Sara Elsayed Ibrahim

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EDUCATION

Systems and Computer, Faculty of Engineering, Al-Azhar University (2019-2024)
Cumulative Grade: Very Good (82.5%).

Graduation Project: Investment and Savings Recommendation Website Role:
- Developed and implemented an **LSTM** model to predict investment and user risk tolerance.
- Collaborated with the Web team to **deploy** machine learning models on the platform.

COURSES & CERTIFICATIONS

- NTI-HCIA- AI V3.5 Huawei Certification.
- ML Specialization (Coursera).
- Data Analysis with Python (IBM).

PROJECTS

Mini RAG App (Q&A Application)
- Developed a Q&A application leveraging Retrieval-Augmented Generation (RAG) principles in an MVC architecture.
- Utilized **Docker** for containerization, **MongoDB** for data storage, **Qdrant** for vector similarity search, and **Cohere** for embedding and text generation.
- Implemented the backend with **FastAPI**, tested APIs using **Postman**, and managed a virtual environment on **WSL (Ubuntu)**.
- Practiced Git version control with a branch-based workflow **and** deployed regular updates to **GitHub**.

AI-Powered Chatbot for Health and Nutrition (RAG-based)
- Developed a chatbot using **Retrieval-Augmented Generation (RAG)**, integrating **Gemini** AI for natural language understanding and **ChromaDB** for document retrieval.
- Built and deployed a user-friendly interface on **Hugging Face Spaces** with **Gradio** for seamless interaction.
- Collaborated with a team of 5 during an **80-hour NTI course**, delivering a live demo with accurate, context-aware responses based on trusted references.

Corrective RAG LLM Q&A Chatbot
- Developed a Corrective RAG-based chatbot using **Mistral-7B-Instruct**, **LangChain**, and **ChromaDB** to retrieve, refine to enhance answer accuracy and reduce hallucinations.
- Integrated **semantic chunking** and **knowledge refinement** to extract the most relevant information.
- Integrated **Tavily Search API** for web search augmentation, for external knowledge retrieval when necessary.

TECHNICAL SKILLS

- **Data Analysis & Visualization**: Experienced in preprocessing and Exploratory Data Analysis (EDA).
- **Machine Learning**: Skilled in classification, regression, deep learning.
- **NLP & Language Models:** Deep understanding of **transformers, RNN, LSTM, LLMs, finetuning** and **OCR** for text extraction.
- **Development Tools & Frameworks**: Proficient in **TensorFlow, Scikit-learn, FastAPI, Docker,** and **Gradio**.
- **RAG & AI Integration**: Hands-on with Retrieval-Augmented Generation (**RAG**), **Corrective RAG**, **VectorDB**.
- **Version Control & Collaboration**: Expertise in **Git/GitHub**, branch management, and team-based workflows.

SOFT SKILLS

- Analytical Thinking | Communication | Collaboration

STUDENT ACTIVITIES AND VOLUNTEERING

- ECPC Finalist.
- Technical Support at IEEE Al-Azhar University