AWANTIKA SRIVASTAVA

Machine Learning Engineer | AI/ML Engineer

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PROFILE SUMMARY

Associate Machine Learning Engineer with **2+ years of hands-on experience** in building, optimizing, and deploying **Machine Learning and Deep Learning models**. Strong expertise in **Python, TensorFlow, PyTorch, LSTM, Transformers**, and **end-to-end ML pipelines** including data preprocessing, model training, evaluation, and deployment. Proven experience in delivering **production-ready ML solutions**, PoCs, and automation use cases aligned with business objectives.

CORE TECHNICAL SKILLS

- **Programming:** Python, C++, SQL.
- **Statistics & Mathematics:** EDA, Statistical Modeling, Descriptive Statistics, Hypothesis Testing, Probability, Sampling, Scenario Analysis.
- **Machine Learning:** Supervised & Unsupervised Learning, Regression, Classification, Clustering, Random Forest, Decision Trees, SVM, KNN, K-Means, XGBoost, Model Evaluation Metrics (Accuracy, Precision, Recall, F1-score, ROC-AUC).
- **Deep Learning & AI:** Neural Networks, CNN, RNN, LSTM, GRU, Transformers (BERT), Transfer Learning, Model Fine-tuning.
- **ML Libraries & Frameworks:** TensorFlow, PyTorch, Keras, Scikit-learn, NumPy, Pandas
- **NLP:** Text preprocessing, Tokenization, Embeddings, Semantic Search, Prompt Engineer, Sentiment Analysis, Transformer models, Computer Vision.
- **Time Series Analysis:** Time Series Forecasting, Sequence Modeling, Trend & Seasonality Analysis, LSTM-based Prediction, ARIMA, SARIMA.
- **LLMs:** Transformers, HuggingFace, DistilBERT, LangChain, RAG.
- **Model Deployment & Tools:** FastAPI, REST APIs, Docker (basic), Git, GitHub
- **Cloud & Platforms:** AWS (EC2, S3), GitHub.

EXPERIENCE

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

- Designed and developed **end-to-end Machine Learning pipelines** including data preprocessing, feature engineering, model training, evaluation, and deployment.
- Built and optimized **ML and Deep Learning models** using Python, TensorFlow, and PyTorch, improving model performance and inference stability by **25–30%**.
- Supported **client-facing Proof of Concepts (PoCs)** and solution development initiatives aligned with business and delivery requirements.
- Developed **ML/DL models for decision augmentation and process automation**, enabling faster and more accurate business decisions.
- Collaborated with **ML engineers, data engineers, and IT teams** to deliver scalable and production-ready ML solutions.
- Supported **knowledge sharing and onboarding activities** to strengthen team capability and delivery efficiency.
- Performed **EDA and statistical analysis** on large datasets to improve model accuracy and reliability.

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.

Chatbot Using LLM & RAG | Applied ML Project

- Built a Lightweight **LLM-Powered chatbot** using **TinyLLaMA** to answer user queries over content.
- Implemented a **Retrieval-Augmented Generation (RAG) pipeline** to retrieve relevant resume sections for contextual question answering.
- Selected **TinyLLaMA** to ensure **low memory footprint and fast inference**, making the solution suitable for resource-constrained environments.
- Applied **prompt engineering techniques** to improve response relevance and consistency.
- Deployed the chatbot as an interactive **Streamlit web application** for real-time user interaction.

Amazon Stock Price Prediction using LSTM | Applied ML Project

- Analyzed **5 years of historical Amazon stock data** to study price trends, volatility, and market patterns using EDA and candlestick charts.
- Built an **LSTM-based time series forecasting model** using a **14-day rolling window** to capture temporal dependencies in stock prices.
- Trained the model to **predict the next-day stock price** based on the previous 14 days of market data.
- Optimized model performance through tuning and normalization, achieving **~20% improvement in RMSE** over baseline models.
- Evaluated predictions using **RMSE and MAE metrics** to ensure reliable forecasting results.

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)