

Abdalla Emad Eldin

Senior Full-Stack Engineer · AI & Product Engineering

Dubai, United Arab Emirates · +971 56 109 8145 · abdalla.emad.eldin@gmail.com · linkedin.com/in/abdalla-emad-eldin

PROFESSIONAL SUMMARY

Senior full-stack engineer with 8+ years building and shipping web, mobile, and SaaS products end to end, from system design through production. Deep in the TypeScript ecosystem — React, Next.js, React Native, and Node.js — with hands-on ownership of APIs, authentication, payments, real-time systems, and cloud infrastructure. Current work is AI-native: LLM integrations, streaming AI interfaces, and remote MCP servers that connect AI assistants directly to production systems. Recent work runs deeper into the stack: a Backend-as-a-Service platform provisioning isolated PostgreSQL databases on demand, with crash-safe orchestration, point-in-time restore, and production observability. Led front-end engineering for a fintech product group and delivered enterprise features for Emaar's U By Emaar platform, while designing and operating an independent portfolio of developer tools and SaaS products.

CORE EXPERTISE

Engineering Full-stack web & mobile · TypeScript, React, Next.js, React Native · Node.js APIs · Real-time systems
Architecture System & SaaS architecture · Multi-tenant design · API design · Authentication · Security
Platform PostgreSQL provisioning · Backup & restore · Control planes · Docker · Observability
AI LLM integrations · Vercel AI SDK · OpenRouter · Streaming AI · Remote MCP servers · AI developer tooling
Product SaaS from concept to production · Developer platforms · Payments & billing · Integrations · Open source

PROFESSIONAL EXPERIENCE

Greenbull Technology — Front-End Lead *(promoted from Senior Software Engineer)* Dubai, UAE | Oct 2022 — Oct 2026

- Joined as a senior mobile engineer and was promoted to Front-End Lead within the first year, taking ownership of front-end architecture and delivery across the group's web and mobile products.
- Designed and built three of the group's production apps single-handedly, front end and back end, from concept to App Store release (published under TechX, the group's technology arm), with React Native, Expo, TypeScript, and Next.js:
- ARYA App — AI investment co-pilot for retail investors on iOS and macOS: voice and text AI assistant for market analysis, smart price alerts with AI-generated context, scheduled automated research reports, a community forum, tiered investment courses, and subscription billing; English and French.
- ARYA Wealth Management — portfolio and net-worth platform on iOS, macOS, and visionOS: consolidates cash, equities, real estate with linked mortgages, private equity, and custom asset classes, with project-based cashflow, multi-year projections with stress testing, live dual-currency pricing, and an AI assistant that explains holdings and updates data from natural-language commands.
- Greenbull Club — private members-only investor community: social feed, searchable member directory, event booking for masterclasses and property viewings, QR-code digital membership card, media library, and partner benefits.
- Built the entire front end of ARYA Crypto (crypto.arya.com) single-handedly in Next.js — a multi-exchange crypto management platform: unified portfolio dashboard across connected exchanges, automated target-weight allocation with DCA rebalancing and profit-protection exit rules, advanced order entry (stop loss, take profit, trailing, conditional), sub-accounts, paper trading, and tiered subscription plans.
- Architected shared front-end foundations reused across applications: component systems, state management, navigation, and release pipelines for iOS, Android, and web.
- Built production integrations across real-time data streaming (WebSockets, Socket.IO), in-app purchases (Apple IAP, Google Play Billing), push notifications, and media processing.
- Hardened mobile releases with SSL pinning, secure storage, and unit testing, and owned App Store and Google Play release cycles end to end.
- Set front-end engineering standards, ran code review, and mentored engineers on architecture, tooling, and delivery practice.

