

OMAR FOUDA

MACHINE LEARNING ENGINEER

Applied AI · RAG · Computer Vision

CONTACT

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SKILLS

Languages
Python, C++, JavaScript/TypeScript, Java, Dart

ML / Deep Learning
scikit-learn, TensorFlow/Keras, PyTorch, Sentence Transformers

Applied AI / RAG
OpenAI API, Gemini API, ChromaDB, FAISS, metadata-aware retrieval

Computer Vision / Media
OpenCV, Tesseract OCR, FFmpeg, Whisper transcription

Backend / Deployment
FastAPI, Docker, WebSockets, Uvicorn, Streamlit, ngrok, REST APIs

Data / Databases
NumPy, Pandas, Matplotlib, Seaborn, SQL Server, PostgreSQL, MySQL, MongoDB, SQLite

Tools
Git/GitHub, Jupyter, Google Colab, VS Code, Kaggle

LANGUAGES

Arabic — Native
English — Professional working proficiency

CERTIFICATIONS

- Kaggle — Computer Vision (Nov 2025)
- Kaggle — Intro to Deep Learning (Nov 2025)
- ITI — Full Stack Web Dev w/ Python, 160h (Jul–Aug 2025)
- Manara — Responsible AI & Ethics (Jun 2024)

PROFESSIONAL SUMMARY

Machine Learning Engineer with two years of hands-on experience building applied AI systems with Python, FastAPI, scikit-learn, and modern LLM tooling. Strong focus on retrieval-augmented generation, semantic search, computer vision, multimodal ingestion, and production API deployment. Recent work includes an Arabic-first educational RAG backend, Jobify AI matching for candidate-job recommendations, and public ML prediction APIs.

SELECTED PROJECTS

Educational RAG Backend

Python · FastAPI · ChromaDB · OpenAI/Gemini · OCR · Transcription · Docker | github.com/omarfoud/Educational_rag

- ▶ Built an Arabic-first educational RAG backend for documents, images, audio, and video.
- ▶ Designed multimodal ingestion with FFmpeg, OCR, and transcription workflows to extract searchable learning content.
- ▶ Implemented metadata-aware retrieval across subject, grade, term, book, and course-book context for more relevant answers.
- ▶ Prepared local and low-cost cloud deployment profiles with Docker and provider switches for embeddings, OCR, and transcription.

Jobify AI Matching Backend — Graduation Project

Python · FastAPI · FAISS · Sentence Transformers · Gemini · SQL Server · SQLite | github.com/omarfoud/gradution_project

- ▶ Built an AI backend for job recommendations, CV analysis, and career chat connected to a hosted SQL Server application database.
- ▶ Combined FAISS semantic search with SQLite/SQL fallback and active CV retrieval for candidate-job matching workflows.
- ▶ Implemented PDF/DOCX CV text extraction, embeddings, Gemini gap analysis, match percentages, missing skills, and improvement advice.
- ▶ Added health checks and admin sync endpoints to keep job and resume embeddings current in production workflows.

ADDITIONAL PROJECT

Diabetes Prediction Public API

Python · FastAPI · scikit-learn · ngrok · REST API | github.com/omarfoud/diabetes-public-api

- ▶ Exposed a trained scikit-learn diabetes prediction model as a public REST API using FastAPI and ngrok.
- ▶ Created a JSON request/response contract for eight clinical inputs and returned human-readable prediction results.
- ▶ Packaged the deployment flow with a serialized model, FastAPI wrapper, ngrok tunnel startup, and requests-based endpoint tests.

EDUCATION

B.Sc. Computers and Information (Information Systems)

Faculty of Computers and Information, Menoufia University · 2022 – 2026

CURRENT FOCUS

- ▶ Computer vision with OpenCV: image processing, feature detection, and real-time video analysis.
- ▶ LLM integration and RAG pipelines for Arabic and multilingual educational content.
- ▶ Production API deployment with FastAPI, Docker, WebSockets, and cloud-friendly provider profiles.
- ▶ Open-source machine learning projects and Kaggle practice across prediction, classification, and recommendation tasks.