

MOHAMED KHALED RAMADAN MILEGE

AI Engineer

RAG & LLM Systems · Computer Vision · Multi-Agent AI · Data Analysis

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[LinkedIn](#) | [GitHub](#) | [Portfolio](#)

PROFESSIONAL SUMMARY

Artificial Intelligence graduate (2026) specializing in Generative AI, Retrieval-Augmented Generation (RAG), Agentic AI, Computer Vision, and Data Analysis. Experienced in building production-ready LLM applications, multi-agent architectures, real-time computer vision systems, and AI-powered assistive technology using Python, LangChain, and the Gemini API. Currently advancing data science skills through the IBM Data Scientist track (DEPI). Holds 10+ industry certifications spanning AI, data science, and software development.

EDUCATION

Bachelor of Science — Artificial Intelligence 2022 – 2026

Aqaba University of Technology (AUT) | Aqaba, Jordan

IBM Data Scientist Professional Track — Digital Egypt Pioneers Initiative (DEPI), Round 5 — In Progress, 2026

TRAINING

Trainee — Aqaba Technology Education Consulting Services Jul 2026

Academy for Innovation and iTqan (Aqaba Digital Hub subsidiary)

- Completed a comprehensive hands-on technical training program; recognized in an official Experience Letter for strong dedication, learning aptitude, and professionalism.

PROJECTS

Smart Glasses AI Graduation Project — AI Assistive Wearable

[GitHub](#)

Python · YOLOv8 · Gemini AI · OpenCV · gTTS · Tesseract OCR · Geolocation API

- AI-powered wearable for visually impaired users: real-time Object Detection (YOLOv8), OCR, Face Recognition, and Voice AI.
- Directional audio feedback, currency recognition, emergency SOS with GPS, and a full Arabic voice command system.

Cognitive Hybrid RAG System — Production-Ready RAG Pipeline

[GitHub](#) | [Live Demo](#)

Python · ChromaDB · Gemini API · Streamlit · LangChain · Plotly

- Hybrid lexical + semantic retrieval (TF-IDF + vector cosine) with multi-query expansion and Cross-Encoder reranking.
- 6-metric automated evaluator: Context Relevance, Faithfulness, Precision, Recall, Answer Relevancy, Retrieval Accuracy.

Sentinel-AI — Multi-Agent Cybersecurity Hub

[GitHub](#)

Python · Gemini AI · Streamlit · Multi-Agent Architecture

- 3-agent system (Analyzer, Forensics, Decision) for real-time transaction classification: SAFE, SUSPICIOUS, or FRAUD.
- Agents collaborate and hand off context to reach a final decision, mirroring a real fraud-review workflow.

AUT Smart Chatbot — Bilingual AI Conversational Agent

[GitHub](#) | [Live Demo](#)

JavaScript ES6+ · Gemini 2.0 Flash · HTML5/CSS3 · NLP Pipeline

- University chatbot with an Arabic/English NLP pipeline, GPA calculator, faculty directory, and admissions guidance.

PixelForge — Real-Time Image Filtering Studio

[GitHub](#) | [Live Demo](#)

HTML5 · CSS3 · Vanilla JavaScript · Canvas API · Python (OpenCV)

- Zero-dependency browser image studio: 20+ filters, 8 presets, live RGB histogram, stack mode, multi-format export.

CERTIFICATIONS

- Introduction to Data Science — Cisco Networking Academy — Aug 2025
- Python & AI Course — 36 hrs, Grade: Excellent — Black Horse Courses — 2025
- Applications of Artificial Intelligence — 15 hrs — British University in Egypt (SCE) — Aug 2025
- Artificial Intelligence — 15 hrs, Serial No. NM6715 — MediX / IAO Accredited — Sep 2025
- Artificial Intelligence Training Program — Telecom Egypt (WE) — Aug 2023
- Digital Skills and AI Applications — 12 hrs — Cairo University — Oct 2025
- Advanced Excel (Conditional Formatting, Reports, Charts, Functions) — Edraak — Mar 2026
- Integrated Skills Diploma (ICDL) — Very Good — Information Technology Center (TLC) — Oct 2025
- Code with Python: Study Series — Google Developer Group (GDG) Aqaba
- AI for You — Oracle University (Digital Achievement Badge) — Aug 2026

SKILLS

Generative AI & LLM Engineering: Generative AI & Large Language Models (LLMs) · Retrieval-Augmented Generation (RAG) · Agentic AI & Multi-Agent Systems · Multi-Agent Orchestration (LangGraph) · Prompt Engineering · Vector Databases & Semantic Search (ChromaDB) · Cross-Encoder Reranking

Computer Vision & NLP: Computer Vision · Real-Time Object Detection (YOLOv8) · Facial Recognition · OCR (Tesseract) · Image Processing · Natural Language Processing (NLP) · Conversational AI / Chatbots · Speech Recognition & Text-to-Speech

Data Analysis & Programming: Data Analysis & Visualization · Model Evaluation Metrics · Python (Advanced) · JavaScript (ES6+) · SQL · MS Excel (Advanced) · MS Access · API Integration · Version Control (Git/GitHub)

LANGUAGES

- Arabic – Native Language
- English: Reading & Writing – Excellent | Listening & Speaking – Very Good

KEY ACHIEVEMENTS

- Developed 4 end-to-end AI systems spanning generative AI, computer vision, NLP, multi-agent orchestration, and image processing.
- Built a production-ready Hybrid RAG pipeline evaluated on 6 quality metrics (Context Relevance, Faithfulness, Precision, Recall, Answer Relevancy, Retrieval Accuracy) for hallucination-free retrieval.
- Designed an AI-powered assistive wearable (Smart Glasses) integrating YOLOv8, Gemini AI, OCR, facial recognition, and Arabic voice control for visually impaired users.
- Currently completing the IBM Data Scientist track through Digital Egypt Pioneers Initiative (DEPI), Round 5.
- Completed 10+ certified courses across AI, data science, and software development.
- Earned ISO 21001 accreditation via MediX / IAO for AI training standards compliance.