Outworx — Founder & Principal Engineer

Dubai, UAE | 2025 — Present

Independent software and SaaS product business (UAE e-Trader licence) building developer tools and AI-native platforms — outworx.io

- Design, build, and operate a portfolio of production SaaS products end to end — architecture, backend, front-end, infrastructure, and billing — on Next.js, TypeScript, Node.js, PostgreSQL, and Vercel.
- Built remote MCP (Model Context Protocol) servers secured with OAuth 2.1 and PKCE, exposing organisation-scoped tools that let AI assistants such as Claude and Cursor query real application data directly.
- Engineered AI product features on the Vercel AI SDK and OpenRouter: streamed responses via streamText, cited answers over documentation corpora, and AI-assisted production debugging.
- Architected the multi-tenant SaaS foundations shared across the portfolio: authentication, organizations and roles, subscription billing, usage limits, custom domains, and webhook delivery.
- Deliver custom technology consulting and client engineering alongside the product portfolio.

Emaar — Senior Software Engineer *(U By Emaar)*

Dubai, UAE | Oct 2021 — Oct 2022

- Delivered feature development across U By Emaar (UBE), Dubai's flagship hospitality and retail loyalty platform spanning Address Hotels & Resorts, Vida, Armani Hotel Dubai, Reel Cinemas, and Dubai Aquarium — rated 4.8★ from 12,000+ App Store ratings.

- Built and shipped core member journeys — Stay bookings, Payments, Offers, Dine, Receipt Scanning, and Attractions — integrating with Emaar backend services and third-party partner systems.
- Owned the in-app experience for Emaar's annual flagship events, including New Year's Eve, where campaign features shipped against fixed, immovable public deadlines.
- Contributed features to the Emaar One app.
- Improved codebase health and release stability through refactoring, code cleanup, and resolution of logic and UI defects across the application.

EARLIER EXPERIENCE

Codejam Café — Senior React Native Developer

Ireland (Remote) | Apr 2021 — Aug 2021

- Delivered production React Native features to pixel-accurate designs, led code review for the mobile team, and enforced unit-testing standards across the codebase.

Shopz — Senior React Native Developer

Saudi Arabia (Remote) | Sep 2020 — Mar 2021

- Built and shipped React Native features for the company's mobile product, selecting the technical approach and libraries for new modules and delivering tested releases on schedule.

Entlaqa LLC — Senior React Native Developer

Cairo, Egypt | Apr 2019 — Sep 2021

- Owned mobile feature delivery and front-end technical decisions, defining the technologies and patterns used for new development.
- Led code review, mentored team members, and contributed to product and business planning alongside engineering work.

Designfy — React Native Developer

Cairo, Egypt | Jul 2018 — Apr 2019

- Built cross-platform mobile application features to specification as part of the product engineering team.

SELECTED PRODUCTS & OPEN SOURCE

Steadhold — Backend-as-a-Service Platform · in active development

Developer backend platform: one API call returns an isolated PostgreSQL 17 database in about 2.5 seconds, with auto-generated APIs, authentication, row-level security, and object storage. Built the control-plane / data-node architecture:

- Crash-safe provisioning: the worker was killed at 11 points mid-run and resumed with no duplicate resources.
- Credentials and access: envelope-encrypted credentials, and per-project ES256 keypairs published over JWKS.
- Accounts and auditing: organisations with three enforced roles, and an append-only audit log protected by a database trigger (tests fail if any write route isn't audited).
- Backups: WAL archiving with pgBackRest, automated scheduled backups, and a job that restores each backup and verifies it (checksums, pg_amcheck, row counts); point-in-time restore goes into a separate new project.
- Deletion and pausing: both take a final backup first and stop if it fails; deleted projects' backups are destroyed on a schedule, and the job re-checks storage to confirm they are gone.
- Dashboard and monitoring: a Next.js dashboard with a command palette and keyboard navigation, plus Prometheus, Grafana, and Loki monitoring.

