AHMED MUSTAFA

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EDUCATION

Chennai Institute of Technology,　　　　　　　　　　Dec 2021 – present | Chennai, Tamil Nadu
B.Tech Artificial Intelligence and Data Science
- **CGPA- 8.66/10**

INTERNSHIP

IBM Skillsbuild Internship for Emerging Technologies,　　　　　　Jun 2023 – Jul 2023
Virtual Internship - Data Analyst
- Took up the role of a Data Analyst, learning about **Big Data, Data Analysis, Data Visualization**, and associated tools through IBM's extensive plans and courses.
- Gained hands-on experience in analyzing data, utilizing various data analysis and visualization tools like **IBM Watson, Matplotlib, Seaborn**, and **Excel**.
- Developed practical skills in **handling big data and creating visual representations** to derive insights.

PROJECTS

Air Quality Prediction, *https://github.com/helix-core/Air-Quality-Prediction* 🔗
- Developed predictive model for air quality using **real-time** Chennai pollution data, targeting high accuracy.
- Preprocessed data, handled missing values, and performed EDA with histograms for insights.
- Trained **Random Forest Regressor** model, fine-tuned with **GridSearchCV**, achieving **90% accuracy**.
- Evaluated performance using **MAE, MAPE**, and **R2** metrics, ensuring reliable environmental predictions.

Writing Assistant with Mistral AI, *https://github.com/helix-core/WritAssistant* 🔗
- WritAssistant utilizes **Mistral-7B-Instruct-v0.3** model for 90% accuracy via **Hugging Face's API.**
- Streamlit integration enables user interaction, facilitating **grammar, clarity, and tone** adjustments seamlessly.
- Token-based API authorization ensures robust security, data integrity and user confidentiality effectively.
- Rigorous testing validates consistent performance with **minimal errors, affirming reliability** conclusively.

Self-Reflective RAG: Communicate with Docs, *https://github.com/helix-core/HalluProof* 🔗
- Created an adaptive **RAG** system with **LangGraph**, ensuring accurate and self-correcting responses.
- Implemented techniques to **prevent hallucinations**, ensuring reliable and trustworthy information.
- Integrated **agent-based browsing** with **Tavily** to search the web for answers when needed.
- Utilized **GROQ for LLM** inference, significantly reducing latency and improving response times.

Academic Documents Communication System, *https://github.com/helix-core/Semester-Scholar* 🔗
- Designed a **scalable document processing** system using **MongoDB** for efficient storage and retrieval.
- Leveraged **CohereEmbeddings** to generate document embeddings for accurate content analysis.
- Implemented **RAG** for **context-aware question answering** and summarization, utilizing the **FAISS.**
- Integrated **Gemini Models** for enhanced document understanding and answering.

SKILLS

Programming Proficiency — Python, Java, SQL

Data Skills — Data Exploration, Data Visualization, Storytelling, Data Cleaning, Predictive Analysis, NLP

Development and Deployment: — Streamlit, Git, GCP, SQL Server, Firebase, Replit, MongoDB

Tools and Platforms — Microsoft Excel, Power BI, IBM Watson, Canva, Jupyter Notebooks, GitHub, VS Code

Machine Learning and AI — LangChain, Hugging Face, Prompt Engineering, LLMs, GenAI, ChatGPT

CERTIFICATES

JLPT N5 — Basic Level- Hiragana, Katakana, 100+ Kanji

IBM — Data Fundamentals Learning Plan

IBM — Big Data Foundation

Cisco — Introduction to Cybersecurity

Cisco — Programming Essentials in Python

Google — Data Analytics Professional

Stanford University — Supervised Machine Learning: Regression and Classification

ACHIEVEMENTS

Leetcode, *https://leetcode.com/u/Helix_Core/* 🔗
- Secured a Leetcode contest rating of 1412 and successfully tackled over 200 problems.

CodeChef, *https://www.codechef.com/users/helixcore* 🔗
- 2-Star Coder with a contest rating of 1421, a global contest ranking of 1958 and an overall global rank of 42440.