Akshat Rastogi

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Education

VIT Bhopal University, BTech in Computer Science — Sep 2022 – Sep 2026 (Exp.)
- GPA: 9.08 (link)

Delhi Public School, 12th Standard — Apr 2021 – Mar 2022
- Percentage: 95.4% (link)

Delhi Public School, 10th Standard — Apr 2019 – Mar 2020
- Percentage: 93.8% (link)

Technologies

Languages: Python, C++
Libraries/Frameworks: NumPy, Pandas, Scikit-learn, Matplotlib, TensorFlow, PyTorch, Streamlit, Flask
Tools / Platforms: Tableau, Git, VS Code, Matlab, SQL

Experience

Data Analyst Intern, Preprod Corp — Sep 2024 – Dec 2024
- Built ensemble models and clustering algorithms (DBSCAN, K-means) for pattern recognition, optimizing data pipelines for 1M+ records using SQL, NoSQL, and graph databases.
- Integrated MLFlow for lifecycle management and collaborated in Agile sprints, improving delivery efficiency by 25%.
- Developed a synthetic data pipeline for churn prediction, simulating telecom customer data to improve model training and enhance churn analysis by 30%.
- Integrated a tagging and analysis module for a large-scale product review tagging system using FastAPI and Streamlit, reaching 92% tagging accuracy and improving categorization efficiency by 40% with spaCy, rule-based detection, and transformer models.

Projects

RAG-powered Portfolio Chatbot | *Python, JavaScript, HTML5, CSS, LangChain, FAISS, GeminiAPI* (link)
- Integrated a chatbot into my portfolio that answers questions based on personal resume context using vector retrieval and Google Gemini LLMs.
- Confederated FAISS and LangChain to serve accurate contextual replies through a conversational UI.

RAG PDF Analysis Tool | *Python, LangChain, FAISS, Streamlit, GeminiAPI* (link)
- Developed and deployed a RAG-powered tool that enables intelligent querying over PDF documents using LLMs.
- Implemented Streamlit to deploy a live question-answering application accessing a vector database increasing the speed of information retrieval by 6x, and reducing average query response time to under 3 seconds.

HVAC Improvement System (HIS) | *Python, JavaScript, HTML5, CSS, PostgreSQL, GenAI* (link)
- Designed a machine learning model using LGBM Regressor to predict heating/cooling loads and appliance energy consumption for HVAC optimization.
- Analyzed temperature, humidity, and pressure data, leveraging generative AI to suggest improvements for optimizing HVAC efficiency and energy savings.
- Achieved an R^2 score of 61%, improving the result by 25%, and contributed to smarter HVAC engineering and reduced energy consumption.

Achievements

- Secured victory in the **highly competitive Buildathon Hackathon 2024**, outshining more than 40 finalist teams to earn a coveted internship position within Preprod Corp focused on data-driven technologies.
- **Published research on Glass Transition Temperature Prediction** at RTASCE 2023, improving predictive accuracy by 15%.
- Secured placement among the top competitors **out of more than 3,000 individuals** in a notable Kaggle challenge; demonstrated a strong knowledge of feature engineering and a comprehensive understanding of predictive modeling strategies

Certifications

- **Applied Machine Learning in Python (Coursera)** – Dec 2023
- **Privacy Security in Online Social Media (NPTEL)** – Apr 2024