

# Abdulhaleem Osama

## Software Engineer

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## Profile

Software Engineer at TJM Labs specializing in AI-powered solutions, automation, and team leadership. Experienced in Retrieval-Augmented Generation (RAG) systems, Robotic Process Automation (RPA), and full-stack development for healthcare and customer service. Joined as the 2nd engineer; company has since grown to approximately 70 engineers and raised a \$10M Series A.

## Experience

### TJM Labs

Remote - Wilmington, Delaware, USA

#### Software Engineer

Sep 2025 - Present

- Leading delivery of 20+ automation and AI-driven projects across healthcare and customer service.
- Managing a team of engineers, providing technical guidance, task prioritization, and code reviews.
- Driving end-to-end ownership of automation solutions from design to deployment and monitoring.
- Managing RPA dev team, building desktop/web automation bots for healthcare workflows processing 25K prescriptions/day.

#### Junior Software Engineer

Nov 2024 - Sep 2025

- Contributed to ColiVara (RAG SaaS) - built benchmarking suite, Python & TypeScript SDKs, saving \$30K+ annually via OpenAPI Generator.
- Built end-to-end voice customer service system with Retell AI + Django handling 50% of client phone calls.
- Developed and maintained RPA bots for healthcare workflows, reducing manual efforts.
- Led self-hosting initiatives, resolving deployment challenges under tight deadlines.

## Projects

### AQSA: Arabic Quality and Skills Accelerator

Technologies: LangChain, IBM Watsonx, FastAPI, Elasticsearch, LORA Fine-Tuning

- Built parallelized chain of critic and reviewing agents for Arabic grammar parsing (I3rab) at paragraph level.
- Developed a Quran search engine using Elasticsearch with 100% retrieval accuracy.
- Created a RAG system for dictionary lookups in classical Arabic dictionaries.
- Fine-tuned ALLaM model with Quran I3rab data and deployed via asynchronous FastAPI + Docker.

### Finance Dashboard - Real-time Egyptian Financial Data Platform

Technologies: Node.js, Express, SQLite, Cheerio, Web Scraping

- Built a real-time platform aggregating gold prices, forex rates, crypto, and black market data from multiple sources.
- Implemented multi-source web scraping with automatic fallback, in-memory caching, and scheduled database snapshots.
- Developed analytics features including buy/sell signals, fair value calculations, and local gold premium tracking.

## Education

### Bachelor of Computer and Control Systems Engineering Mansoura University

Mansoura, Egypt 2020-2025

Cumulative academic total: 91.8%. Data Science Committee Supervisor at IEEE Mansoura CSC.

## Skills

Languages: Python, JavaScript, TypeScript, SQL, C++

AI & Machine Learning: PyTorch, LangChain, Elasticsearch, Retrieval-Augmented Generation (RAG), IBM Watsonx, LORA Fine-tuning

Backend & Web: Django, FastAPI, Node.js, Express, Docker, OpenAPI Generator, Swagger

Automation & RPA: BotCity, Playwright, Make.com, Retell AI, Robotic Process Automation (RPA)

DevOps & Cloud: AWS Lambda, GitHub Actions, CI/CD, Linux, Nginx

Databases: MongoDB, MySQL, SQLite

## Certifications

Deep Learning Specialization - DeepLearning.AI (Coursera, by Andrew Ng)

Applied Data Science Lab - WorldQuant University

## Languages

Arabic (Native), English (Professional working proficiency)