Manisha Singh
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Education

Bachelor of Technology in Computer Science; Minors in Artificial Intelligence and Machine Learning
VIT Bhopal University - Cumulative GPA: 8.42

Skills

- **Technical:** Python, JavaScript, Microsoft Excel, RAG Systems, Pandas, NumPy, Matplotlib, Seaborn, Scikit-Learn, SQL, C++.
- **Concepts:** AWS, Data Structures & Algorithms, Generative AI, Prompt Engineering, Machine Learning Algorithms backend/frontend integration.

Experience & Projects

RAG-Enhanced Stock Market Intelligence System (August 2025)
Tech Stack: Python, LSTM, Random Forest, Vector Databases, LangChain, OpenAI API

- Tackled the challenge of noisy, high-volume stock market data by cleaning and structuring 50,000+ data points, resolving gaps that limited forecasting accuracy.
- Designed and applied preprocessing pipelines with linear regression, random forest, and LSTM, improving data quality and model reliability for analysis.
- Delivered a 12% boost in prediction accuracy and 25% faster training times, turning results into actionable investment insights through clear visualizations in Matplotlib & Seaborn.

Automated Administrative Chatbot (September 2024)
Tech Stack: Dialogflow, Python, Flask, MongoDB, Vector Search, NLP

- Engineered a sophisticated chatbot system that leverages RAG architecture to provide accurate, administrative queries that limited responsiveness and student interaction.
- Engineered a chatbot system with Dialogflow, Flask, and MongoDB, enabling personalized recommendations with 80%+ query accuracy.
- Realized a 40% cut in manual workload and a 15% rise in student engagement, while supporting 100+ daily users.

Advanced Fraud Detection System with Explainable AI (July 2023)
Tech Stack: Python, Random Forest, Logistic Regression, SHAP, Feature Engineering

- Confronted the challenge of identifying fraudulent behaviour in 1M+ banking transactions, where noisy data and anomalies risked undermining detection accuracy.
- Applied data cleaning, validation, and exploratory analysis to ensure 95% integrity, then implemented random forest and logistic regression models for reliable fraud detection.
- Improved detection accuracy to 60% with a 20% drop in false positives, and developed automated dashboards that cut manual analysis time by 35% while enabling faster decision-making.

Co-Curriculars

Smart India Hackathon, 2025

- Designed and proposed an AI-powered platform featuring intelligent candidate-opportunity matching algorithms and automated workflow management for enhanced application processing efficiency.

Debater & Badminton Player

- Competed in over 15+ inter-school debates and declamations and badminton championships for 4 years.

Certifications

- IBM Generative AI Using Watsonx – May 2025
- Applied Machine Learning in Python | University of Michigan, Coursera– Jan 2024