Hariharan S
Python AI/ML Developer

📞 +917708115867 @ hariharantony341@gmail.com
🔗 https://www.linkedin.com/in/hariharan3111/   https://github.com/hariharan-stark

Education

RMK Engineering College
B.E- Mechanical Engineering
8.3
Sep 2017 - Aug 2021

I.V.L. Matric. Hr. Sec. School
HSC
88 %
2016 - 2017

Skills

Programming Language
Python, Django, Flask, OOPs, Pattern

Data Science and ML
Data Analysis and EDA, ML and GenAI libraries

Databases
PostgreSQL, SQL, SQLite

Cloud
GCP

Technologies
Apache Kafka, Apache Nifi, Docker

Version Control
GitHub, GitLab

Projects

Research Analyst Assistant

- Designed an **AI-driven** system for data analysis, strategic decision-making, and insights generation. Leveraged agentic architectures with LLMs and frameworks like LangChain, LangGraph and techniques like **ReAct** and **RAG** to interpret the complex data and provide insights.

- Features include company **profile retrieval** (market cap, earnings, margins), **real-time news** search via Tavily, **SQL RAG** for stock data analysis, and Python code execution for **advanced analytics** and charting all integrated as tools.

Summary

With over three years of hands-on experience as a key member of **product** team in developing and maintaining web applications. My expertise lies in **Python** scripting with a strong emphasis on logical thinking and problem-solving. Proficient in **data analysis** and **Machine Learning**, **Generative AI** and building AI application with strong knowledge in **backend** development and **Dockerization**. Dedicated in providing finest solutions aligned with business requirements. A rapid learner and well-equipped to excel in dynamic tech environments.

Experience

TCS   **Aug 2022 - Present**
Product Research Engineer   Chennai, India

GenAI and Data science

- Led the end-to-end implementation of LLM within the product, developing a **multi-agentic** architecture using Python, LangChain and LangGraph. Implemented Corrective-**RAG** and **ReAct** techniques to enable LLM interactions with Digital Twin and simulation models for data insights.

- Designed control flow and reasoning logic for LLM to provide strategic insights and decision-making based on entity twin data. With the integration of Google Vertex **Gemini** and **LLaMA** models, while also building domain-specific knowledge using **quantization** techniques on pre-trained models.

- Conducted data analysis to optimize business processes for a major **European** service provider by modeling **milestone** durations and identifying **data quality issues.**

- Analyzed shipment delays for a Major **European** retailer, using EDA to address pain points like **lead time**, delivery partners, and regions, and predicted shipment delays. Studied customer churn and winback campaign strategies for a major **Indian** and **Finnish telecom** providers.
  - Technologies used: Python, LangChain, LangGraph, Vertex-ai, transformer and vector base libraries

Python Backend development

- Developed **real-time ETL** pipelines using NiFi and Kafka to ingest data from RDBMS, APIs, flat files for **KPI aggregator** and data ingestion. Built a Django backend with Materialized Views for KPIs and EDA insights. Managed deployment and **dockerization** of applications and backend components in the client and product environment.

- Built an **ML workbench** for **feature engineering**, data splitting, model training, and selection, enabling automated deployment of the best model on the server while supporting multiple data sources.
  - Technologies used: Python, Data science and ML libraries, Django rest framework, Flask API, Apache Kafka, Nifi, PostgreSQL, Docker

TCS   **Oct 2021 - July 2022**
Developer   Chennai, India

- Redesigned a monolithic component into an **Event-driven**, object-oriented system using the **Singleton** pattern for efficient database connections. Enabled event-driven Kafka message consumption and processing based on **Digital twin** configurations and defined rules.

- Developed **REST** APIs with Django for Digital Twin configurations and journey definitions, reducing setup time. Built an SMTP mailing system.
  - Technologies used: Python, Django, Django rest framework, Apache Kafka, PostgreSQL.