TEJAS SATISH NAVALKHE

+44 7741856573 | navalkhetejas18@gmail.com| **in** /tejasnavalkhe | /tejasnavalkhe |www.tejasnavalkhe.com

Professional Summary

Innovative **AI Engineer** with **3+ years** of experience in designing and deploying **AI/ML solutions** for fintech, edtech, transportation industry. Proficient in **deep learning, and NLP**, with hands-on experience in **model development, MLOps, and real-time data pipelines**. Skilled in leveraging frameworks like **PyTorch, TensorFlow, and Hugging Face** to build scalable AI systems. Strong expertise in **algorithmic trading systems, software development,** and **big data technologies (Spark, Kafka, Hadoop).** Experienced in building **NLP Chatbot, low-latency trading algorithms** and **dynamic pricing models** to drive business insights and improve system performance**.** Passionate about solving complex problems using AI and driving business innovation through cutting-edge technology.

Professional Experience

Artificial Intelligence Engineer **09/2024 – Present**

TEJLearning **Jalgaon, India**

Skills: NLP, TensorFlow, OpenAI GTP, Dialogflow, Python, AWS Cloud, Chatbot

- Designed and deployed an AI-powered chatbot using **OpenAI GPT and Dialogflow**, reducing user support response time by **40%** and automating responses to **50+ FAQs**.
- Built and trained custom NLP models with **Python and TensorFlow**, achieving **90% accuracy** in intent recognition across **10,000+ user queries**.
- Integrated the chatbot with the platform's LMS and deployed it on **AWS Cloud**, ensuring **99.9% uptime** and scalability for **1,000+ concurrent users**.
- Added multilingual support for **3 languages**, expanding platform accessibility to **5,000+ international users** and improving user satisfaction by **20%**.

Data Science Intern **05/2024 – 09/2024**

Co Wheels Car Club **Newcastle, United Kingdom**

Skills: Python, PyTorch, TensorFlow, Spark, Databricks, Dynamic Pricing, Machine Learning, Hadoop, SQL, Kafka

- Designed and developed a **dynamic pricing model** to optimize **car-sharing profitability**, leveraging machine learning models for **5 vehicle types**.
- Analysed **historical booking data (2019-2024) from 30,000+ users** across 600+ vehicles (including 200+ electric vehicles) to **predict optimal hourly and daily pricing** based on location popularity, peak hours, time of day, and seasonality.
- Developed a web-based simulation tool using Flask and JavaScript, enabling **real-time adjustments of pricing strategies** and visualisation of their **impact on revenue.**
- Increased **projected revenue by 19.32%** compared to static pricing models by implementing demand-based pricing strategies.
- Automated data preprocessing and feature engineering for 39 variables, improving prediction accuracy and **reducing manual data processing time by 40%.**
- **Reduced integration errors by 25%** by automating data synchronisation between the pricing tool and Co Wheels' booking system.
- **Provided business insights** that helped Co Wheels evaluate a **transition** from fixed pricing **to a dynamic pricing model**, **enhancing profitability** while maintaining user satisfaction.

Software Engineer – Algorithmic Trading (Freelancing) **09/2022 – 04/2024**

Finvestox Capital **Remote, India**

Skills: Flask, API, AWS, Redis, Selenium, Docker, Algorithmic Trading, WebSocket, Linux, SQL, forecasting models

- Designed and implemented an **algorithmic trading system** with **sub-millisecond trade execution**, increasing **trading volume by 20%** and **returns by 10%** in three months.
- Developed a **real-time pricing data pipeline** using Redis caching, improving **data retrieval speed by 35%** and ensuring **99.9% uptime** for trading insights.
- Built and deployed an automated trading platform with **risk management for futures and options**, integrating **automated broker logins** via Selenium and **TradingView-based forecasting**, **reducing trade execution time** by **30%**.
- Developed an **interactive financial dashboard** with Plotly, enhancing **real-time analytics accuracy by 25%** for better trading decisions.
- Deployed on AWS using Docker, improving **scalability and execution speed by 50%,** and utilised SQL with forecasting models for continuous data availability.
- Implemented a Redis pub/sub model for **multi-server communication**, ensuring efficient data flow between stock analysis and trade execution servers.

