AWANTIKA SRIVASTAVA

Data Scientist | Machine Learning | Forecasting | NLP & Computer Vision

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PROFILE SUMMARY

Data Scientist with **2+ years of experience** in building **machine learning, deep learning, and forecasting solutions** for business-driven use cases. Strong expertise in **statistical modeling, time-series forecasting, NLP, computer vision, and Python-based data science workflows**. Experienced in **PoC development, decision augmentation, automation solutions, and cross-functional collaboration**, delivering scalable and production-ready analytics solutions aligned with enterprise goals.

CORE TECHNICAL SKILLS

- **Programming Languages:** Python, Numpy, Pandas, Matplotlib, Scikitlearn, C++, SQL.
- **Statistics & Mathematics:** EDA, Statistical Modeling, Hypothesis Testing, Probability, Linear Optimization, Trend Analysis,
- **Machine Learning:** Supervised & Unsupervised Learning, Regression, Classification, Clustering, Random Forest, Decision Trees, SVM, KNN, K-Means, XGBoost, Hyperparameter Tuning.
- **Deep Learning & GenAI:** Neural Networks, CNN, RNN, LSTM, Transformers (BERT), Model Fine-tuning, RAG, LLMs., Time Series Analysis & Forecasting, TensorFlow, PyTorch.
- **Computer Vision**: Image Classification & Preprocessing, Object detection (YOLO, SSD, MobileNet, ResNet), Video Analytics, OpenCV
- **NLP**: Text preprocessing, Tokenization, Chunkings, Transformers, Sentiment Analysis, Transformer-based models, NLTK, SciPy, Spacy.
- **MLOps & Automation:** Model Deployment, Automated Machine Learning Pipelines, Model Industrialization
- **Data Science Platforms:** Microsoft Azure, Databricks, Cloud-based Analytics Platforms
- **Collaboration & Tools:** Git, GitHub, Collaborative Development, Version Control
- **Business & Stakeholder Skills:** Decision Augmentation, Business Problem Solving, Stakeholder Communication, Cross-Functional Collaboration
- **Project & Change Management:** Agile Working, Project Management, Change Management

EXPERIENCE

AI/ML Engineer | PPS International Pvt. Ltd. **January 2024-Present**

- Developed and optimized **CNN-based deep learning** models for real-time **computer vision** safety systems.
- Implemented the **complete AI/ML lifecycle**, including data collection, preprocessing, model training, evaluation, and deployment.
- Deployed optimized models using **TensorFlow Lite** on **edge devices**, achieving low-latency inference under constrained CPU and memory environments.
- Designed and maintained **end-to-end inference pipelines** for continuous video stream processing.
- Built a **Flask-based web application** to visualize AI detections and automatically recorded video events for monitoring and analysis.
- Optimized inference workflows to ensure reliable performance on **low-resource hardware platforms**.
- Worked independently and collaboratively to deliver production-ready AI solutions with minimal supervision.

PROJECTS

Railway Driver Assistance System (RDAS) | Enterprise ML Project

- Designed and deployed a **real-time ML systems** for unsafe behavior detection using **CNN-based object detection** models.
- Implemented **end-to-end ML pipelines** from data ingestion to production inference.
- **Deployed** optimized models using **TensorFlow Lite** for continuous, **low-latency inference.**
- Developed a **Flask-based** web interface to display detections and recorded video clips in **real time**.
- **Deployed** the complete solution on **edge devices**, enabling reliable on-device inference and **real-time event recordings**.

Amazon Stock Price prediction | Applied ML Project

- Analyzed **5 years of historical Amazon stock price data** to identify long-term trends, short-term movements, and market volatility patterns.
- Built an **LSTM-based time series forecasting model** using a **14-day sliding window** to learn temporal dependencies and predict **next-day closing prices**.
- Performed **data cleaning, normalization, and sequence generation** to improve model stability and forecasting accuracy.
- Validated trends and model outputs through **time-series analysis and error metrics (RMSE, MAE)** to ensure reliable predictions.
- Visualized actual vs predicted prices using **candlestick charts**, enabling clear interpretation of market trends and forecast insights.

AI Chatbot Using LLMs & RAG | Applied ML Project

- Designed an **NLP-based chatbot** to automate user queries, improving response efficiency and reducing manual query handling.
- Implemented **text preprocessing, intent classification, and response generation pipelines** to deliver accurate and context-aware responses.
- Deployed the chatbot using **Flask-based REST APIs**, enabling real-time interaction and scalable request handling.
- Optimized chatbot performance through **response validation and basic monitoring**, improving reliability and user experience.

CERTIFICATION

- IBM Data Science & AI Certification
- AWS Generative AI with Large Language Models
- OpenCV Computer Vision Certification

EDUCATION

IMS Engineering College, Ghaziabad **September - 2020**
Bachelor of Technology (Electrical and electronics engineering)