Joseph Nawar

AI & Machine Learning Junior Engineer

joe.hany2005@gmail.com | linkedin.com/in/joseph-nawar-3478b5315 | github.com/Joseph-Nawar | Cairo, Egypt

Military service: Exempt

PROFESSIONAL SUMMARY

Built Arabic RAG, multimodal ML, and document-automation systems using Python, FastAPI, PostgreSQL, and Docker. Implemented hybrid retrieval, structured extraction, ERP/CRM integrations, and automated tests, with reproducible evaluation of quality, reliability, latency, and cost.

PUBLICATIONS

Multimodal Stroke-Triage Research | Accepted Conference Paper | MIUCC 2026

- Authored and presented a peer-reviewed paper at the 6th International Mobile, Intelligent, and Ubiquitous Computing Conference; IEEE proceedings and IEEE Xplore publication forthcoming.

TECHNICAL SKILLS

Programming: Python, SQL, TypeScript, JavaScript, C++, C#
AI & Machine Learning: PyTorch, TensorFlow, Scikit-learn, Multimodal ML, Model Evaluation
LLM Applications: RAG, Hybrid Retrieval (BM25/Dense), Reranking, Structured Extraction
Backend & Integrations: FastAPI, REST APIs, Pydantic, SQLAlchemy, n8n, Odoo, HubSpot
Data & Interfaces: PostgreSQL, Qdrant, Pandas, NumPy, React, Streamlit
Engineering & Tooling: Docker, Docker Compose, Git, GitHub Actions, pytest, MLflow, Linux

PROJECTS

RuralStroke Triage - Multimodal Stroke-Triage Prototype | Python, PyTorch, Scikit-learn, OpenCV

- Built an offline-capable stroke-triage prototype combining facial video, speech, symptoms, and metadata, with late fusion, deterministic rules, and clinician review.
- Developed reproducible vision/speech pipelines and offline synchronization; evaluated model branches, robustness, and edge runtime, with usability studies involving 10 collectors and five clinicians.

Kawaneen - Arabic Legal AI & RAG Platform | Python, FastAPI, Streamlit, Qdrant, Docker, MLflow

- Built hybrid BM25/dense retrieval, reranking, citation-grounded Q&A, and safe abstention, served through FastAPI/Streamlit with Docker Compose and a synthetic demo.
- Achieved **0.684 vs. 0.639 nDCG@10** with structure-aware chunking on a frozen retrieval dataset; reduced citation-contract defects from **29/40 to 0/40** in a controlled DEV evaluation.

OpsFlow AI - Purchase-Order Automation | Python, FastAPI, PostgreSQL, n8n, React, Docker

- Built document ingestion, structured LLM extraction, deterministic validation, and human approval; integrated Odoo, HubSpot, Gmail, and Slack through FastAPI and n8n.
- Implemented PostgreSQL persistence, idempotent synchronization, retries, recovery, and audit trails; evaluated correctness, reliability, latency, and token cost.

WORK EXPERIENCE

European Universities in Egypt (EUE) | Teaching Assistant | 2026 – Present
University of London Computer Science programmes

- Prepare Python/p5.js practical exercises for Intelligent Signal Processing; support students with audio-processing implementations, debugging, and algorithm understanding.

Elevvo Pathways | Machine Learning Intern | Remote | Summer 2025

- Developed sales-forecasting regression and loan-approval classification models, including data cleaning, model training, and task-appropriate performance evaluation.

Summit Technology Solutions | Software Development Intern | Summer 2024

- Contributed to C#/.NET application development and designed SQL-oriented data models for a mock school database.

EDUCATION

University of London | **BSc Computer Science (Machine Learning and Artificial Intelligence)**
Teaching Centre: European Universities in Egypt
Studies completed: 2026 | Final results pending | Expected First Class Honours
IGCSEs | The Continental School of Cairo | Multiple A* grades

CERTIFICATIONS

IBM AI Engineering Professional Certificate | Stanford Machine Learning Specialization (Andrew Ng)