection cases.
- Covered by 21 shell test suites and over 1,000 assertions run against a fake tmux and fake agents, so the harness is verified without a live terminal.

7. grokctl — Media-Generation Controller over Two Provider Planes — PERSONAL PROJECT

Organisation Personal project — not client or employer work. exidex.dev/grokctl
Duration 2026 – Present (ongoing)
Role Software Engineer — sole designer and developer
Environment TypeScript, Bun, xAI platform API (OAuth), Chrome DevTools Protocol, local artifact index

Responsibilities

- Built one CLI and studio that drives image and video generation through two explicitly selected planes: the xAI platform API (OAuth, Files persistence, Batch, exact per-tick USD usage) and the Grok consumer app driven through real Chrome over CDP (posts, feeds, folders, quota, feature flags). Provider selection is mandatory; there is no fallback or implicit routing.
- Maintains a shared artifact index in which every result is proven by bytes on disk and carries typed identities for its xAI file and Grok post, rather than trusting what the page reports.
- Independent authentication per plane, so logging out of one leaves the other untouched; the CLI reference in the documentation is generated from the command tree so it cannot drift.

8. kiro-claude-bridge — Local Anthropic Messages API Proxy — PERSONAL PROJECT

Organisation Personal project — open source. github.com/AlqattanDev/kiro-claude-bridge
Duration 2026
Role Software Engineer — sole developer
Environment TypeScript on Node.js 22 with no runtime dependencies, node:sqlite, HTTP event streaming

Responsibilities

- Wrote a local HTTP server that speaks the Anthropic Messages API and translates each request to a different vendor's streaming API, so Claude Code and any Messages-API client run unchanged on that backend.
- Zero runtime dependencies: plain Node running the TypeScript sources, reading the existing CLI token from its SQLite store; a bootstrap script brings a fresh Linux box from nothing to a running session with only curl and tar. Documented the reverse-engineered protocol and constraints for the next engineer to pick up.

9. Payments QA Automation Framework — PERSONAL PROJECT

Organisation Personal project — open source. github.com/AlqattanDev/payments-qa-framework · exidex.dev/payments-qa
Duration 2026 – Present (ongoing)
Role Software Engineer — built both the payments application under test and the verification framework
Environment TypeScript, Playwright, Cucumber (BDD), Cypress, Selenium WebDriver, k6, Apache JMeter, SQLite, GitHub Actions

Responsibilities

- Built a small payments application (sign-in, transfers, validation rules, SQLite ledger) and an end-to-end verification framework around it: executable Cucumber specifications driving Playwright through page objects, a typed HTTP API client and a read-only ledger reader.
- Every money-moving scenario is asserted at three levels at once — browser UI, HTTP API and the database of record — including the invariant that a transfer never changes the total money in the system.
- GitHub Actions CI boots and tears down its own system under test on every push and pull request, with a strict typecheck and an HTML report per run.
- A k6 and JMeter load layer located saturation at roughly 50 concurrent users and surfaced a defect the functional suite could not reach — payment identifiers truncated to 32 bits collide under volume — and verified that the collision rolls back inside the transaction without losing money.

10. WhatsApp Breaking-News Broadcast Automation

Organisation AlBilad Newspaper, Bahrain (contract engagement)
Duration Jun – Aug 2020
Role Software Developer (Contract) — sole developer
Environment Python backend, WhatsApp messaging automation, cross-platform mobile front end, REST APIs

Responsibilities

- Built a WhatsApp broadcast-automation system delivering breaking news to thousands of subscribers, reducing distribution time from several hours of manual sending to under three minutes.
- Delivered a cross-platform mobile interface over the Python backend so newsroom staff could trigger broadcasts themselves; tested the delivery pipeline against the full subscriber list before go-live, including failure and retry behaviour.

11. Employee Management & BQA Compliance Platform

Organisation Quality Codes, Bahrain
Duration May – Nov 2019
Role Full-Stack Developer, promoted to ICT Team Lead during the engagement
Environment Web and mobile application stack, relational database, REST APIs, compliance reporting forms

Responsibilities

- Built a web and mobile platform letting training institutes manage employees, forms and Bahrain Qualification Authority (BQA) compliance reporting; adopted by 17+ institutions within six months.
- Implemented the compliance forms against BQA reporting requirements and validated the generated submissions with the institutes before release — a rejection carries a direct regulatory cost.
- Promoted to ICT team lead on delivery speed and technical contribution; coordinated the team and reviewed delivery before release.

12. Cross-Platform Mobile Product Delivery — INDEPENDENT

Organisation Freelance / independent (concurrent with the engagements above)
Duration 2020 – 2022
Role Independent Software Developer — full SDLC ownership
Environment Flutter, Dart, REST APIs, Solidity, iOS App Store and Google Play release pipelines

Responsibilities

- Built and released NFTAlbum, a Flutter application published on the iOS App Store and Google Play, and Fishmen Alpha, a 1,000-piece Ethereum NFT collection in Solidity; owned the full life cycle alone on each — requirements, architecture, implementation, device testing across iOS and Android, and release.

13. Digital Banking Service Desk — Investigations

Organisation ila Bank (engaged as an outsourced contractor), Manama, Bahrain
Duration Jan – Nov 2022
Role Service Desk — Investigations; moved to the bank's cloud engineering team in Nov 2022
Environment Live retail digital-banking platform, mobile application, core payment flows, back-office records

Responsibilities

- Front line for customer-reported problems on a live digital bank: reproduced issues against the real application, traced individual transactions across systems to find where behaviour diverged from the back-office record, and separated genuine defects from user error and business rules before escalating.
- Raised escalations to engineering with reproduction steps and evidence attached, then retested every delivered fix through to verified closure.

EDUCATION

Bachelor of Technology (BTech), Computer Programming

Bahrain Polytechnic, Bahrain · 2013 – 2019 · Awarded Project of the Year.

PERSONAL DETAILS

Nationality	Bahraini
Visa / Work Authorisation	Not required — Bahraini national, no sponsorship needed
Current Location	Manama, Bahrain
Notice Period	1 month