Mohammed Talib

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SUMMARY

AI Engineer with a Master's in AI, specialising in **RAG chatbots**, **MLOps**, **Azure** and **workflow automation**. Currently at Factor, working as Sr AI Engineer in **AI R&D** and **optimising RAG** chatbot responses using **Multi-Agent Architecture**. Experienced in **data preprocessing**, **predictive modeling**, and **data visualisation**.

Active content creator with over **100 blogs** published and invited as a **guest speaker** at AI/LLM talks and University of Essex. Recognised as a **LinkedIn AI Top Voice** and **mentored** 10+ on ADP List, guiding individuals into AI roles.

WORK EXPERIENCE

Factor Law   December 2024 – Present
Sr AI Engineer   *Belfast, Northern Ireland, United Kingdom | Hybrid*

- Building end-to-end accelerators for lawyers and reduced crafting, analysing and negotiating 1000s of contract by 95%.
- **Mentoring** a team of AI engineers, fostering their technical growth and career development.
- Aiding in the definition and execution of the **technical strategy** for **AI R&D initiatives**.
- Building and maintaining **relationships** with key **stakeholders**, including **senior leadership** and **clients**.

TheTin   October 2023 – November 2024
AI and LLM Technologist   *London, England, United Kingdom | Hybrid*

- Developed a **prototype for C-Suite executives** using OpenAI GPT-4 and LangChain, leveraging **multi-agent architecture**.
    * Compared the performance and cost of open-source models like **Llama** and **Mistral** with commercial models such as **OpenAI** and **Claude.**
    * Delivered a solution allowing executives to consume summarised thought pieces in real-time, tailored to their roles and industries.
- Created a **RAG chatbot for professional services** integrated within **Microsoft Teams**, utilising **Power Virtual Agents** and **Azure Bot Services.**
    * Utilised **Microsoft Document Intelligence** for data structuring and **Azure AI Search** for chunking, indexing, and querying thousands of PDFs.
    * Deployed the chatbot via **Azure Web App**, which provided real-time project updates, improving communication and decision-making workflows.

Data Glacier   April 2023 – September 2024
Natual Language Processing Intern   *Remote – Colchester*

- Conducted sentiment analysis using **NLP** techniques to analyse customer feedback and social media data, extracting valuable insights with 87% accuracy
- **Developed NLP modeling** tools to classify resumes, leveraging **transformer-based models** like **BERT** implemented on the **PyTorch** architecture, achieving 95% accuracy in resume analysis through **transfer learning.**
- **Deployed** predictive models using **APIs**, integrating them into production systems and ensuring seamless performance through platforms like **Postman** for testing and validation.

EDUCATION

University of Essex   Colchester, United Kingom
Masters of Science in Artificial Intelligence (Grade: 1st Class)   *Jan 2022 – Jan 2023*

SKILLS

Languages	:	Python, SQL, JavaScript
Frameworks	:	TensorFlow, Keras, pyTorch, Flask, LLMFlow, LangChain, FastAPI, React
Libraries	:	Pandas, NumPy, SciPy, Matplotlib, Scikit-learn, NLTK, OpenCV, Tkinter
DataBase	:	PostgreSQL, Alembic, Pydantic, SQLAlchemy
Dev Tools	:	Visual Studio Code, Git, Pinecone, Docker, PowerBI
Others	:	Agile, Data Pipeline, Azure AI Services, CI/CD, OAuth2

PROJECTS

Local Retrieval-Augmented Generation (RAG)   *PyTorch, Python, React, HuggingFace, FastAPI*   Source Code

- Developed a local **RAG** system without using LangChain or other framework, used PyTorch for storing embeddings and **OpenAI's function calling** to mitigate hallucination.
- Implemented a backend using **FastAPI**, providing an efficient API for document search and retrieval, while ensuring low latency in question-answering tasks.
- Used **React** for frontend

Social media using FastAPI   *FastAPI, PostgreSQL, Pydantic, Alembic, Docker, Github Actions, Ubuntu*   Source Code

- Built a **scalable** social media platform using **FastAPI**, implementing features like account creation, authentication (**OAuth2**), and **CRUD** operations for posts.
- Integrated functionality for users to like/dislike posts and track the count of interactions in real-time.
- Deployed the application using **Docker** and managed database migrations with **Alembic**.
- Created a **CI/CD pipeline** using **GitHub Actions** and deployed it on **Digital Ocean(Ubuntu)**.

AI-powered Voice and Video Chatbot for Website Navigation   *Python, Langchain, Azure, WebRTC*   Source Code

- It is an ongoing side project in which I design and implement a chatbot that clones the user's face and voice to assist with website navigation. The chatbot provides real-time responses and interactions through text, voice, and video.
- Built the backend for crawling and chunking web data, which is indexed and processed using a language model to provide contextual responses. The chatbot also uses an **AI avatar** for video responses and a **webview** for real-time website interaction.
- The system supports multiple modes of communication, including **text**, **voice**, and **video**, while ensuring smooth user experience and accurate website navigation.

LARGE LANGUAGE MODELS   *Python, TensorFlow, pyTorch , Google Colab*   Source Code

- Developed expertise in **prompt engineering**, **local training of Large Language Models (LLMs)** using **self-annotated data**, and **transfer learning**.
- Explored the relationship between **Named Entity Recognition (NER)** and **Google BERT** by training the last layer of the model and employing different architectures to improve accuracy.

HUMAN ACTIVITY RECOGNITION USING SMART-WATCH   *TensorFlow, SQL, Android*   Source Code

- Built a mobile app on an **energy-efficient IoT** platform that utilized smartphones and wearable devices to track and monitor 11 activities, employing **TensorFlow Lite** for training and inference.
- Prioritized user data security and privacy through **Federated Learning** and implemented a communication interface with Message Queue and **MQTT protocol**, yielding 95% results with **Convolution and LSTM layers.**

CERTIFICATIONS AND ACHIEVEMENTS

- Guest Speaker at a Futures Forum: AI/LLM event.
- Invited to host Director's workshop for Essex Business School students on AI
- Got Featured on DZone Home Page
- 30k+ Medium Blog Views on 100+ blogs with 250+ followers
- AI Top Voice on LinkedIn
- Microsoft Azure Fundamental
- Mentored 10+ people to transition their career into AI.