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Education

Master of Science in Data Science (With Specialisation in Artificial Intelligence) **09/2023 – 08/2024**
Newcastle University, Newcastle Upon Tyne, United Kingdom **Grade: Distinction**
Modules: Exploratory Data Analysis (EDA), Statistics for Data Science, Big Data Technology, Machine Learning, Deep Learning, Image Informatics, Data Management.

Bachelor of Technology in Computer Science Engineering **08/2019 – 07/2023**
Prestige Institute of Engineering Management & Research, Indore, India **CGPA (8.78/10)**
Modules: Data Structure & Algorithm, Software Engineering, Project Management, Machine Learning, Database Management Systems, Computer Networks, Cloud Computing.

Projects

Scalable AI-Driven Algorithmic Trading System with Real-Time Automatic Trading

- Designed and developed an end-to-end algorithmic trading system, including risk management, auto-buy/sell features, and real-time trade execution, resulting in a 10% increase in ROI for users.
- Deployed the trading application on AWS using EC2, S3, and RDS, ensuring 99.9% uptime and scalability to handle concurrent users.
- Built real-time data pipelines using Apache Spark Streaming and WebSockets, reducing data latency by 40% and improving trading accuracy.
- Automated trade execution and data synchronization using cron jobs, reducing manual intervention by 50% and improving system efficiency.
- Integrated APIs from multiple brokers (e.g., AngelOne, Zerodha) and implemented automated testing with Selenium, reducing integration errors by 30%.
- Containerized the application using Docker and orchestrated deployment with Kubernetes, reducing deployment time by 25% and enabling seamless scaling.

Identifying Customer Satisfaction within the Airline Industry using Sentiment Analysis

- The goal was to identify customer satisfaction in the airline industry by **analysing large-scale Twitter data**, helping airlines improve customer experience and service strategies.
- Processed **large-scale Twitter data** using **Apache Spark**, achieving an optimised **77.34% accuracy** in sentiment classification.

Attendive – AI-Driven Face Recognition Attendance System

- Developed an **automated attendance system** using **OpenCV, Spark ML**, reducing manual effort by **70%.**
- Achieved an impressive **99.38% accuracy rate** by utilised **Amazon S3** for large-scale storage.

Technical Skills

Programming Languages: Python, R, JavaScript
Big Data: Sqoop, Hive, Apache Spark, Snowflake, Databricks
Databases: SQL, MySQL, PostgreSQL, MongoDB, Cassandra, Redis Pub/Sub
Data Visualisation: Power-BI, Plotly, Seaborn
MLOps: Docker, Kubernetes, MLflow, Kubeflow, Airflow, AWS SageMaker
Data Engineering and Cloud: AWS (EC2, S3, RDS, Lambda, Glue), Azure, ETL Pipeline, Data Lakes, Hadoop, Apache Kafka
Data Science & Machine Learning/Deep Learning: Pandas, NumPy, TensorFlow, Keras, PyTorch, Scikit-learn, Hugging Face
Testing & Automation: Selenium, Pytest, A/B Testing, Unit Testing, Performance Testing
Server-side Scripting: Linux, Unix
Web Development & API: Flask, WebSocket, RESTful API, HTML, CSS, React.js, Angular
Project Management: Jira, Monday, Asana, Git
Project Documentation: Jupyter Notebook, Latex, RMarkdown, Project Template

Certifications

Machine Learning with Scikit-Learn Madecraft | 08/2024
Data Science & Advance Machine Learning using Python Grras Solutions | 01/2022

Awards

- **NCL+ Award** by Newcastle University 05/2024
- **Best Student of the Batch (2019-2023) Award** by Prestige Institute of Engineering Management & Research 04/2023

Publications

- **'Design and Development of Smart Virtual Assistant Using Latest Tools and Technologies'**, International Journal of Core Engineering & Management