

Omar ElSawy

Full Stack & DevOps Engineer

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Summary

Software Engineer with experience building and deploying scalable applications across the full software development lifecycle, from backend services and modern web applications to cloud infrastructure and automated delivery pipelines. Skilled in microservices, distributed systems, containerization, Kubernetes, AWS, and CI/CD, with practical experience gained through multiple internships and large-scale team projects. Adept at collaborating across cross-functional teams to design reliable systems, improve development workflows, and deliver production-ready solutions.

Education

German University in Cairo (GUC)

2021 – 2026

BS in Computer Engineering (Media Engineering & Technology)

- GPA: 1.5 (German Scale) — Equivalent to 3.66

Experience

Full Stack Intern — T for IT, Cairo

Nov 2025 – Present

- Designed and implemented backend microservices using a NestJS monorepo architecture with RabbitMQ message queues, enabling asynchronous communication between distributed services.
- Developed React components integrated with REST APIs enabling delivery of new microservice-based product features used by internal teams.

Full Stack Intern — MasteryHub ITS, Cairo

Aug 2025 – Oct 2025

- Developed full-stack web applications using React and Node.js, implementing responsive interfaces and scalable backend APIs integrated with databases and external services.

Software Testing Intern — Capgemini, Cairo

Jul 2025 – Aug 2025

- Automated functional test suites for internal web applications using Playwright (JavaScript), improving regression testing efficiency and reducing manual testing effort.
- Applied ISTQB testing practices alongside TDD and ATDD methodologies to improve software reliability across the development lifecycle.

DevOps Intern — IBM, Cairo

Aug 2024 – Sep 2024

- Designed CI/CD pipelines using GitLab for containerized applications deployed on AWS EKS Kubernetes clusters enabling automated build, test, and deployment workflows.
- Implemented observability using Prometheus and Grafana to monitor Kubernetes pods and AWS infrastructure improving issue detection and system reliability.

Projects

Freelance Marketplace Backend

 GitHub Repository

- Developed backend features in a 15-member team using Java Spring Boot with PostgreSQL (JPA/Hibernate) and MongoDB databases.
- Containerized services and databases using Docker Compose with dedicated Dockerfiles for each service enabling unified multi-service deployment.
- Migrated the system to a microservices architecture using an HTTP API Gateway, RabbitMQ message broker, Kubernetes pod deployments, and Loki-based monitoring.

LLM-Powered Graph-RAG Travel Analytics Assistant

 Colab Notebook

- Built an airline analytics and recommendation system using Python applying sentiment analysis (VADER) and machine learning models to predict passenger satisfaction from review data.
- Designed a Neo4j knowledge graph modeling passengers, flights, journeys, and airports and implemented a Graph-RAG assistant combining Cypher retrieval, entity extraction, and LLMs via a Streamlit interface.

Certifications

AWS Certified Cloud Practitioner

Mar 2025

Technologies

Languages: JavaScript, TypeScript, Python, Java, SQL, C, Bash

Frontend: React, Next.js, HTML, CSS, Flutter

Backend: Node.js, NestJS, FastAPI, REST APIs

Databases: MongoDB, MSSQL, Firebase, Neo4j

DevOps & Cloud: Docker, Kubernetes, AWS, Git, CI/CD, RabbitMQ, Linux, Prometheus, Grafana