Muhammed Nihas

Data Science & AI/ML Engineer

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Summary

Self-taught Data Science Enthusiast with a strong passion for mathematics, problem-solving and AI. Highly adaptable and curious, always eager to explore and learn emerging technologies. Driven by a deep interest in analyzing data and building intelligent solutions, with a commitment to continuous learning and growth in the field of artificial intelligence.

Technical Skills

Languages: Python, Java, C/C++, SQL (Postgres, MySQL, SQLite3), JavaScript
Artificial intelligence (AI) : Machine learning, Deep learning , Generative AI, Time Series Forecasting, Transformers, LLMs, RAG (Retrieval-Augmented Generation),AI Agent, Fine-tuning, RNN, LSTM, CNN, GAN, VAEs
Frameworks: TensorFlow, PyTorch, Keras, Scikit-learn , LangChain, Hugging Face, NLTK, SpaCy
Web Development: HTML, CSS, Django, Flask, FastAPI, Streamlit, REST APIs
Data Analysis & Visualization: Pandas, NumPy, Seaborn, Matplotlib, Tableau, Power BI, Looker Studio
Cloud & MLOps: Google Cloud Platform (GCP), CI/CD, Git, Docker, GitHub Actions, MLflow, Evidently
Other skills: Mathematics, Statistics, Data Structures & Algorithms, Problem-Solving Skills, OOPs

Work Experience

NxtGen Cloud Technologies Pvt Ltd

Apr/2025 - Present

- Developed and optimized a **RAG-based chatbot** (Feego) built on the Opensource **Mattermost** platform; identified and resolved a critical issue that significantly reduced **LLM inference** and bot response time.
- Collaborated on customer **Sales forecasting** projects using time series analysis; performed EDA, feature engineering, and built both statistical and machine learning models to improve prediction accuracy.
- Contributed to Hire AI, an intelligent hiring platform that conducts human-level resume screening and interviews using **VLMs**; developed multiple APIs using **FastAPI**.
- Worked on **Ada AI Agent**, a VSCode-based extension that assists developers with intelligent code suggestions and debugging using AI capabilities.

Projects

Meal Demand Forecasting System

Live Link — GitHub

The Meal Demand Forecasting System helps the meal industry optimize operations across multiple restaurants in different cities by accurately predicting future orders. It addresses the challenge of unpredictable demand, enabling better inventory and staffing management to maximize profits. This project includes a forecasting system, a customer-side recommendation system that suggests meals based on dietary preferences for enhanced satisfaction, and an interactive dashboard providing business insights to support data-driven decision-making.

- Utilized **LSTM** as the primary model, achieving **94% accuracy**, and experimented with other algorithms like Regression**,** ARIMAX**,** and Prophet
- Addressed a **time series forecasting problem**, where LSTM captured patterns from previous orders along with factors such as center details, food information**,** cities**,** promotions**,** and pricing.
- Implemented both supervised and unsupervised techniques; calculates calories and other nutritional values based on **BMR** and suggests **10** similar nutritious meals using **KNN**,.
- Developed an interactive dashboard in **Tableau**, allowing restaurant owners to explore different food items, view details, and analyze time-series graphs.
- Built with Streamlit (frontend) and **Python** (backend), deployed on **Streamlit Cloud** for accessibility.

Technologies: Python, TensorFlow, Scikit-learn, KNN, LSTM, Streamlit, Tableau.

Amazon Customer Review Analysis

Live Link — GitHub

The Amazon Customer Review Sentiment Prediction System is an AI-driven solution that predicts the sentiment (positive, negative, or neutral) of customer reviews. It empowers users to input review text, receive real-time predictions, and submit feedback to enhance future model performance. The system incorporates model monitoring and data drift detection to ensure sustained accuracy, enabling planned retraining with accumulated feedback for long-term improvement.

- Designed and developed a sentiment prediction model using **LSTM**-based deep learning, enhanced by **NLP** techniques such as TF-IDF and lemmatization for robust text processing.
- Implemented **MLOps** tools, **MLflow** and **Evidently**, to track model performance, compare experiments, and visually analyze data drift for proactive model maintenance.
- Built RESTful APIs using FastAPI to handle prediction responses, feedback submission, and data drift visualization, paired with an intuitive web interface for user interaction.
- Deployed the application on **Google Cloud Platform (GCP)** using App Engine, integrated with Cloud Storage for storing user feedback and drift reports, all within a Dockerized container for scalability and consistency.

Technologies: Python, FastAPI, Docker, Google Cloud Platform (GCP), NLTK, LSTM, Evidently, MLflow, RESTful API, HTML, CSS, JavaScript.

Indian Constitution bot Live Link — GitHub

The Indian Constitution Chatbot is an AI-powered assistant designed to bridge the gap between citizens and constitutional knowledge. Many people struggle due to a lack of awareness about their fundamental rights, legal remedies, and government policies. This intelligent chatbot provides quick, reliable, and well-structured legal insights, making constitutional information easily accessible to everyone.

- Implemented Retrieval-Augmented Generation (**RAG**) to fetch relevant constitutional documents based on user queries from a **vector database**.
- Utilized **FAISS** (Facebook AI Similarity Search) for efficient and scalable document retrieval.
- Integrated **Gemini Pro** as the Large Language Model (LLM) to generate accurate responses.
- Developed a data processing pipeline **create stuff documents chain** to seamlessly transfer retrieved data to the LLM.
- Used Hugging Face embedding methods for vectorizing text and improving search accuracy.
- Built and deployed an API using **FastAPI**, making the chatbot accessible and scalable.
- Successfully deployed the application on **Hugging Face Spaces** with **Docker** for public access.

Technologies: RAG , Gemini Pro, LangChain, FAISS, Hugging Face, Python, FastAPI. RESTful API, Docker, HTML, CSS, JavaScript, Hugging Face Spaces.

Mini Projects

NASA Jet Engine RUL Prediction GitHub

Developed a Remaining Useful Life (RUL) Prediction model for aircraft engines using NASA's C-MAPSS dataset. Implemented time-series forecasting and machine learning techniques to predict engine failure and optimize maintenance. Addressed challenges like sensor noise, variable operating conditions, and multiple fault modes to improve predictive accuracy

- Conducted Exploratory Data Analysis (**EDA**) to understand data patterns and distributions.
- Performed **Feature Engineering** to enhance model performance.
- Developed a high-performance **Random Forest model** for accurate predictions.

Resume Application Tracking system GitHub

Developed an intelligent Resume Application Tracking System that enables candidates to evaluate their resume against job descriptions and optimize it for better shortlisting chances. The system provides detailed feedback, including strengths, weaknesses, missing keywords, areas for improvement and a matching score. Designed to enhance resume effectiveness and improve job application success rates.

- Integrated **Gemini Pro** LLM for advanced resume analysis and keyword matching.
- Developed the backend using **Python** and built the frontend with **Streamlit** for an interactive user experience.

Education

Data Science and AI 2023 - 2025
Brototype, calicut ***Certificate***

BSc - Bachelor Of Computer Science 2020 - 2023
Kannur University
CGPA: 7.82