Mounika Yegireddi
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EDUCATION

Central Michigan University — Michigan, MI, USA
Master's in data science **(GPA 3.7/4)** — *Aug'23 – Present*
VNR VJIET — Hyderabad, India
Electrical and Electronics Engineering **(GPA 3.2/4)** — *Aug'16 – May'20*

TECHNICAL SKILLS

Programming Languages: Python, SQL, R Language, HTML, CSS
Data Science : Machine learning, Tableau, Advanced Excel, MS Office Suite, MS Office 360, Artificial Intelligence, ERP
Tools : VS code, MySQL Server Management, Git and GitHub, Jupyter Notebook

PROFESSIONAL EXPERIENCE

Research Assistant — ***Jan'25 - Present***
Central Michigan University – Michigan, USA

1. Conducting big data analysis on Chicago crime datasets using Python, SQL, and R to identify crime trends, patterns, and correlations.
2. Utilizing data wrangling, cleaning, and preprocessing techniques on large-scale crime data (over 8 million records) from the City of Chicago's open data portal.
3. Implementing data visualization in Tableau, Power BI, and Matplotlib to present key crime insights to stakeholders.
4. Applying machine learning algorithms such as k-means clustering, decision trees, and regression models to predict crime hotspots.
5. Performing ETL (Extract, Transform, Load) processes to optimize data pipelines for efficient storage and retrieval.
6. Leveraging Hadoop, Spark, and SQL databases to handle large datasets and improve query performance.
7. Documenting findings and preparing reports using Jupyter Notebook, R Markdown, and LaTeX for academic research.

Data Analyst| Infosys Limited| Hyderabad, India — ***Jan'22 – Aug'23***

1. Conducted data analysis using Python and SQL to identify patterns and trends, optimizing system performance and reducing bottlenecks. Developed and executed data validation tests to ensure data integrity, leading to a 20% improvement in data accuracy.
2. Designed and automated ETL processes to extract, transform, and load large datasets, streamlining data processing and reducing manual effort by 30%. Leveraged statistical analysis techniques to derive actionable insights, improving decision-making processes across teams.
3. Created interactive dashboards and visualizations using Tableau and Power BI, enhancing data storytelling and providing business stakeholders with real-time insights. Implemented DAX and SQL-based queries to support analytical reporting, improving operational efficiency by 15%.
4. Led data integration initiatives using MuleSoft, optimizing data flows across enterprise systems and improving data accessibility. Collaborated with cross-functional teams in Agile environments, leveraging JIRA for project tracking and sprint planning to drive data-driven solutions.

SOFT SKILLS

1. Written and Verbal Communication Skills
2. Problem-Solving
3. Critical Thinking
4. Collaboration and Team Management
5. Analytical Thinking
6. Time Management

7. Presentation skills 8. Data Story Telling

ACADEMIC PROJECTS

1. **Smart Laundry Management System |** Python, SQL |
   - Designed and developed an interactive, web-based system leveraging Flask for backend authentication and SQL for data management.
   - Integrated machine learning models to optimize laundry resource allocation and dynamic reservation systems.
   - Ensured modular programming practices for scalability and maintainability.
2. **Air Quality & Health Impact Analysis |** R, Machine Learning |
   - Analyzed 5,800+ records to assess the impact of air pollution on health outcomes.
   - Developed linear regression (R^2 = 0.69) and decision tree (85% accuracy) models to predict health risks.
   - Conducted data cleaning, visualization (ggplot2), and feature engineering for improved model accuracy.
   - Provided data-driven recommendations for policymakers to mitigate pollution-related health risks**.**
3. **Eye blink detection for coma patients |** Python, Raspberry Pi, Lab VIEW, OpenCV
   - Developed an AI-driven monitoring system for patient care using OpenCV for real-time eye-blink detection.
   - Implemented hypothesis-driven experimentation to optimize Eye Aspect Ratio calculations.
   - Programmed Raspberry Pi to process real-time video feeds, sending alerts for critical conditions.
   - Designed a cost-effective, scalable solution to enhance healthcare monitoring efficiency.