Ashritha Gugire

11100, Cavalier Ct| Fairfax, VA, 22030 | agugire@gmu.edu | **949-204-6952|** LinkedIn

EDUCATION

George Mason University, Fairfax | Fairfax, VA Graduation: Dec 2024
***Masters in Data Analytics, Data Modelling and Warehousing,* GPA: 3.8**

WORK EXPERIENCE

George Mason University (Deloitte) | Fairfax, VA| *Research Assistant - Haystack Project* April 2024 - Present

- *Knowledge Graph Generation and Expansion*: Developed and implemented methods to construct comprehensive knowledge graphs, ensuring a 60% improvement in structural consistency and data readability.
- *Data Augmentation and Graph Centrality Analysis*: Optimized existing datasets for increased robustness, boosting knowledge graph utility by 30%. Conducted detailed centrality analysis to identify pivotal nodes and connections, enhancing strategic insights by 40%.
- Worked closely with cross - functional teams to align research objectives, using technologies such as RDF, SPARKQL, Neo4j for graph management and querying.

Infosys | Hyderabad, India| *Business Intelligence Analyst - Data Handling, Development* Aug 2021- Dec 2022

- Streamlined data collection processes and data handling as well as modified decision-making and risk management for stakeholders through advanced data visualization techniques.
- Worked closely with various departments to integrate the application codebase within AWS platform, using boosted executive decision-making by 30%.

ACADEMIC EXPERIENCE AND PROJECTS Github

- **Data Analysis| Data Modelling | Machine Learning | Big Data Projects** Jan 2023 - Dec2023
  - ***a. Impact of Socioeconomic Status on Cancer Incidence and Outcomes***
    - Promoted various statistical methods, including subset selection and cross-validation to identify significant predictors, improving model accuracy by 15%
    - Preferred principal component methods, reducing the error rate by 20% and increasing the R-squared value from 0.65 to 0.85
    - Evaluated the strength of correlations using correlation coefficients and assessed statistical significance using p-values, leading to a 25% increase in results
  - ***b. Redesigning Ineffective Graphs***
    - Utilized maps to represent state-wise data on educational funding, prison costs and handgun homicides, improving data accessibility and interpretability for stakeholders by 70%
    - Incorporated population and poverty data for analysis, performing comparative analysis to highlight biases and correlations, which led to a 30% increase in the identification of key trends and insights
    - Tackled data cleaning and quality issues and enhanced the interpretability of visualization reports by 35%
  - **c. *E-commerce and Social Media Big Data Analysis - Amazon Fashion Products***
    - Directed a comprehensive analysis of a large and complex dataset, addressing the data quality, governance, and privacy issues as well as proposed solutions involving statistical and visualization techniques
    - Described the organizations collecting the data, identified key stakeholders, also issues such as missing values, duplicated outliers and inconsistencies, which improve data accuracy by 25%
    - Refined a plan for studying the data, including problem description, data environment, required resources, build versus buy analysis and visualizations, leading to a 20% increase in project efficiency
  - ***d. Diagnosis of Skin Cancer using Image Processing – Skin Lesion Images Dataset***
    - Built a machine learning model for early and accurate diagnosis, by utilizing PyTorch for model development, and Residual Network (ResNet) architecture to achieve good classification accuracy of 85%.
    - Confronted dataset pre-processing challenges, including resizing images and handling imbalanced datasets through data augmentation techniques which resulted in a 40% reduction of diagnostic errors and refined early detection rates by 10%.
    - Applied transfer learning to fine-tune pre-trained deep learning models, optimizing them for the specific dataset.
    - Successfully classifies skin lesion images with an accuracy of approximately 88%.

- **NLP | Text Summarization | Information Retrieval | Sentiment Analysis** Jan 2024 – May 2024
  - Created visually appealing word clouds to highlight the most frequent terms in a dataset, providing intuitive insights into text data.
  - Improved information retrieval and user experience by 10%, providing quick overviews of web content.
  - Successfully completed an interactive bot capable of responding to user inputs with relevant information with 100% accuracy, enhancing user engagement (Mr. Bot for GMU). Employed regular expressions for pattern matching and response generation.
  - Achieved a robust system capable of recognizing and responding to questions with 70%accurately, with fall back mechanisms for ambiguous queries (AskMSR approach).
  - Delivered models to categorize music genres with 85% classification accuracy, uncover patterns between artists, extract user sentiments from reviews.

SKILLS AND INTERESTS

Programming Languages: C, R, Python.
Frameworks/ Tools: R Studio, Tableau, Git, Jenkins, Jupyter, Protégé, Graph DB, Microsoft office (Excel, PowerPoint, Word, Publisher, Project, Visio), SharePoint, YouTrack.
Interests: Drawing, Cooking, Badminton.