

Hossam Khero

Software Engineer

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EDUCATION

Cairo University, Faculty of Computers and Artificial Intelligence

Bachelor of Science in Computer Science

Giza, Egypt

Sep. 2024 – Jun. 2028

EXPERIENCE

Founder

May 2025 – Dec. 2025

Okinyai: AI-powered e-commerce platform with autonomous agents

- Built multi-tenant SaaS architecture:
 - * Centralized cross-domain authentication with Google OAuth and email/password login
 - * Tenant-aware subdomain routing and isolation
 - * Automated custom-domain onboarding with SSL provisioning and edge routing
- Built a powerful visual editor for (OSDL) to support structured storefront creation.
- Contributed to building a Sandpack-based live React editor.
- Developed extensible e-commerce SDK for auth, products, carts, checkout, and store APIs on top of RQL.
- Implemented an observability pipeline using Alloy, Loki, and Grafana for structured wide-event log ingestion.

Freelance Software Engineer

Main Stack: React, TypeScript, TanStack Router, TanStack Query, shadcn/ui, Tailwind CSS

- Built an educational platform for a Saudi education entity with NELC integration. lexford.edu.sa
- Built and self-hosted a CMS for a tourism platform, including VPS deployment and database setup. arabianadventure.org

PROJECTS

Open Source Contributions | *Rust, SQLite, libSQL*

- Contributing SQLite compatibility fixes and tests to Turso, a SQLite-compatible database built in Rust.

pg_wal_visualizer | *Rust, PostgreSQL WAL, Nix, sqlx, tokio*

Github Repo

- Built a PostgreSQL WAL observer for inspecting database changes and WAL records.
- Built load-generation tools to simulate continuous database writes for live WAL inspection.

Kafka io_uring | *C++, io_uring, Systems Programming*

Github Repo

- Built an Apache Kafka-inspired single-broker append-only log to explore io_uring
- Profiled I/O behavior with strace, execution traces, and flamegraphs to identify bottlenecks.

core-i16 | *C, CPU Emulation, ISA Design*

Github Repo

- Built a 16-bit CPU emulator with a custom ISA, stack operations, interrupts, and memory-mapped I/O.

Myntrea: Advanced Rich-Text Notebook Engine | *TypeScript, React*

Website

- Built a dynamic grid-based rich-text notebook editor with resizable cells and configurable layouts.
- Improved accessibility and usability through structured typography, layout controls, and rich-text editing features

LEADERSHIP

Co-Founder – BLEU

- Managed and grew a technical community across Discord and Twitter through meetups, study groups, and project-focused CS mentorship.

SKILLS, TOOLS & LANGUAGES

Languages: TypeScript/JavaScript, Python (*production*); Rust, C/C++, Haskell (*familiar*)

Full Stack: React, Next.js, Svelte (kit), Node.js, Express.js, Django, REST, GraphQL, WebSockets, SSE, Postgres, MongoDB, SQL, CSS, Tailwind

Infrastructure & DevOps: Docker, Docker Compose, NGINX, Cloudflare, Certbot, Linux, NixOS, VPS Management, Git/GitHub, CI/CD, Observability, Grafana, Loki, Alloy

Security: OWASP principles, web and API security testing with Burp Suite

Languages: Arabic (native), English (fluent)