MOHAMED AFRITH

Data Scientist / AI ML Engineer / GenAI

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- 🔗 Portfolio

WORK EXPERIENCE

Junior AI Engineer - Recykal
03/2025 – Present | Hyderabad

- Built and optimized **document automation** and **RAG-based chatbot systems** using LangChain, FAISS, and LLaMA3 (Groq API).
- Processed **10K+ records**, trained a **custom Donut model**, and automated structured data extraction with LlamaParse.
- Enhanced **LLM prompt accuracy by 40%** and **workflow efficiency by 25%** through fine-tuning and pipeline optimization.

Data Scientist - Guvi IITM
03/2024 – 03/2025

- Completed **10+ internal projects** in ML, DL, and NLP using Scikit-learn, TensorFlow, and PyTorch under IITM mentorship.
- Built **Streamlit-based ML apps** like term deposit prediction, depression detection, and business insights dashboards.
- Integrated **MLflow, AWS, and RAG pipelines** for model tracking, deployment, and data-driven decision-making.

SKILLS

- Gen AI (Langchain, Langsmith, Langraph, Donut)
- Python
- Agentic RAG
- CrewAI
- Seaborn
- MySQL
- Pandas
- MLflow(MLOPS)
- Looker studio
- Streamlit
- AWS(EC2, S3)
- MS-Excel
- NLP(Spacy)
- Paddle OCR
- Selenium
- ML(Scikitlearn)
- Vision language Model
- Prompt Engineering
- n8n
- LLM
- Agentic AI
- DL (Pytorch, Tensorflow)
- Vector Database(Qdrant, FAISS, ChromaDB)
- FastAPI
- Flask
- Docker
- GitHub

PROFILE

- Data Scientist & AI/ML Engineer skilled in data preprocessing, model training, LLM prompt engineering, and RAG-based chatbot development, with proficiency in Python, SQL, LangChain, Hugging Face, and AWS. Recognized with the Best Innovation Award in a national ML Datathon, holding a Master's in Data Science (IIT-M GUVI) and an MBA (SRM Institute).

PROJECTS

Document Understanding & Data Extraction (GenAI) - Recykal

- Built an intelligent document automation system to streamline classification and structured key-value extraction, using **Donut (Vision Transformer)** for document categorization.
- Designed a multi-layer extraction pipeline with Donut for vision-language understanding, **LlamaParse + LLM** for semantic parsing, and **OCR + LLM** fallback for low-quality scans, followed by a validation layer to ensure data accuracy.
- Optimized processing workflows by integrating the solution with existing enterprise systems, enabling smooth adoption and faster decision-making.
- Scaled the system to process **60K+ documents/month** with **92% accuracy**, achieving a **7x productivity boost**, reducing manual errors, and enabling real-time compliance-ready insights.
- Enhanced monitoring and maintainability by implementing **log analytics & dashboards**, enabling proactive error detection, SLA tracking, and continuous performance improvement.

Key Skills: Donut (Vision Transformer), LlamaParse, LLMs (OpenAI, Llama), OCR + LLM, Document Classification, Key-Value Extraction, GenAI Pipelines, Automation, Data Validation, Deep Learning

Automated Log Analytics & Performance Dashboard for Document Automation Pipeline

- Built a data pipeline to extract insights from log files (classification time, extraction latency, validation errors, SQL upload status, file counts) using Python and Pandas.
- Automated daily log ingestion from AWS S3 with **n8n**, storing processed insights in Google Sheets and integrating with Looker Studio.
- Developed an interactive dashboard in Looker Studio to monitor system performance, error trends, and processing efficiency for 60K+ documents/month.
- Improved operational visibility by enabling real-time monitoring and proactive issue detection, reducing manual troubleshooting efforts.

Key Skills: Python, Pandas, AWS S3, n8n, Google Sheets API, Looker Studio, Data Pipeline Automation, Log Analytics

Agentic RAG Chatbot for Research Papers & Live News ⧉

- **Developed** an interactive RAG-based chatbot using **Python, Streamlit, and LangChain**, integrating **FAISS** vector search over 100+ arXiv research papers for semantic retrieval and live news search via **CrewAI agents**.
- **Engineered** embeddings with **HuggingFace all-MiniLM-L6-v2** and integrated **Groq LLaMA3-70B** to deliver high-quality, context-aware answers, reducing research query resolution time by **~60%**.
- **Built** a hybrid AI pipeline to automatically route non-research queries to a CrewAI-powered **News Analyst Agent**, enabling **real-time information access** and improving user engagement by **~40%** during testing.

Key Skills: Python, Streamlit, LangChain, FAISS, HuggingFace Embeddings, Groq API, LLaMA3-70B, CrewAI, RAG Pipeline, Semantic Search, Agentic AI, DuckDuckGo Search

EDUCATIONAL QUALIFICATIONS

IIT-M Advanced Programming Professional & Master Data Science,
IIT- M GUVI
07/2024 – 03/2025 | Chennai

MBA
SRM Institute of Science and Technology
2023 – 2025 | Chennai

ACHIEVEMENTS & AWARDS

Hackathon Winner - SRM University.

- **Developed a machine learning model** to predict business profit from financial and operational data, improving accuracy over baseline approaches. **Built and deployed an interactive Streamlit application** to showcase real-time profit prediction and insights, which won the