AWANTIKA SRIVASTAVA

Data Scientist | Machine Learning, Statistics & Applied AI

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PROFILE SUMMARY

Data Scientist with **2+ years of professional experience** applying **statistical analysis, machine learning, and data science techniques** to solve real-world business and engineering problems. Strong foundation in **mathematics, statistics, and data modeling**, with hands-on experience working on **structured and unstructured datasets**. Skilled in collaborating with software and engineering teams to translate analytical solutions into **reliable, scalable applications**, and communicating insights clearly to both technical and non-technical stakeholders.

CORE TECHNICAL SKILLS

- **Programming Languages & Tools:** Python, C++, Numpy, Pandas, Scikit-learn, Jupyter Notebook
- **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 & AI:** Neural Networks, CNN, RNN, LSTM, Transformers (BERT), Transfer Learning, Model Fine-tuning, RAG, LLMs.
- **Frameworks:** TensorFlow, Keras, Pytorch, Flask.
- **Computer Vision**: Image Classification & Preprocessing, Object detection (YOLO, SSD, MobileNet, ResNet), Video Analytics, OpenCV.
- **NLP**: Text preprocessing, Tokenization, Transformers, Sentiment Analysis, Topic Modeling (LSA, LDA), Transformer-based models.
- **Data Engineering & Scale:** Data Cleaning**,** Schematization, Large Dataset Handling.
- **Visualization & Communication:** Data Visualization, Technical Documentation, Stakeholder Reporting.
- **Collaboration:** Cross-functional Teamwork, Product Thinking, Agile Ways of Working.

EXPERIENCE

Data Scientist / Machine Learning 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 unsafe behavior detection system** using **CNN-based SSD MobileNet (TensorFlow)** models on large-scale video data.
- Built **end-to-end ML pipelines** covering data ingestion, preprocessing, model training, evaluation, and production inference.
- Optimized models using **TensorFlow Lite**, achieving **20–25 FPS real-time performance** with **<150 ms inference latency** on edge/production environments.
- Developed a **Flask/FastAPI-based web dashboard** to visualize detections and automatically record **30-second event clips**, reducing manual review effort by **~60%**.
- Performed **error analysis, bias checks, and continuous performance monitoring** to improve robustness and operational reliability.

Amazon Stock Price prediction | Applied ML Project

- **Built batch-oriented ML workflows** for time-series forecasting using **LSTM** models.
- Implemented data **preprocessing**, feature engineering, and model **evaluation pipelines** on **large** historical datasets.
- Designed **sliding-window** based **sequence generation** and trained LSTM model 5-year stock price data.
- Evaluated model performance using appropriate regression **metrics** and **trend-based analysis** for short-term forecasting.

YouTube Comments Sentiment Analyzer | link - https://youtube-ai-analyzer-ndzqo6r2mepjrtsdjmwaxl.streamlit.app/

- Deployed transformer-based **NLP models** as **production-ready** services with **REST APIs**.
- **Fine-tuned** and served a **DistilBERT**-based **sentiment** classification model for large-scale text inference.
- **Built** and deployed an interactive **streamlit web application** to perform real-time **sentiment analysis** on YouTube comments.
- **Processed** high-volume text **data** with sub-second inference **latency** for real-time sentiment analysis.

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)