

# Mariam Omar

AI & ML Engineer

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## SUMMARY

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Artificial Intelligence Engineer specializing in multi agent LLM systems, RAG, and multimodal AI, including their evaluation, as well as machine learning models and their workflows from data preparation through evaluation. Passionate about using AI and automation to solve real problems and make everyday life easier.

## EXPERIENCE

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### Senior Machine Learning Engineer

mDoc

Feb 2025 - Present

- Build and deploy LLM based agents that provide patients with 24/7 healthcare support.
- Evaluate agents and models through automated metrics, human review and annotation, and LLM as a judge to ensure safety, quality, and reliability.
- Develop monitoring workflows that track production performance and refine systems through clinical and user feedback.
- Technologies: Python, LangChain, LangGraph, MCP, OpenAI SDK, Anthropic SDK, Transformers, PyTorch, TensorFlow, Pinecone, Weaviate, MongoDB, Redis, Google Cloud, Docker, WebSocket

## SKILLS

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- Languages: Python, SQL, C++, C, C#, Java, R, MATLAB, HTML/CSS
- AI & ML: LLMs, agents, RAG, tool calling, embedding models, speech models, multimodal AI, LLM & agent evaluation, fine tuning, prompt engineering, MCP
- Frameworks: LangChain, TensorFlow, scikit-learn, pandas, NumPy, Matplotlib
- Databases & Cloud: MongoDB, Redis, SQLite, GCP, AWS (Cloud Practitioner), APIs, Git, Sentry
- Concepts: OOP, data structures, algorithms, neural networks, computer vision, NLP, big data, operating systems

## PROJECTS

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### Speech & Text Transcription App for the Deaf

7/2023 - 7/2024

- An iOS accessibility app that converts between speech, text, and images to support deaf users (graded A+).
- Technologies: Python, Whisper (STT), SpeechT5 (TTS), PaddleOCR, React Native.

### Credit Card Approval Prediction

5/2024

- Predicts whether a credit card client will fall past due on payments, based on their application details and monthly credit history.
- Technologies: Python, Random Forest, XGBoost, scikit-learn, pandas

### Marine Life Classification & Detection

12/2023

- Computer vision solutions for image classification, object detection, few shot learning, and segmentation.
- Technologies: Python, VGG, Siamese networks, hyperparameter tuning

### Loan Completion Status Prediction

4/2023

- Predicts how a merchant cash advance / loan application resolves, using only the data captured at application time.
- Technologies: Python, KNN, Logistic Regression, AdaBoost, scikit-learn

## EDUCATION

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### B.Sc. Computer & Information Sciences, Major in Artificial Intelligence

8/2020 - 7/2024

Ain Shams University, Cairo

GPA: 3.4 / 4.0

University of East London, London

First Class Honours