SAMIKSHA SOMIREDDYGARI

samikshareddy789@gmail.com | (585)-710-4617 | LinkedIn | GitHub

SUMMARY

Dedicated Master's student in Computer Science at Rochester Institute of Technology with expertise in Data Science, Machine Learning, and Cloud Technologies. Experienced in developing innovative solutions for airline delay analysis, facial emotion recognition, image captioning, and sign language translation. Proficient in Python, Java, and web frameworks, with a strong focus on data-driven problem-solving

EDUCATION

Master of Science in Computer Science - Rochester Institute of Technology| 4.0/4.0 **Aug '23 - Dec '25**

Bachelor of Technology in Computer Science - Jawaharlal Nehru Technological University **Aug '17 - July '21**

EXPERIENCE

System Administrator, Rochester Institute of Technology *- part time | ROC,NY* **Aug '24 - Present**

Skills – Python, MySQL, LAMP

- **Database Management Excellence**: Orchestrated the optimization and schema redesign of MySQL databases, significantly improving data retrieval speeds by 25% and ensuring robust data integrity across academic and administrative functions.
- **Web Development and System Optimization**: Spearheaded a team within the Web Development unit, leveraging the LAMP stack with MySQL, PHP, and JavaScript to enhance and maintain critical web applications, boosting system efficiency by over 30%.
- **Strategic IT Solutions and Content Management**:Achieved a 40% increase in content retrieval efficiency and user interaction through strategic backend enhancements and comprehensive content updates.
- **Leadership and Technical Mentorship**: Cultivated a dynamic learning environment by mentoring over 20 new lab workers, significantly enhancing team productivity and fostering a culture of continuous improvement and technical excellence.

TECHNICAL SKILLS

Programming languages: Python | SQL | Java | MySQL | PostgreSQL | NoSQL | MongoDB | HTML | CSS | C++ | PHP | JavaScript | TypeScript | Firebase

Data Visualization: PowerBI | Tableau | AWS QuickSight

Frameworks/Tools: Git | Visual Studio | Eclipse | Angular | Jupyter | Google Colab |PgAdmin | Pycharm | IntelliJ | Hadoop | Apache Spark

Cloud Technologies: Amazon Web Services (AWS) | Microsoft Azure | Google Cloud Platform (GCP)

Others: Big Data Analytics | Object Oriented Programming | Web Development | Machine Learning | Convolutional Neural Networks(CNN) | algorithms | Theory of Computation | Artificial Intelligence | Computer Vision | DevOps | Rest API's

ACADEMIC PROJECTS

Airline Delay and Cancellation **Big Data Analytics**

- Analyzed U.S. flight data from 2016 to 2024, using both relational and document-oriented database models to pinpoint key factors contributing to airline delays and cancellations. Enhanced data integrity and analysis capabilities through complex SQL queries and Python scripting.
- Implemented advanced data cleaning techniques and utilized Tableau for dynamic data visualization, improving data usability by 40%.
- Applied frequent itemset and association rule mining to extract actionable insights, driving a 25% improvement in operational efficiency and delay management strategies.

Facial Emotion Recognition System **Machine Learning**

- Developed a facial emotion recognition system using Python and OpenCV, integrating Convolutional Neural Networks via TensorFlow and Keras on Google Colab to achieve a model accuracy improvement of 35%.
- Engineered and refined a comprehensive data preprocessing and model training pipeline, significantly reducing error rates in real-time emotion detection.

GIT_COCO: Enhanced GIT Model for Vision and Language **Machine Learning**

- Led the enhancement of the Generative Image-to-text Transformer model, fine-tuning it on the COCO dataset to generate contextually accurate captions. Achieved a 20% increase in caption relevancy and descriptive precision using Python in PyCharm.
- Coordinated a team effort that resulted in marked improvements in automated image captioning, contributing to a 15% advancement in model performance metrics.

Sign Language Translator for the Speech Impaired **Machine Learning**

- Created a sign language translation application that detects hand gestures and translates them into alphabets, achieving an accuracy rate of 88% with the integration of the InceptionV3 algorithm using Python on Google Colab.
- Played a crucial role in a team that implemented feature vector extraction, enhancing the translation system's responsiveness and reliability for users with speech impairments.

Song Recommendation System **Machine Learning**

- Engineered a personalized song recommendation system using Python, which employs Popularity-based, Collaborative Filtering, and Singular Value Decomposition (SVD) models. Enhanced user engagement and satisfaction by tailoring music suggestions, resulting in a 30% increase in user retention.
- Optimized algorithmic efficiency, leading to a 50% reduction in recommendation latency and a 20% improvement in precision of suggested tracks.

LICENSES AND CERTIFICATIONS

- Earned the **IBM Data Analyst Professional Certificate** from Coursera, demonstrating proficiency in a broad range of data analytics skills. Completed rigorous coursework including 'Databases and SQL for Data Science with Python', 'Data Visualization with Python and PowerBI', 'Data Analysis with Python', and advanced Excel techniques for data analysis. Excelled in applying these skills to practical, real-world data challenges, enhancing business decision-making and operational efficiency.
- Earned the **Machine Learning A-Z: AI, Python & R + ChatGPT Prize** certificate from Udemy, demonstrating advanced proficiency in Python, R, and AI technologies for effective predictive modeling and data analysis.
- Successfully completed the Udemy course "**Artificial Intelligence A-Z: Build 7 AI + LLM & ChatGPT**," gaining expertise in Q-Learning, Deep Q-Learning, Convolutional Q-Learning, advanced Actor-Critic methods (A3C, PPO, SAC), and Large Language Models, which honed my skills in developing AI-driven solutions for complex decision-making and language processing tasks.
- Participated in **BrickHack**, where we developed the "AI Interviewer" platform using CrewAI to generate personalized interview questions and feedback, enhancing practice opportunities for college students.
- Awarded a Certificate of Appreciation for participating in **TekHack – 24-hour hackathon**, conducted by Smart Bridge in collaboration with IBM. Developed a ChatBot using IBM Watson, showcasing expertise in AI, NLP, and chatbot development.
- Recognized as 3rd Runner-Up in the **Master Orator Championship**, demonstrating strong interpersonal, public speaking, and communication skills.