MUHAMMAD ALI

Software Engineer

✉ muhammadal@proton.me   📞 +201125939530   📍 Cairo, Egypt   🔗 mu7ammad-3li.github.io

github.com/mu7ammad-3li   🔗 linkedin.com/in/muhammad-3lii/

Summary

Performance-driven Backend Engineer with 3+ years of experience specializing in scalable microservices and cloud architecture (Node.js, Go, Python). Proven track record of optimizing infrastructure costs-notably reducing AWS spend by 99%-and building high- concurrency systems using PostgreSQL, Redis, and Docker. Adept at integrating LLMs (Gemini, OpenRouter) to automate business workflows.

WORK EXPERIENCE

Fullstack Engineer, *Freelance* ↗   08/2024 – 08/2025
Remote
- Architected an automated CI/CD deployment pipeline on AWS EC2, utilizing Spot Instances to slash build costs by 70%.
- Engineered a high-performance desktop application using electron and TypeScript, implementing complex PDF rendering and real-time annotation engines.
- Optimized media processing workflows by integrating FFmpeg with Amazon S3, ensuring scalable storage and rapid file retrieval.
- Developed custom Node.js automation scripts to synchronize third-party API data, reducing manual data entry by 40%.

Software Engineer | Part Time, *Bella Egypt* ↗   02/2024 – 11/2025
Cairo
- Integrated Google Gemini AI to build an autonomous customer support chatbot, increasing leadqualification rates by 25%.
- Maintained and optimized legacy backend APIs and database schemas to ensure system stabilityduring scaling.

Founder Software Engineer, *Bella Egypt* ↗   02/2023 – 02/2024
Cairo, Egypt
- Architected and developed a full-stack ERP/CRM system (MERN) from the ground up, supporting core business operations and customer lifecycle management.
- Engineered a real-time analytics dashboard using Recharts providing stakeholders with actionable insights into sales velocity and inventory turnover.

EDUCATION

Bachelor of Engineering, Computer and Control Systems Engineering,   01/2023
Suez Canal University   Ismailia, Egypt
- Thesis: Malware Detection Based on Static and Dynamic Features: Conducted in-depth analysis of executable files to identify malicious patterns, demonstrating a strong understanding of low-level system operations and software architecture.

60 Hours Cybersecurity Training Program, *ITI*   Ismailia, Egypt
Completed intensive training in Linux and Windows server administration, network security, penetration testing, and security assessment methodologies.

TECHNICAL SKILLS

Languages
JavaScript/TypeScript, Go, Python, SQL

Backend
Node.js, Bun, Hono, Express, FastAPI, Gin

Frontend
React, Next.js

Databases
PostgreSQL, MongoDB, Redis

Cloud/Tools
AWS (EC2, S3), Docker, Git, REST APIs

Cybersecurity
Malware Analysis,DRAKVUF,Penetration Testing,Network Security

PROJECTS

GitHub MERIDIEN, *Retail Management System*
- Developed a high-concurrency REST API in Go (Gin) featuring 26+ endpoints for complex retail logic.
- Implemented a secure JWT-based authentication flow with rotating refresh tokens and strict CORS policies.
- Designed a normalized PostgreSQL schema with optimized indexing for rapid order tracking and inventory lookups.

GitHub Assist+, *Customer Service Platform*
- Built a distributed messaging API using Bun and Hono that processes multi-channel webhooks (Facebook/ Instagram).
- Implemented a resilient background task system using Redis and BullMQ for asynchronous message delivery.
- Reduced LLM API overhead by 60% by engineering a semantic caching layer using PostgreSQL Vector extensions (pgvector).

GitHub CV-lize, *Resume Analysis Tool*
- Engineered a FastAPI service utilizing spaCy for Named Entity Recognition (NER) to extract key professional data points.
- Developed a scoring algorithm to rank candidate suitability against job descriptions via LLM analysis.

SwiftDashboard: A Comprehensive E-commerce Admin Panel
- Created a feature-rich administrative dashboard for the e-commerce platform, enabling staff to manage products, orders, customers, and view financial data visualizations built with Recharts.

SwiftCart - A Modern E-commerce Platform
- Architected and built a complete e-commerce solution with React, TypeScript, and Firebase. Implemented all core functionalities, including product management, a dynamic shopping cart, and a secure checkout process.