

# Islam Khalil

Full Stack Software Engineer | Backend Specialist

islamkhalil314@gmail.com · +20 1095546861 · [LinkedIn: Islam Khalil](#) · [GitHub: IslamKhalil314](#)

## PROFESSIONAL EXPERIENCE

---

### Full Stack Software Engineer

**Generation C** | April 2024 – Present | Cairo, Egypt

**Stack:** NestJS · Angular · PostgreSQL · MongoDB · Redis · Kafka · Elasticsearch · Docker · gRPC

- Played a central engineering role migrating [Shift](#) from a monolith to a distributed microservices architecture, reducing average request latency from 500ms to 200ms.
- Replaced a 1-hour TTL user cache with a Kafka event-driven sync, eliminating latency spikes from cold cache misses — standardizing all user request latency under 200ms while keeping data real-time consistent across services.
- Built a multi-channel Notification Service (push, SMS, email) with Firebase audience segmentation, enabling operations teams to broadcast to targeted clusters by user type, language, and region — delivering thousands of notifications daily.
- Engineered a full observability stack across all services — routing structured exception logs through Kafka into Elasticsearch for Kibana-based analysis, and configuring Elastic APM for distributed tracing and service-level metrics, enabling real-time visibility into system health and performance.
- Designed a geospatial surcharge engine with dynamic zone management and 2 configurable pricing models, enabling business teams to manage pricing independently without engineering involvement.

### Full Stack Software Engineer

**Data Gear** | July 2021 – April 2024 | Cairo, Egypt

**Stack:** ASP.NET Core · ASP.NET MVC · Angular · Microsoft SQL Server · Oracle DB · PL/SQL · Docker

- Helped scale [DG A.R.T](#) to 15+ banking and enterprise clients, delivering a production-grade BI platform with automated CSV/PDF reporting pipelines, configurable scheduling, and large-scale data export processing millions of rows.
- Engineered an automation script that cut client onboarding time by 200%, directly improving team capacity and delivery speed.
- Built a data export pipeline processing millions of rows into CSV/PDF using chunking and async strategies; added user-defined cron scheduling to fully automate client data workflows.

## FREELANCE EXPERIENCE

---

### Freelance Software Engineer

**LS Fitness** | December 2025 – February 2026 | Remote

**Stack:** Express.js · MongoDB · React.js

- Sole architect and engineer of the LS Fitness platform, designing and delivering a unified backend serving both the mobile app and web dashboard, establishing all service boundaries, data models, and API contracts.
- Engineered a meal composition engine that dynamically calculates exact nutritional breakdowns (macros, vitamins, minerals) by assembling user-defined components, enabling scientifically accurate meal plans at scale.
- Designed a multi-role authentication system with role-based access control for trainers, external trainers, admins, and end users with isolated permission scopes per actor.
- Integrated SkipCash payment gateway and architected a flexible subscription tiering system with plan lifecycle management, upgrades, and expiry.
- Built a configurable coupon engine supporting multi-dimensional targeting rules including user eligibility, date ranges, course-level applicability, global usage limits, and single-use enforcement.

## EDUCATION

---

### Bachelor of Science in Computer Science and Pure Mathematics

Al-Azhar University | September 2017 – May 2022 | Cairo, Egypt

## SKILLS

---

**Languages & Frameworks:** TypeScript, JavaScript, C#, Python, SQL, NestJS, ASP.NET MVC, ASP.NET Web API, Angular, React.js

**Databases & Messaging:** PostgreSQL, Microsoft SQL Server, MySQL, Oracle, MongoDB, Redis, Kafka, BullMQ, Elasticsearch

**Architecture & Design:** Microservices, Domain-Driven Design (DDD), Clean Architecture, SOLID, OOP, Design Patterns

**APIs & Communication:** REST, GraphQL, gRPC, WebSockets

**DevOps & Cloud:** Docker, CI/CD Pipelines, Git, AWS (EC2, S3, VPC, Lambda, API Gateway, DynamoDB, Route 53), Elastic APM, Kibana

**Security & Quality:** OAuth2, JWT, Identity Framework, Dependency Injection, Unit Testing

## CONTINUOUS LEARNING

---

### Fundamentals of Database Engineering

[Hussein Nasser — Udemy](#)

ACID, Indexing, Partitioning, Sharding, Replication, Concurrency Control, and Database Engines.

### Fundamentals of Operating Systems

[Hussein Nasser — Udemy](#)

CPU architecture, virtual memory, process scheduling, socket programming, and file systems.

### Software Architecture Essentials: Masterclass

[Udemy](#)

N-Layer, Onion, Hexagonal, Clean Architecture, and Modular Monolith with event-driven communication.

### AWS DevOps — Cloud Infrastructure & CI/CD Pipelines

[Ahmed Metwally — Cloud Native Base Camp](#)

IAM, EC2, S3, VPC, Lambda, API Gateway, DynamoDB, Auto Scaling, Route 53, and multi-environment CI/CD pipelines.

## LANGUAGES

---

**Arabic:** Native Proficiency | **English:** Professional Working Proficiency