

Abdelmalek Osama Sobhy

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Summary

Results-driven **.NET Backend Engineer** with hands-on production experience in **ASP.NET Core**, **C#**, and **Clean Architecture**, delivering enterprise-grade systems that process millions of real-time data events. Proven expertise in **REST API** design, **LINQ**, **Hangfire** background processing, and **Azure DevOps** integrations. B.S. in Computer Engineering (GPA: 3.82) with international recognition in AI and IoT competitions.

Work Experience

SoftTrend

Backend Developer — Full-Time

Jul 2025 — Present

- Architected and delivered **ASP.NET Core** backend services for a national irrigation management system (Ministry of Water Resources & Irrigation), processing over **2 million IoT sensor readings** with rule-based automation engines, real-time alarm management, and statistical dashboards; leveraged **Clean Architecture**, **LINQ**, and **Dependency Injection (DI)**, improving overall system monitoring performance by **70%**.
- Integrated **Hangfire** for background job scheduling and asynchronous processing of long-running tasks across the IoT data pipeline, eliminating request blocking and significantly improving system throughput and reliability.
- Developed an **Azure DevOps AI assistant** backend, implementing centralized structured logging and granular activity-tracking modules to automate backlog work-item generation and quality improvement, increasing DevOps workflow efficiency by **60%**; designed and exposed RESTful API endpoints integrated with a React-based analytics dashboard.

Vctors

Software Developer — Part-Time

Oct 2024 — Jan 2025

- Delivered a secure, multi-tier campaign management platform for KSRelief using **Spring Boot**, streamlining data accessibility for over **500 surgical patient records** and improving healthcare team operational efficiency.
- Designed and optimized normalized **MySQL** schemas across 7+ distinct healthcare workflows, reducing average query execution time and boosting system maintainability by **30%** through normalization and index tuning.

Ejada

Cloud Developer — Intern

Jul 2024 — Oct 2024

- Deployed and managed containerized applications on **Google Kubernetes Engine (GKE)**, building event-driven **Pub/Sub** and **Cloud Monitoring** pipelines that reduced production incident detection time by **50%**.
- Automated cloud infrastructure provisioning with **Terraform**, cutting environment setup time by **40%**; launched a full-stack **Spring Boot + React** solution on **GCP** with containerized **Docker** deployments.

Denta Carts

Backend Developer — Intern

Jun 2023 — Sep 2023

- Built and tested **Spring Boot REST APIs** backed by **Spring Data JPA** and **MySQL** on **AWS RDS**, applying Controller/Service/Repository layered architecture and improving overall code reuse by **25%**.
- Configured **Keycloak** role-based access control (RBAC) for 7+ distinct user roles, reducing security incidents by **40%** and strengthening admin control and auditability.
- Applied **Microservices** architecture principles to decompose the Dentacarts platform into independently deployable, scalable service components, enhancing system resilience and horizontal scalability.

Education

Arab Academy for Sciences, Technology & Maritime Transport

Sep 2020 — Jul 2025

B.S. in Computer Engineering — GPA: 3.82 / 4.0 — Excellent with Honors

Cairo, Egypt

Graduation Project: AIoT Smart Cart (2025) — Designed a high-performance **FastAPI + MySQL** backend with real-time **WebSocket** communication achieving sub-200ms latency; implemented **JWT-based QR authentication**, integrated the Xpay payment gateway via idempotent REST APIs with a **95% transaction success rate**, and built **SQLAlchemy ORM** data models with SSE notifications, admin audit logging, and a recommendation engine.

Volunteering: **Head of Computer Committee, IEEE AAST Student Club (2023–2024)** — Led and instructed Try Engineering events for 80+ students, teaching Python through hands-on projects and organized technical sessions.

Awards & Achievements

- **1st Place — Arab IoT & AI Challenge, 7th Edition (2025):** Ranked 1st across 10 Arab countries in regional qualifiers; won the grand finals at the University of Dubai during GITEX 2025. Recognized as **Best Graduation Project in MENA** among leading Arab universities.
- **2nd Place — Hack24 Global Innovation Challenge (2024):** Ranked 2nd among **86 teams from 60+ universities worldwide at AUC Hack24**, developing a smart AIoT cart solution for intelligent retail.
- **IEEEEXTREME (2023):** Secured top 5% globally among 17,000+ competing teams in the 24-hour international programming competition.

Technical Skills

Backend & Frameworks	C#, ASP.NET Core, .NET, LINQ, Dependency Injection, REST APIs, Clean Architecture, Hangfire, Spring Boot
Databases	SQL Server, MySQL, PostgreSQL, AWS RDS, MongoDB, Entity Framework concepts
Cloud & DevOps	Azure DevOps, GCP, Google Kubernetes Engine (GKE), Docker, WebSocket, Terraform, CI/CD (GitHub Actions), Cloud Monitoring
Tools & Practices	Git, Postman, Swagger, Agile/Scrum, SOLID Principles, Microservices, Layered Architecture, Background Processing
Other Languages	Java, Python, JavaScript/TypeScript, C/C++, SQL
Languages	Arabic (Native), English (Professional), French (Conversational)