

Ahmed Eltawil

Senior Software Engineer

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SUMMARY

Senior Software Engineer with 5+ years building production systems across backend, full-stack, and robotics software, repeatedly taking products from the ground up to real users in production. Owned the backend of a mission-critical industrial platform at an ADNOC project, built fintech systems in regulated environments (KYC, live trading), and shipped two platforms from zero to daily active users. Python-first (FastAPI, Django), strong on React/TypeScript, databases (PostgreSQL, MongoDB, Redis, Elasticsearch), and DevOps (Docker, Kubernetes, Terraform, CI/CD). Hands-on AI engineering: LLM integration, fine-tuning, and agentic tools in production.

TECHNICAL SKILLS

Backend: Python (Expert; FastAPI, Django, DRF, Pydantic, async), Node.js, REST & GraphQL, WebSockets, microservices, Celery

Frontend: React, Next.js, TypeScript, JavaScript, HTML/CSS, real-time dashboards

Databases: PostgreSQL, MySQL, MongoDB, Redis, Elasticsearch; schema design, indexing, query optimization

DevOps & Cloud: Docker, Kubernetes, CI/CD (GitHub Actions, GitLab CI, Jenkins, ArgoCD), Terraform, Azure (AKS), AWS, Digital Ocean, Linux, Prometheus/Grafana

AI Engineering: LLM APIs (Anthropic, OpenAI), agentic tool-calling, LLM fine-tuning, MCP, AI-first development (Claude Code)

Robotics & Embedded: ROS/ROS2, sensor integration (CAN/Ethernet/serial), embedded Linux, field commissioning

PROFESSIONAL EXPERIENCE

Software Engineer

Nov 2023 – May 2026

M&J Oil Services and ADNOC (Abu Dhabi National Oil Company), Abu Dhabi

- Owned the full software stack for an autonomous industrial robot on a mission-critical ADNOC program, from architecture through deployment to live field operation at an ADNOC site
- Designed and built REST APIs (FastAPI, Pydantic) and real-time WebSocket streams handling concurrent sensor data at sub-second latency, with a React operator dashboard for live monitoring and remote control
- Built a distributed microservices architecture (Redis pub/sub, JWT/RBAC security) deployed via Docker, Kubernetes, and GitHub Actions CI/CD; sustained uptime with health checks and structured logging
- Led the software lifecycle end to end: coordinated directly with ADNOC's IT team on integration, networking, and security; connected the system to client servers; authored the complete technical documentation package (user manual, test reports, handover)

Stack: Python, FastAPI, Node.js, React, Redis, MongoDB, MySQL, Docker, Kubernetes, GitHub Actions, ROS

Software Engineer

Nov 2022 – Nov 2023

AM Audit, Dubai

- Built the backend for an automated stock-trading platform used with live capital: integrated Alpaca and Interactive Brokers APIs for real-time market data and order execution, with user-configurable trading bots (Django, Redis pub/sub, Celery)
- Designed and delivered full-stack business applications (Django backend, Angular/React frontends) automating audit workflows for 15+ daily users
- Optimized SQL queries and indexing for ~40% faster API responses; built GitLab CI + Docker pipelines cutting deployments from days to under 30 minutes; mentored team members on standards and reviews

Stack: Python, Django, PostgreSQL, Redis, Celery, Alpaca API, Interactive Brokers API, Angular, React, Docker, GitLab CI

Software Engineer (Contract)

May 2023 – Nov 2023

Axis KYC, Dubai

- Built secure backend services and third-party integrations (REST, XML) for a KYC identity-verification product serving live customers in a regulated financial environment, processing hundreds of checks daily with retry logic, fault tolerance, and data encryption

Stack: Python, Django, DRF, Redis, Celery, XML, Docker, CI/CD

Associate Software Engineer

Jun 2020 – Sep 2022

Thequa for Medical Industries ,Egypt

- Built a full enterprise application from scratch ,requirements, design, development, deployment, and user training ,serving 5 departments and 30 daily users across manufacturing, warehouse, accounting, and QC (Django, PostgreSQL, JavaScript)
- Built an end-to-end IoT monitoring pipeline: selected and wired sensors (pressure, temperature, dust) on Raspberry Pi/Linux, streamed data into real-time dashboards with threshold alerting ,eliminating manual reporting and cutting data entry ~60%
- Automated the production line through PLC logic re-engineering (+45% throughput, ~55k → ~80k units/shift) and built camera-based defect detection for product labels; performed root-cause analysis on servo/motor failures

Stack: Python, Django, PostgreSQL, JavaScript, Raspberry Pi, PLC, Sensors, Machine Vision

PROJECTS

SayTech, Multi-Tenant SaaS Platform (side project, built solo)

2024 – Present

From zero to a production platform with real organizations using it

- Took the platform from idea to live product single-handedly ,requirements, architecture, development and deployment
- Onboarding of the first organization now processing real transactions daily
- Frontend: React/Next.js, admin platform plus a customer-facing client website
- Backend: Django and FastAPI with Celery workers, PostgreSQL, Elasticsearch search, and Redis.
- Infrastructure: Kubernetes on Terraform-managed Azure.
- Shipped production AI: fine-tuned a tool-calling LLM served as its own microservice for natural-language queries on live business data

Enterprise CRM, Freelance

2023

- Delivered a complete CRM for a training institute from first client meeting to daily production use
- Manages the full student lifecycle for 500+ students 20+ instructors, 20+ Sales Agents: enrollment, scheduling, and reporting, cutting administrative overhead ~70%
- Backend: Django/DRF with PostgreSQL, Redis, and Celery for background processing
- Frontend: shipped an Angular MVP to validate with real users, then rebuilt in React based on their feedback

MCP File System Server ,Open Source

2025

- Built and open-sourced a Model Context Protocol server enabling AI assistants to access and process documents (Python, FastAPI, MCP SDK)

EDUCATION

Bachelor of Engineering ,Mechatronics & Automation Engineering

2020

Ain Shams University, Egypt | Graduation Project: A+

Exchange Program ,Electrical Engineering

2018

California State University, Los Angeles, USA

CERTIFICATIONS

- CKAD (In Progress, KodeKloud)
- AWS Cloud Practitioner (In Progress, Manara) •
- Docker Foundations (LinkedIn)
- DevOps Professional (PagerDuty)
- CSWP (Dassault Systèmes)