

# TEJAS SATISH NAVALKHE

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## Professional Summary

Results-focused **AI/ML and Software Engineer** with **over 2.5 years' experience** building scalable machine learning solutions for fintech, transport, and edtech. I specialise in **Machine Learning, Deep Learning, NLP** (BERT, GPT), and **MLOps** (Docker, AWS, CI/CD), with a track record of driving impact: delivered a **19.32% revenue boost** via dynamic pricing and cut trading system latency by **40%**. Hold a **Distinction in MSc Data Science (AI Specialisation)** from Newcastle University, UK, and excel in deploying high-impact projects with **Python, TensorFlow, PyTorch, and cloud platforms**.

## Work Experience

**Freelance AI/ML Engineer** **09/2024 – 06/2025**  
**Self-Employed** **Remote, India**

- Created **AI/ML solutions for 15+ edtech/fintech clients**, including a real-time trading system that slashed latency by **30%** using Python, Flask, Redis, and WebSocket. Built scalable REST/WebSocket APIs (FastAPI) on AWS (EC2, S3, RDS), cutting deployment time by **25%** while handling **5,000+ concurrent users**.
- Developed **NLP and course recommendation engines** (TF-IDF, BERT, GPT) for an edtech platform, lifting user engagement by **25%**. Automated retraining and CI/CD (GitHub Actions) saved **15 hours/month** and ensured **99.8% uptime**.
- Boosted model accuracy by **12%** via automated hyperparameter tuning (MLflow). Streamlined data pipelines (Apache Airflow) and web scraping accelerated data aggregation by **50%** for real-time predictions.

**Data Science Intern** **05/2024 – 09/2024**  
**Co Wheels Car Club** **Newcastle, United Kingdom**

- Designed a **dynamic pricing model** using ML, analysing data from **30,000+ users** and **600+ vehicles** (including 200+ EVs). Optimised pricing for location, peak hours, and seasonality, driving a **19.32% revenue increase** versus static models.
- Built a **Flask API simulation tool** for real-time pricing adjustments. Automated preprocessing of **40+ features** cut manual work by **~40%** and improved model accuracy.
- Synced data with Co Wheels' booking system, reducing integration errors by **~25%**. Insights guided their shift to dynamic pricing, boosting profits without compromising user satisfaction.

**Freelance Software Engineer** **09/2022 – 04/2024**  
**Finvestox Capital** **Remote, India**

- Engineered an **algorithmic trading system** enabling **sub-millisecond execution**, increasing trading volume by **20%** and returns by **10%** in 3 months. Deployed on AWS/Docker for **50% faster scaling**, with Redis caching speeding data retrieval by **35%** at **99.9% uptime**.
- Developed an **automated trading platform** with risk management. Selenium-based broker logins cut trade execution by **30%**; Plotly dashboards improved real-time analytics accuracy by **25%**.
- Used **Redis pub/sub** to streamline multi-server data flow and optimised SQL databases, cutting prediction latency by **20%** during high-frequency trading.

**Web Development Intern** **07/2022 – 09/2022**  
**Vitaecura Consultancy Services Pvt. Ltd.** **Indore, India**

- Optimised **5+ client-facing web features** (JavaScript, jQuery), improving page load by **20%** and engagement by **15%** via responsive design.
- Automated IT workflows to save **10 hours/month** in manual effort while supporting delivery of **3+ IT projects** using Agile.
- Drove business development** by creating client demo dashboards that secured **2 new clients**, and led UX research, improving site navigation to boost user satisfaction by **10%**.

## Education

**Master of Science in Data Science (With Specialisation in Artificial Intelligence)** **09/2023 – 11/2024**  
Newcastle University, Newcastle Upon Tyne, United Kingdom **Grade: Distinction**  
**Modules:** Machine Learning, Deep Learning, Big Data Technology, Image Informatics, Statistics, EDA, 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, Cloud Computing, DBMS, Software Engineering, ML, Project Management

Projects

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

- Engineered a **low-latency trading system** using Apache Spark Streaming and WebSockets, reducing data delay by **40%** and integrating AI models (LSTM, ARIMA) to improve trade accuracy by **15%** via real-time sentiment analysis.
- Automated deployment with **Docker on AWS**, achieving **99.9% uptime**, and designed a custom risk-management module to limit losses to **<2% per trade** while optimizing returns.
- Reverse-engineered **AngelOne/Zerodha APIs** to unify order execution across brokers and built a Selenium-based testing framework, reducing integration errors by **30%** and ensuring compliance with trading regulations.

AI-Driven Face Recognition Attendance System

- Developed a **face recognition-based attendance system** using **OpenCV**, automating attendance tracking and reducing manual effort by 70%.
- Achieved an impressive **99.38% recognition accuracy**, ensuring **reliable** and **consistent identification** under varied real-world conditions.
- Integrated **Amazon S3** for **large-scale image storage**, enabling **scalable, cloud-ready deployment** with **fast and efficient data access** for real-time face matching.

Technical Skills

**Programming Languages:** Python, R, JavaScript  
**Machine Learning & Deep Learning:** Scikit-learn, TensorFlow, Keras, PyTorch, XGBoost  
**Natural Language Processing:** spaCy, NLTK, Transformers, Hugging Face, BERT, GPT, LLaMA, LangChain, Haystack, OpenAI APIs  
**MLOps:** MLflow, Weights & Biases (W&B), DVC, Airflow, Docker, Kubernetes  
**Cloud & DevOps:** AWS (EC2, S3, RDS, Lambda), Azure (basic), CI/CD (GitHub Action, Jenkins), Monitoring & Logging  
**Software Development & Testing:** Clean Code Principles, Design Patterns, Unit Testing (Pytest, unittest), Integration Testing, Selenium, A/B Testing, Performance Testing  
**Version Control & Collaboration:** Git, GitHub, Jira  
**Data & Databases:** SQL, PostgreSQL, MongoDB, Redis  
**Web Technologies & API:** RESTful API, WebSocket, FastAPI, Flask, Django, Frontend  
**Data Engineering & Processing:** Pandas, NumPy, Apache Spark, ETL Pipelines  
**Visualisation:** Matplotlib, Seaborn, Plotly, Power BI  
**Operating Systems:** Linux, Unix, Windows, MacOS

Certifications

Machine Learning with Scikit-Learn	Madecraft   08/2024
AWS Educate Getting Started with Compute	Amazon Web Services (AWS)   02/2023
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

- ‘Mathability Level 1: A Mathematics Foundation Course’**, Amazon.in
- ‘Design and Development of Smart Virtual Assistant Using Latest Tools and Technologies’**, International Journal of Core Engineering & Management