AWANTIKA SRIVASTAVA

Data Scientist | Statistical Modeling, Machine Learning

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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 & Data Science:** Python (Advanced), C++, Jupyter Notebook, Object-Oriented Programming.
- **Statistics & Mathematics:** EDA, Statistical Modeling, Hypothesis Testing, Confidence Intervals, A/B Testing, Scenario Analysis.
- **Machine Learning:** Supervised & Unsupervised Learning, Regression, Classification, Clustering, Random Forest, Decision Trees, SVM, KNN, K-Means, XGBoost, Model Evaluation Metrics (Precision, Recall, F1-score, ROC-AUC).
- **Deep Learning :** Neural Networks, CNN, RNN, LSTM, Transformers (BERT), Transfer Learning, Model Fine-tuning, Computer Vision.
- **Deep Learning Frameworks:** TensorFlow, keras, Pytorch, TensorFlow Lite.
- **GenAI & LLMs:** LLMs, Prompt Engineering, RAG, LangChain.
- **Data Engineering & Pipelines:** Data cleaning, Schematization, Iterative Analytics Pipeline, Production-Ready Modeling.
- **Cloud & Deployment: Cloud-**based ML Workflows, REST APIs (FASTAPI), Scalable Model Deployment.
- **Data Visualization & Communcation:** Data Storytelling, Visual Analytics, Stakeholder Presentations.
- **Ways of Working:** Agile/Scrum, Cross-functional Collaboration, Product-oriented Thinking.

EXPERIENCE

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

- Designed and implemented **end-to-end machine learning pipelines**, covering **data ingestion, preprocessing, feature engineering, model training, evaluation, and deployment** for real-world use cases.
- Built, trained, and optimized **machine learning models** (classification, regression, and deep learning) using **Python, scikit-learn, TensorFlow, and PyTorch**, ensuring performance, robustness, and scalability.
- Conducted **exploratory data analysis (EDA)** and advanced feature analysis to uncover patterns, trends, biases, and anomalies impacting model performance.
- Developed and exposed **RESTful ML inference services using FastAPI**, enabling seamless integration with downstream applications and production systems.
- Implemented **GenAI and LLM-based workflows**, including **prompt engineering and retrieval-augmented generation (RAG)**, to solve NLP-driven business problems.
- Deployed and validated ML solutions in **cloud-based environments (AWS)**, ensuring **scalability, reliability, and low-latency performance**.
- Applied **MLOps best practices**, including **CI/CD pipelines, model versioning, monitoring, and automated validation**, to support continuous model improvement.

PROJECTS

Railway Driver Assistance System (RDAS) | Enterprise ML Project

- **Designed** and deployed a real-time **computer vision** ML system for unsafe driver behavior detection using **CNN-based** models (**SSD MobileNet with TensorFlow**).
- Built **end-to-end ML pipelines** including data ingestion, preprocessing, feature extraction, model training, evaluation, and deployment.
- Optimized models using **TensorFlow Lite** to achieve **20–25 FPS real-time inference** with **<150 ms latency** on production/edge environments.
- Exposed model inference through **FastAPI-based REST services** for integration with downstream systems and monitoring tools.
- Performed **error analysis, bias checks, and performance monitoring** to improve model robustness and operational reliability.

Chatbot Using LLM & RAG | Applied ML Project

- Built a Lightweight **LLM-Powered chatbot** using **TinyLLaMA** to answer user contextual questions over structured resume data.
- Implemented a **Retrieval-Augmented Generation (RAG) pipeline**, including document indexing and similarity-based retrieval, to ground LLM responses.
- Applied **prompt engineering and response evaluation techniques** to improve answer relevance, consistency, and factual accuracy.
- Developed **FastAPI-based inference endpoints** to serve the LLM pipeline in a scalable manner.
- Deployed the application using **Streamlit**, focusing on low memory usage, fast inference, and user-friendly interaction.

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

- Built an end-to-end **NLP pipeline** for sentiment analysis using **transformer-based models (BERT/DistilBERT)**.
- Performed text preprocessing, feature extraction, model training, and evaluation on large volumes of user-generated data.
- Evaluated model performance using **precision, recall, and F1-score**, and iteratively improved results through error analysis.
- Served the trained model via **FastAPI APIs** for real-time inference and integration.

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)