SANDHYA AVINENI

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EDUCATION

Saint Peter's University, Jersey City, NJ
M.S in Data Science, GPA: 3.79/4.0 Sep 2023 – May 2025
Siddharth Institute of Engineering Puttur, India
B. Tech in Computer Science & Engineering, GPA: 8.63/10.0 Jul 2016 - May 2020

PROFESSIONAL EXPERIENCE

Saint Peter's University
Graduate Research Assistant **Jersey City, NJ**
AI-Powered Geospatial Analysis for Sustainable Urban Development Using SpaceNet 7 Nov 2024-Feb 2025

- Satellite Imagery Processing for sustainability- Processed and analyzed high-resolution satellite images from the SpaceNet 7 dataset to generate image chips and masks, aiding in sustainable urban development and disaster response efforts.
- Deep Learning for Geospatial Analysis – Implemented deep learning techniques to segment and extract features from satellite imagery, contributing to automated mapping and land-use analysis for environmental monitoring.
- Big Data & AI-Driven Insights – Utilized large-scale geospatial datasets and machine learning models to improve infrastructure planning and assess urban growth patterns in alignment with sustainability goals.

Capgemini Technology Services Pvt Limited Bangalore, India
Data Engineer Mar 2021 - Aug 2023

- Executed comprehensive data preprocessing using advanced Python and SQL methodologies, uncovering critical insights that drove strategic business initiatives and engineered and optimized data pipelines by implementing advanced ETL processes using Python and SQL driving a 30% improvement in operational efficiency.
- Enhanced data integration workflows across multiple sources, reducing processing time by 20 hours per month through strategic automation and performance tuning.
- Developed dynamic, interactive web-based dashboards by seamlessly integrating SQL databases with Tableau and Power BI, fostering real-time analytics and achieving user satisfaction ratings exceeding 90% across all platforms.
- Partnered with cross-functional teams to engineer data-driven web solutions, leveraging Agile methodologies and Git version control to streamline development processes, resulting in a 30% acceleration in project delivery timelines.

TECHNICAL SKILLS

- Programming Languages: Python (NumPy, Pandas, Scikit-learn, PySpark).
- Machine Learning: Supervised and Unsupervised Learning, Regression analysis, Classification, Clustering, Feature selection, Ensemble methods.
- Data Analysis Tools: Microsoft Azure, Tableau, Power Bi, Data Bricks, Excel.
- Tools: Excel, Git, Jupyter notebook, GitHub, Google Colab.
- Work Methodologies: DevOps, ETL pipeline optimization.
- Database Management Systems: SQL, MySQL.

NOTABLE PROJECTS

USA Rainfall prediction Nov 2024
Developed a Machine Learning Model for Rainfall Prediction – Analyzed historical weather data and implemented predictive models to forecast rainfall across the USA, improving accuracy in climate trend analysis.
Big Data Processing for Climate Insights – Utilized large-scale meteorological datasets, feature engineering, and time series analysis to enhance predictive capabilities for sustainable water resource management.

Stock Prices with Technical Analysis & AI May 2024
Implemented and optimized ML models (Linear Regression, Random Forest, CNN) for predicting analytics and classification tasks.
Utilized Apache spark and distributed computing for large scale data preprocessing and model training.
Designed and deployed a complete ML pipeline, including data ingestion feature engineering, hyperparameter tuning, model evaluation and visualization using python (pandas, scikit learn, Tensor flow, Matplotlib).

CERTIFICATIONS

- Artificial Intelligence Fundamentals by IBM (Dec 2024)
- Microsoft Azure Data Engineer Associate (Mar 2023).
- Microsoft Azure Fundamentals (Nov 2021).
- Microsoft Azure Data Fundamentals (Oct 2021).