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PROFESSIONAL SUMMARY

Senior Software Engineer with 4+ years building complete products end to end — web and mobile clients, Node.js/PostgreSQL backends, and the AWS/Docker infrastructure they run on. Currently building the core AI experience of Faheem, Egypt's Ministry of Education learning platform serving 30,000+ students: real-time voice-to-voice tutoring at ~300–500 ms round-trip and AI-generated animated lessons. 10+ products shipped to the App Store and Google Play across Egypt, Germany, the UAE, and the US in EdTech, healthcare, and social commerce. Strong in Clean Architecture, performance optimization (41% smaller app size; cold start ~6s to under 1.5s), and reliable multi-environment delivery.

EXPERIENCE

Senior Software Engineer — Appenza Full-time · Cairo (Hybrid) Jan 2026 – Present

Faheem (فهييم) — AI Arabic learning platform; official app of Egypt's Ministry of Education. 30,000+ K-12 students, 8,500+ monthly active users.

- Built the AI "Board" session engine that renders AI-generated lessons as streamed multimodal scenes — synchronizing text-to-speech audio, live subtitles, and CustomPainter-animated diagrams into frame-accurate playback per curriculum topic.
- Engineered a real-time voice-to-voice AI tutor at ~300–500 ms round-trip over WebSocket with Azure OpenAI streaming; eliminated model self-interruption (the AI reacting to its own audio output) using native platform audio with voice-activity-detection thresholds for barge-in control.
- Built an adaptive Smart Quiz with AI-generated questions and a camera-based Solve feature for step-by-step math and science problem solving.
- Architected the app on Clean Architecture (Data → Domain → Presentation) across 16 modules — Provider, flutter_modular DI, Dio interceptors, dartz Either — keeping it testable as the product scaled.
- Shipped full Arabic RTL localization, Firebase Analytics (~52 events across 14 modules), Crashlytics, FCM push, multi-environment builds (Dev/Staging/QA/Prod), a gamified wallet/points economy, a media-capsule player, and social/OTP authentication.

Talia — Arabic-first, multi-tenant national LMS + SIS platform. Live with its first school in Egypt, with further schools in rollout and a Qatar Ministry of Education deployment in requirements.

- Building the SvelteKit 5 / TypeScript / Tailwind web clients — Talia 360 (ministry & school admin console) and Talia Learn — over a typed Go/REST backend, across 25 functional modules and 534 scoped requirements.
- Implemented RBAC-aware role-based views (teacher / student / principal / admin) over a deny-by-default authorization model across a Ministry → School entity tree, protecting confidential health, counseling, and special-needs records.
- Wired product screens from mock data to live API reads and writes with a layered datasource → repository → query architecture using TanStack Query, holding a no-dummy-data standard verified against the deployed environment.

BTC (Bullion Trading Center) — commerce app for one of Egypt's largest gold and jewelry houses.

- Built the customer storefront and B2B merchant wholesale-ordering apps from a single shared Flutter codebase over a GraphQL API.

Software Engineer — DIB GmbH Full-time · Germany (Remote) Sep 2024 – Jan 2026

IMOX — reels-based social commerce platform (product discovery through short-form video).

- Cut cold-start time from ~5–6s to ~0.5–1.5s by redesigning reel preloading: priming only the first two reels at splash, prefetching the next two post-launch, then paginating ten-at-a-time with a one-page buffer for latency-free infinite scroll.
- Migrated deep linking off deprecated Firebase Dynamic Links to Airbridge (including deferred deep links), preserving attribution continuity ahead of shutdown; integrated Mixpanel identity, events, and funnels.

YOLO — multi-region clinic management system (HR, appointments, patients, inventory, billing).

- Reduced app size by 41% (86 MB → 51 MB) through build optimization, asset compression, and dependency auditing.
- Delivered 10+ client-requested features across appointment scheduling, HR, patient records, and inventory for a platform deployed across facilities in Egypt, Germany, and the UAE.

Software Engineer — Revealsite Part-time · United States (Remote) Nov 2023 – Feb 2025

J&D Pharmacy · Medical Compounding · Quick RX · Holland Pharmacy — white-label healthcare apps.

- Built and shipped four pharmacy apps from a single white-label codebase provisioned by client ID with runtime branding and offline-first caching — prescription refill/transfer, appointment scheduling, medication history, and configurable dose-reminder notifications.
- Integrated OTP/JWT authentication, request tracking, and two-way patient messaging against a Django REST backend; coordinated across backend, UI/UX, and business stakeholders to meet healthcare compliance requirements.

Software Engineer — Zeyada

Full-time · CairoApr 2023 – Sep 2024

School management platform — fee payments and parent–school communication.

- Built a real-time messaging system (1-to-1 and group) with full moderation controls (mute, block, clear); integrated PayTabs for secure fee processing.
- Implemented Guardsquare app shielding and tamper detection; integrated GraphQL with a Magento backend for an in-app school store.

Freelance Software Engineer — Independent

Contract · Cairo (Remote)2022 – 2023

- Xera Lab — dental X-ray case-management platform. Built the customer portal and admin dashboard with role-based access (Admin / Doctor / Technician) and the full intake → assignment → review → delivery workflow; built the entire Node.js/Express + PostgreSQL backend with JWT auth; deployed via Docker Compose, Nginx (TLS), and AWS S3.
- FasTap — NFC digital business-card platform. Built the mobile app that writes profiles to NFC cards for tap-to-share, plus the web profile surface opened on scan; deployed on VPS with Firebase and Nginx.

SELECTED PROJECTS

Ezhal Flutter · Riverpod · Stripe · My Fatoorah · Firebase · Apple PassKit

Multi-tenant car-service platform: three role-specific apps (customer, employee, manager) from one codebase — booking, live technician tracking, wallet, points, stamps, subscriptions, and Apple Wallet passes.

Jaweb Flutter · Clean Architecture · My Fatoorah (Google Play, App Store)

Competitive trivia product built from scratch: two teams, six categories, three difficulty levels, in-app referee, automatic scoring, and server-verified in-app purchases (cards, Apple Pay, Google Pay).

TECHNICAL SKILLS

Backend: Node.js, Express, PostgreSQL, MySQL, REST, GraphQL, JWT, OAuth2, Swagger/OpenAPI

Web Frontend: React, SvelteKit 5, TypeScript, Tailwind CSS, TanStack Query, Next.js, Flutter Web

Mobile: Flutter, Dart, BLoC, Riverpod, Provider, Clean Architecture, Hive, Firebase (Auth, Firestore, FCM, Crashlytics), Guardsquare, Deep Linking, NFC

AI & Real-Time: LLM streaming over WebSocket, real-time voice (STT/TTS, VAD/barge-in), AI image generation, animation synchronization, Azure OpenAI

Cloud & DevOps: AWS (S3), Docker, Docker Compose, Nginx (TLS), CI/CD (Codemagic, GitHub Actions), Vercel, VPS

Analytics & Payments: Mixpanel, Airbridge, Firebase Analytics, PayTabs, My Fatoorah, Stripe

Practices: Clean Architecture, SOLID, Design Patterns, RBAC / multi-tenancy, Agile/Scrum, Code Review

EDUCATION

B.Sc. in Computer Science and Artificial Intelligence — Helwan University, Cairo · GPA 3.48 / 4.0 · 2019–2023

LANGUAGES

Arabic (Native) · English (Professional Working Proficiency)