Marsad — Error, Performance & Analytics Platform · marsad.space

One SDK (@marsadco/sdk) that sends errors, network requests, performance traces, Web Vitals, and cookie-free analytics from Next.js and Expo / React Native apps:

- Errors: exceptions grouped automatically and ranked by impact; build IDs match each build to its source map, so minified web and Hermes stack traces show the real files and lines; breadcrumbs, optional screenshots on error, affected-user views, and short reference codes users can quote to support.
- Performance: one trace per page, shown as a waterfall and carried into the Next.js backend through traceparent; Web Vitals (LCP, CLS, INP, FCP, TTFB), custom metrics (counters, distributions, gauges with p95), and release health with crash-free rates tied to CI commits.
- Mobile: native crash capture for iOS (NSException, Swift traps), Android JVM crashes, ANRs, and C/C++ crashes (in beta); events queued offline and retried with backoff, so they survive crashes and bad networks.
- Analytics: page views, referrers, UTM campaigns, devices, countries, and live visitors, counted with a rotating hash so no cookie banner is needed.
- Triage and alerts: resolve, ignore, assign, and threaded comments; alert rules for new issues, event volume, and error rate go to Slack, email, webhooks, or Linear, without duplicates and with a cooldown per rule.
- AI: a remote MCP server with 14 tools, secured with OAuth 2.1 and a consent screen (read-only by default, triage actions only if allowed), so developers can ask Claude to find, explain, assign, and comment on production issues.
- Pricing: flat plans, no per-seat charges.

Outworx Docs — API Documentation & Developer Platform · docs.outworx.io

Upload an OpenAPI, Swagger, or GraphQL spec and get the whole API toolchain from it in under a minute:

- Docs and mocks: hosted interactive docs with a REST and GraphQL Try-It console, plus a free hosted mock server with realistic sample data, named examples, and pinned overrides.
- SDKs: one-file TypeScript and Python SDKs generated from the spec.
- Spec checks: breaking-change detection with semver-bump suggestions, run on every pull request through a GitHub Action and the @outworx/cli npm package.
- Monitoring: uptime probes every 10 minutes with public status pages, plus preview docs for every pull request.
- AI: a chat assistant that answers with links to the relevant endpoints, and a per-project MCP server with 12 tools (list endpoints, generate types, run live calls) for Claude and Cursor.
- Webhooks playground: HMAC signature checks for 10+ providers.

- Team and billing: version support, custom domains, role-based access, and an audit log that can stream to security tools; priced per plan, not per seat.

Outworx Hooks — Webhook Monitoring & Observability · hooks.outworx.io

Monitoring for incoming webhooks from Stripe, Shopify, GitHub, Clerk, Supabase, and any other HTTP provider:

- Setup: open-source SDKs for Next.js, Express, Fastify, and FastAPI (npm and PyPI); an existing handler is wrapped in one line, adds under 3 ms, and never blocks the request.
- Silent failures: runs inside the handler, so it catches handlers that return 200 but never process the event, which proxies can't see.
- Signature errors: when a signature check fails, it explains the cause (clock drift, wrong secret, altered body) and suggests the fix.
- Monitoring: searchable payloads across all providers, P50/P95/P99 latency, alerts for volume drops and latency spikes, AI summaries of failures, per-provider alert rules to Slack, Discord, and email, and replay of events from the last 90 days against staging.

Harfi — Prompt-Engineering Game · harfi.games

Game that teaches precise control of AI output: 40 trials in 5 sets (output shape, JSON/CSV/YAML, banned words and letters, data transformation, and getting the same output twice). The player writes only the prompt, never the answer, and is scored golf-style on the fewest attempts, with four medals per trial. Scoring is done by a code parser, not an AI judge, so the same attempt always gets the same score and the player sees exactly which rule failed. Runs on Claude Haiku 4.5, with a second model in the consistency set to test whether a prompt works on more than one model. The first set is free with no account; the full game is a one-time purchase.

