Harshit Mehra

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Summary

Analytical and detail-oriented **Data Science graduate** with strong skills in **Python**, **SQL**, and **data visualization**. Experienced in solving real-world problems through data analysis and building **interactive dashboards**. Eager to grow in **Data Analyst** or **Data Scientist** roles, with a strong willingness to learn and adapt in dynamic environments.

Education

University of Arizona, Tucson, AZ, USA   Aug 2023 - Dec 2024
Master of Science in Data Science

- GPA: 3.5/4
- Relevant Coursework: SQL, Data Mining, Data Visualization, Cloud Computing, Project Management

Lakshmi Narain College of Technology, Bhopal, MP, India   Sept 2019 - May 2023
Bachelor of Technology in Computer Science

- CGPA: 8.25/10
- Relevant Coursework: Data Structures & Algorithms, DBMS, Object Oriented Programming

Skills

- **Programming Languages:** Python, SQL, R
- **Data Analysis & Processing:** Data Cleaning, Data Mining, Statistical Analysis, SQL Query Optimization
- **Visualization & Reporting:** Power BI, MS Excel, Matplotlib, Seaborn
- **Databases & Tools:** PostgreSQL, MySQL, ETL Pipelines, Jupyter Notebooks, Git
- **Other Tools & Libraries:** Pandas, NumPy, Transformers, Streamlit, Elasticsearch

Projects

Semantic Product Search Engine   Dec 2024

Built a scalable search system for 1.3M+ retail items using natural language queries.

- Used **Sentence Transformers** to embed queries and product data in a shared vector space.
- Extracted dynamic filters (price, rating) using **FLAN-T5-small**, fine-tuned on query–label pairs.
- Benchmarked **BM25 (Elasticsearch)** vs **semantic search (FAISS)** for relevance.
- Evaluated **Precision@K** and **Recall@K** to compare semantic vs. keyword search.
   Tech: Python, FAISS, Elasticsearch, HuggingFace, PostgreSQL

AI Snake Game – Pathfinding & Reinforcement Learning   November 2024

Created a smart Snake game with AI agents learning through search and reinforcement techniques.

- Developed an AI-powered Snake game with agents trained using **BFS**, **A***, and **Q-learning**.
- Simulated intelligent pathfinding and adaptive behavior based on reward optimization.
- Visualized agent decision-making in real time using **Pygame**.
   Tech: Python, Pygame, BFS, A*, Q-learning

Spotify Music Data Mining   May 2024

Built a data pipeline to process and analyze 30,000+ Spotify tracks for genre classification.

- Applied **KNN, Naive Bayes**, and **Random Forest** algorithms to improve prediction accuracy.
- Performed **feature engineering** on audio attributes to enhance model performance.
- Conducted **correlation analysis** to select relevant features and reduce noise.
   Tech: Python, SQL, Scikit-learn, Pandas, ETL, Data Mining, Machine Learning

Certification

- **PostgreSQL for Everybody** – University of Michigan (Coursera)
- **Machine Learning Foundations** – University of Washington (Coursera)
- **Web Development** - University of Michigan (Coursera)
- **Cisco Certifications:** Cyber Security Essentials, Introduction to Cybersecurity, Packet Tracer