

Kareem Ashraf Bahnasy

Alexandria, Egypt | Open to Relocation
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EXPERIENCE

Objects

Jun 2026 – Present

Software Engineer — Full-time | Node.js, PostgreSQL, MySQL, Kubernetes, AI Integration

Egypt

Zain KSA — Contract Client

Hybrid

Backend Engineer | Node.js, MySQL, Kubernetes, BFF

- Owned a production telecom **BFF** and designed direction-based routing to migrate **OCS** traffic between **Kubernetes** clusters using **canary deployments** — shifting user traffic gradually until validated, with controlled cutover and rollback.
- Fixed order-service **race conditions** under peak traffic; optimized **MySQL** query plans/indexes; resolved excessive logging that caused **memory pressure**.
- Hardened BFF endpoints (contracts, validation, error handling) and supported cluster migration readiness with platform teams.

AL-Hakeem AI — Product

Backend Engineer | Node.js, PostgreSQL, AI Integration

- Building a medical **AI** platform integrating **LLM** services into clinical workflows; designed **DDL/PostgreSQL** schema, API boundaries, and AI-provider integrations.
- Led migration to **PostgreSQL 18** — schema compatibility, migration updates, and query validation.

nWeave LLC

Aug 2023 – Jun 2026

Software Engineer — Zeustra Real Estate Platform | Node.js, NestJS, Go, PostgreSQL, AWS, Cloudflare

Alexandria, Egypt

- Built a dynamic **SQL query engine** in a **microservices** architecture interpreting complex client predicates across hundreds of data sources and tables (**10M+ records**) without predefined templates, reducing query latency through database-internals-aware planning.
- Cut peak memory from **11 GB** to **1.79 GB** and reduced memory/CPU usage by **42%** by fixing leaks and redesigning the **PostgreSQL** query engine.
- Introduced **task parallelization** enabling **10×** load (**20K+** active users across **50K+** listings) with **70%** faster application bootstrap.
- Reduced **p95 latency** by **35%** under peak load with a CPU-optimized **Go** service using goroutines and worker pools for aggregation, bulk exports, and async reports.
- Decreased inter-service payload size by **80%** and improved network latency by adopting **Protocol Buffers (Protobuf)**.
- Built **CI/CD** with **zero-downtime** deploys and an **MCP server** for filtered/paginated data access; observability (**Prometheus/Grafana/OpenTelemetry**/Sentry/Datadog), **Cloudflare Workers/Hyperdrive**, and **AWS** (IAM, S3, Lambda).

PROJECTS

GraphScholar | TypeScript, Neo4j, MCP

Jul 2026

- Designed **Neo4j/Cypher** schema and **TypeScript** ArXiv ingestion with relationship extraction and **embeddings**; implemented **Graph RAG** (vector + multi-hop) and an **MCP server** with typed tools for AI clients.

liteQ | TypeScript, Node.js, SQLite | @km-dev/lite-q

Jun 2026 – Jul 2026

- Published **@km-dev/lite-q**: durable **SQLite** job queue with cron/backoff, **atomic locks**, SQL state machine, **worker_threads**, **WAL**, and **Prometheus** metrics — no Redis/broker.

Property Listings API | NestJS, PostgreSQL, Redis, Docker, k6

Jul 2026

- NestJS/TypeORM** API on **Postgres 18**: cursor-based pagination, partial/**GIN** indexes, and **Redis** cache-aside with stampede protection; **Docker Compose**, GitHub Actions **CI**, and **k6** load tests.

EDUCATION & HONORS

National Egyptian E-Learning University

Aug 2020 – May 2024

Bachelor of Computer Science and Information Technology | **GPA: 3.58**

Alexandria, Egypt

ECPC Finals Qualifier | Egyptian Collegiate Programming Contest – 2021, 2022, 2023, 2024 | Finals 2023

TECHNICAL SKILLS

Languages: TypeScript, JavaScript, Go, Java, Python, SQL
Data: PostgreSQL, MySQL, Redis, MongoDB, Neo4j, SQLite
CI/CD, Prometheus, Grafana, OpenTelemetry

Backend: Node.js, NestJS, Express, Gin, Protobuf, Socket.IO, MCP
Cloud/Ops: AWS, Docker, Kubernetes, Cloudflare Workers/Hyperdrive,