Toyify — AI Image Generation App · toyify.app

Turns a selfie into a boxed collectible action-figure image in about 5 seconds, in 5 styles (Action Figure, Big Head, Brick, Retro '80s, Chibi), using image-to-image models on Replicate. Designed for privacy: no sign-up, and photos are deleted after processing. Makes money from a free weekly watermarked image, paid HD downloads, and style packs.

Intilq — AI Social Media Campaign Platform · intilq.com

AI platform that turns a single prompt into a complete multi-channel social campaign: captions, images, hashtags, and a posting schedule, written natively in Arabic (Gulf, Egyptian, Levantine, and Maghrebi dialects) and English rather than translated. Learns a brand-voice profile from past posts, builds creative around a product library, and publishes through native platform APIs to Instagram, TikTok, LinkedIn, Facebook, and X, adapting each post to the platform. Includes timezone-aware scheduling with an approval step, a unified inbox for comments, DMs, and mentions, and cross-platform analytics that track reach, engagement, and link clicks. Tiered subscription plans from solo to agency.

Underlayer — API-First Embedded Training Platform · underlayer.outworx.io

Training infrastructure that products embed instead of sending users to an LMS: a REST API, an iframe, and a white-label player, with no SDK to install and no learner accounts, since progress is tied to the host app's existing user ID. Courses are written by hand, generated from a document, or created through the API, using 39 interactive content blocks (six question types, flashcards, drag-to-match, hotspots, scenarios, and more). Features include full right-to-left layout mirroring for Arabic and Hebrew, per-learner localisation, customisable themes, verifiable certificates, webhooks for completions and results, SCORM 1.2/2004 export, and an MCP endpoint. Billed per course view rather than per seat.

Open Source — Published npm packages · github.com/abdallaemadeldin

- shared-state-bridge: state store that works across packages in Turborepo, Nx, and Lerna monorepos; zero dependencies, 1.2 KB core, built on React 18's useSyncExternalStore, with plugins for WebSocket live sync and localStorage/AsyncStorage persistence; still works when the library is installed more than once in a project.
- auto-api-hooks: generates typed TanStack Query v5, SWR, or fetch hooks from OpenAPI, Swagger, and GraphQL schemas; detects pagination and creates infinite-scroll hooks, and also outputs Zod schemas and MSW v2 mocks; has a CLI, a programmatic API, and watch mode.
- rn-native-ios-charts: Expo module, written in Swift, that brings Apple's SwiftUI Charts to React Native: every chart type, native gradient fills, native tooltips, and date and log axes.
- rn-restart: restarts a React Native app from code, built on the new Turbo Module architecture in Kotlin and Objective-C++.
- upload-spec-action: GitHub Action that pushes API specs to Outworx Docs.

TECHNICAL SKILLS

Languages: TypeScript, JavaScript, SQL, Swift, Kotlin, Java

Frontend: React, Next.js, React Native, Expo, Redux

Backend: Node.js, REST, GraphQL, WebSockets, Socket.IO, Serverless

AI: LLM APIs, Vercel AI SDK, OpenRouter, Replicate (image generation), Streaming (streamText), MCP & Remote MCP Servers, AI Agents

Cloud & Infrastructure: Vercel, AWS, Supabase, Firebase, Docker, CI/CD, Prometheus, Grafana, Loki

Databases & Storage: PostgreSQL (row-level security, pgBackRest, point-in-time restore), SQLite, IndexedDB

Auth & Payments: OAuth 2.1 / PKCE, Supabase & Firebase Auth, Stripe, Apple IAP, Google Play Billing, SSL Pinning

Mobile: Native modules (Swift, Kotlin, Objective-C++), iOS & Android release management, Push Notifications

Engineering: System & SaaS Architecture, API Design, Multi-Tenant Systems, Backup & Disaster Recovery, Observability, Unit Testing, Code Review

EDUCATION

Modern Academy

Languages: Arabic (Native) · English (Professional working proficiency)

Cairo, Egypt | 2014 — 2018