AHMED SAMEH KHALIL

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EDUCATION

Bachelor of Computer Science, Software Engineering, Cairo University — Sep 2022 - Jun 2026

SKILLS

Programming	Python, Java, TypeScript, JavaScript, SQL, C#, C++
Backend & Tools	FastAPI, Pydantic, Node.js, PostgreSQL, pgvector, AWS, Docker, pytest, Git
AI & MLOps	PyTorch, OpenCV, Roboflow, W&B, Weave, LangChain, LangGraph
Concepts	Machine Learning, RAG, Tool Calling, LLM Evaluation, OOP, DSA
Languages	Fluent in English and Arabic

EXPERIENCE

AI Engineer — May 2026 – Present
CodeContent — *London, UK (Remote)*

- Develop 20+ computer vision pipelines using Roboflow, covering annotation, augmentation, training, and inference, with reproducible implementations published on the Roboflow Blog.
- Benchmark 12+ AI models and variants using Weights & Biases and Weave, comparing performance metrics and execution traces to identify model strengths, limitations, and failure patterns.
- Build reproducible Python-based AI experiments and executable notebooks, integrating automated quality checks, performance visualizations, and technical documentation.

Backend Engineer — Dec 2025 – Apr 2026
DigitalX — *Riyadh, Saudi Arabia (Remote)*

- Designed, built, and containerized a production Survey Management System backend using Node.js, TypeScript, PostgreSQL, Drizzle ORM, and Docker, implementing secure REST APIs, OAuth 2.0, role-based access control, automated testing, and error handling to support 2,000+ users.
- Owned the backend architecture end-to-end, including database schema design, migrations, Docker containerization, security controls, and robust error handling.

Freelance Software Developer — Jun 2025 – Dec 2025
Self-employed — *Cairo, Egypt*

- Contributed to a high-performance C#/.NET connection pooler, optimizing resource management to achieve a 1.3x speed improvement over standard NuGet alternatives.
- Built NUnit test suites to ensure stability, cover edge cases, and maintain reliability under high-load performance.

PROJECTS

ScolioCare AI Scoliosis Detection System. Built a DenseNet-121 computer vision pipeline for scoliosis detection and severity classification from spinal X-rays, covering preprocessing, augmentation, training, and evaluation. Achieved 92.6% clinical test accuracy.

Faultline – AI Agent Reliability & Evaluation Platform. Engineered a Python/FastAPI platform for benchmarking LLM agents against stateful production-incident simulations. Implemented tool calling, fault injection, automated scoring, execution tracing, and reproducible evaluations using LangGraph, PostgreSQL, pytest, and Docker.

EXTRA-CURRICULAR ACTIVITIES

- **2x ECPC Qualifiers Contestant** — Jul 2023/ Jul 2024
- **Awarded Perfect Student of the College,** FCAI, Cairo University — Nov 2023