SOWMYA RAGHAVENDRA

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WORK EXPERIENCE

Georgia State University   **Atlanta, GA**
Graduate Research Assistant   **January 2025 – Present**
- Developed a panel dataset combining Medicare Part B claims and county-level health data, **leveraging statistical analysis** to uncover trends in health IT adoption, including telehealth and AI usage.
- Designed efficient **data pipelines** to process and integrate HCPCS codes with additional health indicators, enabling actionable insights into telehealth and AI-driven healthcare services.

Georgia State University – Better Business Bureau   **Atlanta, GA**
Graduate Research Assistant   **August 2024 – December 2024**
- Built a **machine learning model** predicting business accreditation outcomes, **improving decision-making accuracy by 25%.**
- Applied **Natural Language Processing (NLP)** for sentiment analysis on news articles and media sources, providing actionable insights that enhanced company reputation analysis and guided accreditation decisions.
- Streamlined the business accreditation process by automating workflows, **reducing manual tasks by 40%.**
- Led a cross-functional team of **10+** members, implementing data-driven solutions to optimize business verification and accreditation processes.

Mercedes Benz Research & Development India   **Bangalore, India**
Data Engineer   **August 2022 – August 2024**
- Developed and optimized **ETL pipelines** using **Python and SQL**, **improving data processing efficiency by 20%** and ensuring seamless data integration into data lakes and warehouses.
- Engineered an event-driven architecture with **Kafka** to manage real-time data streams, **improving scalability and system reliability by 40%.**
- Integrated **REST APIs** to streamline data flow, enabling seamless access to real-time data for machine learning applications.
- Deployed and managed containerized microservices using **Kubernetes**, ensuring high availability and scalability of data processing pipelines, **reducing system downtime by 30%.**
- Managed **CI/CD** pipelines on **Azure DevOps,** automating deployments and **cutting release cycle time by 35%.**
- Implemented **monitoring and logging solutions for data pipelines**, ensuring high availability, data consistency, and quick issue resolution.
- Collaborated within **Agile** teams to deliver scalable and high-quality data solutions aligned with evolving project requirements.

PROJECTS

Covid-19 Impact Analysis   /   *Python, GCP, BigQuery, SQL, Looker Studio, Apache Airflow*
- Built a **scalable ETL pipeline using Apache Airflow** to extract, transform, and load **1M+ COVID-19 records** into **Google BigQuery**, enabling efficient analysis of pandemic trends and regional case distributions.
- Developed interactive dashboards in **Looker Studio**, leveraging BigQuery analytics to provide real-time insights, **improving stakeholder decision-making by 50%.**

Sign Language Recognition System   /   *Python, CNN, Tkinter, Hunspell, gTTS*
- Developed a sign language recognition system using **Convolutional Neural Networks (CNN)** for Indian sign languages, **enhancing recognition accuracy by 30%.**
- Integrated real-time word suggestions with **Hunspell**, **boosting relevance by 25%**, and incorporated **audio-to-text** functionality using **gTTS** and **SpeechRecognition**, **improving multilingual transcription accuracy by 35%.**

SKILLS

Technical Skills: Python, R, PySpark, SQL (Oracle, MySQL), PostgreSQL, Java.
Modules & Libraries: Pandas, NumPy, Scikit-learn, Matplotlib, Seaborn, Plotly, TensorFlow, Keras, NLTK, Selenium, BeautifulSoup.
Tools: Apache Spark, Hadoop, Kubernetes, Docker, MS Excel, PowerBI, Jupyter Notebook, Microsoft office suite, GitHub.
Cloud Tools: Data Factory, Blob Storage, Pipelines, Databricks, Log Analytics, Azure Redis Cache, GCP.
Machine Learning Competencies: Regression, Classification, Clustering, Decision Trees, Random Forest, Neural Networks, Support Vector Machine.

EDUCATION

Georgia State University – J. Mack Robinson College of Business   **Atlanta, GA**
Master of Science in Data Science and Analytics | *GPA: 3.96/4.0*   August 2024 – December 2025
Coursework: Machine learning, Deep Learning, Statistics, Data Visualization, GenAI
Dayananda Sagar Academy of Technology & Management   **Bangalore, India**
Bachelor of Engineering in Computer Science | *GPA: 3.87/4.0*   July 2018 - July 2022
Coursework: Data Programming, Database Management systems, Big Data Analytics

CERTIFICATES & ACHIEVEMENTS

- Bronze Award for exemplary performance and contributions at Mercedes Benz.
- Completed "Python for Everybody" certification course on Udemy.
- Earned Gold Badge for Python and Skills Verified certifications in Python and SQL on HackerRank.