AWANTIKA SRIVASTAVA

Machine Learning Engineer | AI Systems & Model Optimization

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PROFILE SUMMARY

Machine Learning Engineer with 2+ years of experience designing, optimizing, and deploying ML models with a strong focus on **LSTM and Transformer architectures**, **model performance analysis**, and **production-ready ML pipelines**. Hands-on experience in **time-series modeling, model optimization, Python-based ML frameworks**, and collaborative system-level analysis aligned with real-world deployment constraints.

CORE TECHNICAL SKILLS

- **Programming & Data Science:** Python, C++, SQL., Pandas, Numpy, Scikit-learn, Jupyter Notebook.
- **Statistics & Mathematics:** EDA, Statistical Modeling, Descriptive Statistics, Hypothesis Testing, Probability, Sampling, Data Validation.
- **Machine Learning:** Supervised & Unsupervised Learning, Regression, Classification, Clustering, Random Forest, Decision Trees, SVM, KNN, K-Means, XGBoost, Model Evaluation Metrics, Reinforcement Learning, Supervised fine-tuning.
- **Deep Learning & AI:** Neural Networks, CNN, RNN, LSTM, BERT, Model Optimization, Model Fine-tuning, model benchmarking
- **ML Frameworks:** TensorFlow, keras, Pytorch, TensorFlow Lite, ONNX
- **Computer Vision:** Image Classification & Preprocessing, Object detection (YOLO, SSD, MobileNet, ResNet), Video Analytics, OpenCV.
- **NLP:** Text preprocessing, Tokenization, Transformers, Sentiment Analysis, Transformer-based models, Chunking.
- **Data & Analysis:** EDA, feature engineering, statistical analysis, time-series forecasting, ARIMA, SRIMA.
- **Deployment & Systems:** Docker, REST APIs, model performance monitoring, cloud deployment
- **Tools & Practices:** Git/GitHub, ML pipelines, experiment tracking, documentation

EXPERIENCE

Data Scientist / Machine Learning Engineer | PPS International Pvt. Ltd. **January 2024-Present**

- Designed and deployed **production-grade machine learning models** using Python and deep learning frameworks, improving inference stability by **30%**.
- Built **end-to-end ML pipelines** covering data preprocessing, feature engineering, model training, evaluation, and deployment.
- Implemented **computer vision systems** for pose estimation, action recognition, and video analytics.
- Trained and fine-tuned deep learning models on **large-scale image and video datasets**.
- Optimized model performance through **hyperparameter tuning and architecture improvements**.
- Collaborated with cross-functional teams to translate business and product requirements into ML solutions.
- Ensured clean, modular, and maintainable code using Git-based workflows and best practices.
- Monitored model **performance** using **dashboards** and **logs**, supporting **debugging** and iterative improvement.
- **Collaborated** closely with senior data scientists, ML engineers, and platform teams to ship production **AI** features.

PROJECTS

Railway Driver Assistance System (RDAS) | Enterprise ML Project

- **Designed and deployed a** real-time computer vision–based ML system **for unsafe** driver behavior detection using **CNN-based SSD MobileNet** model.
- Trained and optimized models on large-scale video datasets, achieving **20–25 FPS** real-time processing with **<150 ms inference latency**.
- Implemented **end-to-end ML pipelines** for data ingestion, preprocessing, model training, evaluation, and production inference.
- Deployed optimized models using **TensorFlow Lite** on edge/production environments for continuous monitoring.
- Built a **Flask-based web dashboard** to visualize detections and automatically record **30-second event clips**, reducing manual review effort.

Amazon Stock Price Prediction Using LSTM | Applied ML Project

- Built a **time series forecasting model** using LSTM to predict Amazon stock prices with **15–18% lower RMSE** than baseline models.
- Applied **data preprocessing, scaling, feature engineering, and windowing techniques** on historical stock data.
- Tuned hyperparameters and optimized model architecture to improve prediction stability.
- Evaluated model performance using **RMSE, MAE, and trend accuracy metrics**.
- Demonstrated strong understanding of **statistics, forecasting, and deep learning fundamentals**.

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

- Implemented a **Transformer-based BERT model** for text classification tasks.
- Fine-tuned pre-trained BERT to achieve **~90% accuracy** on domain-specific datasets.
- Analyzed model performance and optimized training using learning-rate scheduling.
- Gained hands-on experience with **Transformer operators**, aligning with JD's ML architecture requirements.
- Focused on model efficiency and clean implementation suitable for production adaptation.

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)