

# AWANTIKA SRIVASTAVA

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

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## PROFILE SUMMARY

AI / Machine Learning Engineer with **2+ years of hands-on experience** in building, deploying, and maintaining **AI/ML systems and microservice-based applications**. Strong expertise in **Python, SQL, Machine Learning frameworks (PyTorch, TensorFlow, scikit-learn)** and **cloud-based deployment on AWS**. Proven experience delivering **production-grade ML models**, designing **RESTful APIs**, working with **containerized services**, and collaborating in **DevOps/MLOps-driven environments**. Adept at explaining technical concepts to diverse stakeholders and mentoring junior team members.

## CORE TECHNICAL SKILLS

- **Programming & Data Science:** Python, C++, SQL, Pandas, Numpy, Scikit-learn, Jupyter Notebook.
- **Statistics & Mathematics:** 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, Transformers (BERT), Transfer Learning, Model Fine-tuning, Tensorflow, PyTorch, Keras, LLMs, RAG
- **NLP:** Text preprocessing, Tokenization, Sentiment Analysis, Topic Modeling (LSA, LDA), Transformer-based models, NLTK, TextBlob, SpaCy
- **Computer Vision:** Image Classification & Preprocessing, Object detection (YOLO, SSD, MobileNet, ResNet), Video Analytics, OpenCV
- **Backend & APIs:** FastAPI, REST APIs, Microservices Architecture
- **MLOps / DevOps:** Model Deployment, CI/CD Exposure, ML Pipelines, Monitoring
- **Cloud & Containers:** AWS (EC2, S3), Docker, Containerized Deployments
- **Soft Skills:** Problem Solving, Technical Communication, Mentoring, Cross-team Collaboration

## 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-ndzgo6r2mepjrtsdjmwaxl.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