

Abdulahman Ragab Mohamed

Artificial Intelligence Engineer

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Summary

AI Engineer specializing in LLMs, Agentic AI, and NLP, with hands-on experience building intelligent chatbots, RAG pipelines, and multi-step AI workflows across legal-tech, health-tech, and business automation domains. Proficient in LangChain, LangGraph, with a strong foundation in ML, DL, and end-to-end system design. Passionate about delivering production-ready AI solutions that are smart, privacy-conscious, and impactful.

Work Experience

Artificial Intelligence Engineer

Bynh (Legal-Tech Startup) - January 2026 - June 2026

- Collaborated with a senior engineer to understand business requirements and co-design the end-to-end system architecture for an AI-powered legal-tech platform.
- Built an intelligent conversational agent using **LangChain** and **LangGraph** achieving over 90% query resolution rate for complex user requests through advanced prompt engineering, query expansion techniques, and multi-step agentic reasoning.
- Researched and evaluated local LLMs (Qwen, DeepSeek) for production deployment on **GCP**, prioritizing performance and strict data privacy for sensitive legal case information.
- Integrated a website knowledge base with the LLM to enable context-aware service recommendations, successfully handling implicit user requests where users did not state their needs directly covering 100% of mapped service categories.

Freelance Artificial Intelligence Engineer

Self-Employed - June 2025 - December 2025

- Developed Multimodal AI pipelines, including **Voice Rag**, **Text-Video** Understanding systems and the integration of Vision-Language models (**whisper**, **CLIP**), to perform deep semantic feature extraction.
- Engineered a **Text-to-SQL** system using advanced NLP techniques, enabling non-technical users to query databases in natural language and reducing manual query writing effort by an estimated over 70%.
- Developed multi-step AI workflows and Chatbots in **Flowise** and **LangChain** to automate business processes, including task classification, and dynamic response generation using local open-source LLMs (e.g., **Qwen**, **Phi-3**).
- Extended Flowise by building a custom node integrating the **Docling** package for **OCR**, enabling seamless processing of text and image documents within RAG pipelines.

Education

Bachelor of Science in Computers and Artificial Intelligence - GPA: 3.46 (Excellent)

Helwan University, Cairo, Egypt

August 2019 - June 2023

Projects

1- Ecommerce Product Generator

- Fine-tuned **Qwen1.5-0.5B-Chat** LLM using **LoRA** (Low-Rank Adaptation) for Amazon product content generation, achieving efficient model adaptation with only 0.38% trainable parameters.
- Implemented a comprehensive evaluation suite including ROUGE, BLEU, METEOR, BERTScore, and Perplexity to rigorously assess model performance and ensure high-quality outputs.

2- Corrective RAG (CRAG) System

- Architected a Correcting RAG using **LangGraph** and **LangChain**, developed an automated relevance grading system that dynamically triggers query rewriting and web-search fallbacks to compensate for low-quality retrieved documents.
- Significantly improved response precision and **reduced hallucinations** by validating document quality before passing context to the LLM for generation.
- Optimized high-speed semantic search by integrating **FAISS** vector databases and **embedding-gemma-300m**.
- Implemented an automated evaluation framework using **RAGAS**, measuring metrics such as Factual Correctness, Semantic Similarity, and Context Recall to ensure 90%+ response accuracy across complex query.

3- **Graduation Project: Fitness.ai (Grade: 96, A+)**

- Collected and preprocessed a custom dataset from various video sources, including collaborations with physiotherapists and developed an AI-driven application for real-time exercise classification and recognition using **MediaPipe** for **human pose estimation** and **Machine Learning models**, achieving **90.3%** accuracy
- Implemented a complete pipeline including video processing, landmark extraction, labeling.
- Evaluated multiple models (ANN, Random Forest, Gradient Boosting) and finalized multinomial logistic regression for better generalization.

Skills:

- **Programming & Databases:** Python, Java, C, SQL Server, Git, Neo4j.
- **Software Development:** Object-Oriented Programming (OOP), Data Structures & Algorithms.
- **Data Science:** NumPy, Pandas, Matplotlib, Seaborn, Power BI.
 - Techniques: Exploratory Data Analysis (EDA), Data Transformation, Data Wrangling & Cleaning, Statistical Analysis, A/B Testing.
- **Machine Learning & Deep Learning:** Scikit-learn, TensorFlow, Keras, MLflow.
 - Techniques: Supervised/Unsupervised Learning, ANN, CNN, RNN, LSTM, GRU, Transformers.
- **NLP & Computer Vision:** NLTK, spaCy, OpenCV, MediaPipe.
 - Techniques: Sentiment Analysis, Text Classification/Clustering, Computer Vision Pipelines.
- **Generative AI & LLMs:** LangChain, LangGraph, LangSmith, Hugging Face, Ollama, LiveKit (STT/TTS), Prompt Engineering techniques, Vector Databases, knowledge graph.
 - Techniques: RAG (Retrieval-Augmented Generation), Agentic RAG, Self-RAG, Multimodal RAG, Graph RAG, RAG Evaluation (RAGAS), Multi-agent systems, Fine-Tuning (LoRA, QLoRA), MCP.
- **AI Development Tools:** Antigravity, Cursor, Claude Code, OpenCode.
- **Deployment & DevOps:** FastAPI, Streamlit, Docker, CI/CD Pipelines, AWS (EC2).

Courses

- [Agentic AI Projects: FastAPI, MCP, AWS Deploy](#)
- [Ultimate RAG Bootcamp Using Langchain,LangGraph & Langsmith](#)
- [Complete Generative AI Course \(LangChain & Hugging Face\)](#)
- [Complete AI Engineer Bootcamp](#)
- [Machine Learning and Data Science Diploma](#)
- [Python for Machine Learning & Data Science Masterclass](#)
- [TensorFlow for Deep Learning Bootcamp](#)