Akshat Rastogi

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EDUCATION

VIT Bhopal University, *BTech in Computer Science and Engineering* *CGPA:* ***9.11*** Sep 2022 – Sep 2026 (Exp.)
Delhi Public School, *12th Standard* *Percentage:* ***95.4%*** Apr 2021 – Mar 2022
Delhi Public School, *10th Standard* *Percentage:* ***93.8%*** Apr 2019 – Mar 2020

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.
- 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.

CERTIFICATIONS

- **AWS AI Practitioner** AWS Educate certified with 2 Badges. - May 2025
- **Github Foundations** Github - June 2025

PROJECTS

Human.AI | *Python, ZenML, RAG, LLM, LangChain, FAISS*

- Built an automated pipeline for extracting information from a custom knowledge base using retrieval-augmented generation (RAG) techniques.
- Used ZenML to structure and manage each stage of the ML workflow, improving experiment reproducibility and deployment.
- Integrated SQL and NoSQL storage for flexible data handling within the pipeline, and evaluated system accuracy through benchmarked test cases.

SQL Query Generator | *Python, MySQL, ZenML, RAG, LLM, LangChain, FAISS*

- Designed an AI pipeline that converts natural language requests into valid SQL statements using a Retrieval-Augmented Generation (RAG) approach.
- Transformed tabular data definitions and relationships into an AI-accessible format, allowing the RAG pipeline to accurately generate queries based on the structured data.
- Made databases more accessible for nontechnical users by simplifying the process of SQL query creation.

HVAC Improvement System (HIS) | *Python, JavaScript, HTML5, CSS, PostgreSQL, GenAI*

- Designed an LGBM Regressor model to predict heating/cooling loads and appliance energy consumption for HVAC optimization.
- Analyzed temperature, humidity, and pressure data, leveraging generative AI to suggest architectural improvements to optimize HVAC efficiency and energy savings.
- Achieved an R^2 score of 61%, improved the result by 25%, and contributed to smarter HVAC engineering and reduced energy consumption.

EXTRACURRICULAR

- Published a research paper titled **Machine Learning Advancement in Polymer Material Creation** in the second year of college with four coauthors.
- Volunteered for a Technical Event hosted by Google Crowd source and the SDC Club, managed a student crowd of around 200 students.

ACHIEVEMENTS

- **Won Buildathon 2024**, ranking 1st among 40+ finalist teams and *earning a Preprod Corp internship in data-driven tech.*