Fahd Mohamed

AI & Software Engineer | LLM Engineer

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SUMMARY

AI and software engineer who takes products from idea and architecture to AI integration, full-stack development and production. Builds LLM applications and AI agents (real-time voice agents, tool-calling messaging agents with evaluation suites, RAG assistants, multi-agent SEO and GEO systems) together with the web, mobile and backend platforms they live in. Independently designed, built and launched BoatRental, a live boat-charter marketplace for the UAE (boatrental.ae), spanning a Next.js website, a React Native app and an Express/PostgreSQL API with Stripe. Two years of training and evaluating large language models at Outlier. Native Arabic, fluent English, and right-to-left interfaces designed in from the start.

TECHNICAL SKILLS

- **AI Engineering & LLMs:** LLM applications (Claude, OpenAI, Gemini, Groq, OpenRouter), AI agents and multi-agent systems, tool calling, RAG and knowledge retrieval (pgvector), prompt engineering, LLM evaluation (LLM-as-judge, safety gates), structured JSON-schema outputs, real-time voice agents (pipecat, Deepgram, ElevenLabs, Soniox), on-device ML (PyTorch, MediaPipe, ONNX Runtime Web)
- **AI Automation & SEO:** workflow automation, job queues (Celery, pg-boss), GEO/AEO analysis pipelines, AI-powered SEO agents, crawlers (Playwright, Cheerio)
- **Languages:** TypeScript, JavaScript, Python, SQL
- **Backend & APIs:** Node.js, Express, Fastify, Hono, FastAPI, REST APIs, webhooks, authentication (JWT, OAuth), role-based access control, system integration
- **Frontend & Mobile:** React, Next.js, React Native, Expo, Tailwind CSS, GSAP, React Three Fiber, Arabic/English localization with RTL
- **Databases:** PostgreSQL (Neon), Drizzle ORM, Prisma, SQLite, database architecture, constraints and migrations
- **Integrations:** Stripe and Stripe Connect, Meta Graph API (WhatsApp, Messenger, Instagram), Twilio, Telnyx, Postmark, Cloudinary, Google Search Console, WordPress REST
- **Deployment & Production:** Railway, Vercel, EAS Build, Docker, GitHub Actions, Playwright, debugging and production engineering, PyInstaller and Inno Setup desktop packaging

PROFESSIONAL EXPERIENCE

AI & Software Engineer, Elenor Marketing Agency, Cairo, Egypt

January 2026 – Present

- Engineered an AI sales caller: a real-time voice agent that phones leads in Egyptian Arabic or English and produces a JSON-schema-validated sales brief after each call, with a campaign dialer, a do-not-call list and four calling channels; packaged as a Windows desktop app with a bilingual installer.
- Engineered an omnichannel AI messaging agent for WhatsApp, Messenger and Instagram: agent architecture, LLM integration, tool calling limited to staff-approved knowledge, human handoff, spend caps, shadow mode, and a 204-case evaluation suite with safety gates for invented facts and missed handoffs.
- Built the agency website with a custom CMS and a RAG assistant that answers only from published content and captures and scores leads.
- Built AI automation systems: a GEO audit platform that scores websites for AI answer engines and exports reports, a multi-agent SEO pipeline (orchestrator plus 8 agents), and Agent X, a competitor-intelligence pipeline with budgeted LLM interpretation.
- Built business platforms end to end: an operations OS (tasks, HR, approvals, sales CRM, role-based access across 68 data models) and a 17-module ERP with e-invoicing, geofenced attendance and ledger-based stock; plus a church community QR attendance app (Expo, Hono) and a QR campus game for the University of Hertfordshire.

AI Model Trainer: LLM / Arabic Writer, Outlier

May 2023 – May 2025

- Trained and evaluated large language models: wrote Arabic content, designed and applied evaluation rubrics, and reviewed model outputs for accuracy and quality.
- Worked with cross-functional teams on model improvement tasks.

SELECTED PROJECTS

BoatRental: UAE Boat-Charter Marketplace (independent product, live at boatrental.ae)

Next.js 15 · React Native / Expo 54 · TypeScript · Node.js / Express 5 · PostgreSQL (Neon) · Drizzle · Stripe Connect · Railway · EAS

- Designed, built and launched a two-sided marketplace as the sole engineer: website, mobile app and API, with full Arabic/English localization and RTL.
- Implemented booking and availability management with instant and owner-approval flows, timed holds, and a row lock plus a PostgreSQL exclusion constraint that makes double booking impossible.
- Integrated Stripe payments, Apple Pay and Google Pay, Stripe Connect owner payouts, refunds and bank-transfer confirmation; closed payment-confirmation, IBAN-exposure and booking-takeover issues in a security pass, pinned by 18 regression checks.
- Built owner and customer dashboards, authentication and onboarding (email, phone OTP, Google and Apple sign-in), KYC verification, push notifications and PDF invoices; runs in production on Railway with mobile builds through EAS, CI, Playwright and accessibility checks.

WASSEL: On-Device Egyptian Sign Language Recognition

PyTorch · MediaPipe · ONNX Runtime Web · Next.js · PostgreSQL

- Trained a three-model ensemble that recognises 58 signs from pose and hand landmarks and runs fully in the browser, so no video leaves the device; built a live session app and a sign dictionary for deaf users.

EDUCATION

Bachelor's degree in Business Information Systems (BIS), Sadat Academy for Management Sciences, Maadi, Cairo

2020 – 2024 · GPA 3.3 · Graduation project: A+

CERTIFICATIONS

- Data Analysis Challenger Track, EgyptFWD
- Microsoft Office Specialist

LANGUAGES

- Arabic: native
- English: fluent

SOFT SKILLS

Analytical thinking · Problem solving · Ownership and accountability · Technical communication · Adaptability · Attention to detail · Continuous learning