

# AWANTIKA SRIVASTAVA

AI Engineer | Data Scientist | Machine Learning, LLMs & AWS

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## PROFILE SUMMARY

AI Developer with **2+ years of hands-on experience** in designing, developing, validating, and deploying **machine learning, deep learning, and generative AI solutions**. Strong expertise in **Python, TensorFlow, PyTorch, scikit-learn**, and data processing using **Pandas, NumPy, SciPy**. Proven experience working across **classical ML, NLP, computer vision, and transformer-based models**, with exposure to **LLMs, RAG pipelines, MLOps, Docker, Kubernetes, and cloud deployments (AWS)**. Experienced in building **production-grade AI systems**, integrating models via **REST APIs**, and optimizing models for **performance, latency, scalability, and resource efficiency**.

## 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, A/B Testing
- **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:** Neural Networks, CNN, RNN, LSTM, BERT, Transfer Learning, Model Fine-tuning, Time-Series Forecasting, Tensorflow, PyTorch, Keras
- **NLP:** Text preprocessing, Tokenization, Chunking, Sentiment Analysis, Transformer-based models, NLTK, TextBlob, SpaCy
- **Generative AI & LLMs:** Large Language Models (GPT-like, LLaMA-based), Prompt Engineering, RAG, Vector-Based Retrieval
- **Computer Vision:** Image Classification & Preprocessing, Object detection (YOLO, SSD, MobileNet, ResNet), Video Analytics, OpenCV
- **Backend & APIs:** FastAPI, Flask, REST APIs, Model Serving
- **MLOps & Deployment:** Model Deployment, Model Monitoring, Model Versioning, CI/CD Pipelines, ML Pipelines
- **Cloud & Containers:** AWS (EC2, S3, SageMaker), Docker, Kubernetes
- **Software Engineering Practices:** Git, Unit Testing, Regression Testing, Code Optimization, Documentation

## EXPERIENCE

AI/ML Engineer | PPS International Pvt. Ltd.

January 2024-Present

- Worked on **data acquisition, cleaning, enrichment and transformation** to support ML model development.
- Built and evaluated **supervised ML models** for classification and regression use cases using Python and scikit-learn.
- Applied **unsupervised learning techniques**, including clustering and anomaly detection, to identify patterns in unlabeled data.
- Supported development of **deep learning models (CNN, RNN/LSTM)** under guidance for real-world analytics applications.
- Designed and implemented **end-to-end ML pipelines**, covering feature engineering, training, evaluation, and deployment readiness.
- Assisted in deploying ML models on **AWS SageMaker and cloud-based environments**, ensuring scalability and reliability.
- Used existing **CI/CD pipelines** for training, versioning, and deployment of ML models.
- 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.

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.

YouTube Comments Sentiment Analyzer | link - <https://youtube-ai-analyzer-ndzqo6r2mepjrtdjmwaxl.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

Bachelor of Technology (Electrical and electronics engineering)

September - 2020