Ashritha Gugire

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Education

George Mason University, MS in Data Analytics | **GPA: 3.87/4.0**   Jan 2023 - Dec 2024
- **Coursework:**Data Analysis and Analysis of Algorithms, Machine Learning, NLP, Operational Research.

Vignana Bharathi Institute of Technology, B.Tech in Computer Science   April 2017 - May 2021
- **Coursework:**Data Structures, Operating Systems, Cloud Computing, Computer Architecture, Advanced Analytics.

Experience

Research Data Analyst, George Mason University - Arlington, VA   Jan 2024 - present
- ***Developed an anomaly detection system*** that analyzes the movements of 500,000 simulated agents, achieving 95% accuracy in identifying tourist behavior among 3,000 sample agents.
- ***Explored Tourist Behavior by detecting*** with very less (5%) of anomalous agents over 3000 sample agents by highlighting the complexity of detecting anomalies in human trajectories.
- Implemented and optimized multiple machine learning algorithms (Isolation Forest, Random Forest) for anomaly detection, reducing false positive rates by 40% while maintaining high detection sensitivity.
- Executed temporal pattern analysis with advanced visualizations, helping stakeholders identify anomalies with 85% confidence.

Business Intelligence Analyst,Infosys Pvt. Ltd - India   June 2021 - Dec 2022
- Streamlined data collection processes and optimized decision-making and risk management for stakeholders by using advanced data visualization techniques, resulting in more efficient data handling by 25%.
- Optimized process workflows, and **built ETL pipelines in Python** to streamline data integration, achieving a 70% improvement in update efficiency with clear, interactive visualizations for non-technical audiences.
- Comprehensive documentation and training materials formulated using R Markdown
- Established and maintained production analytics solutions, reducing troubleshooting time by 50%.
- **Key Focus Areas** : Principal Component Analysis, Feature Analysis, Model Evaluation, Handling Class Imbalance
- **Technologies and Tools Used** : Python, Scikit-learn, NumPy, SMOTE, Excel, Plotly, Jupyter

Projects

GMU Climate Dashboard   Aug 2024 - Dec 2024
- Developed a dashboard using 30 years of NOAA data, simplified data acquisition by consolidating information into a single platform, streamlined data pre-processing, selected key characteristics, identified significant trends (2.53 ° F warming, 7. 65% increase in precipitation in 2024), and validated results with p-values (***Hosting on GMU Virginia Climate Center***)

Skin Cancer Diagnosis   Jan 2024 - March 2024
- Deep Learning Classification Problem Statement where aim was to classify various skin lesions on the body along with images and lesion IDs. Implemented a pretrained ResNetX101 model and improved accuracy by over 80% using PyTorch

E- Commerce Analytics - Big Data Project   Aug 2023 - Dec 2023
- Led large-scale analysis of fashion product data with 200M records using Python and SQL, implementing systematic data quality checks and privacy-preserving analytics pipeline.***Optimized SQL queries for server-side programming***, reducing data latency by 25%

Skills and Technologies

Programming and Analytics : Python, R, SQL, Scikit, Matplotlib, Knowledge Graphs and Protege Software.
Platforms and Tools : Snowflake, Databricks,Jupyter Notebook, MS Office
Visualization and Reporting : Tableau, Matplotlib, Data Storytelling, Critical Thinking

Certifications and acheivements

- **Tableau Certified Desktop Specialist**
- Finalist at an IEEE-sponsored Hackathon 2019, for developing a machine learning solution to detect fraudulent pharmaceutical transactions in medical databases.