KULDEEP BHURABHAI VADHIYA

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EDUCATION

University at Buffalo, The State University of New York, Buffalo   Jan. 2023 – June 2024
Master of Science in Data Science   GPA: 3.80 / 4
Coursework: Machine Learning, Database Management, Data Intensive Computing, Data Mining, Time Series Analysis

Saurashtra University, Gujarat, India   July 2019 – April 2022
Bachelor of Science in Mathematics   GPA: 3.73 / 4

SKILLS & TOOLS

Programming Languages: Python, SQL, R, MATLAB
Database Management: MySQL, PostgreSQL, PLSQL, NoSQL, MongoDB
Tools/Technologies: Excel, Jupyter, Tableau, Power BI, AWS, Data Visualization, Pandas, NumPy, Matplotlib, Outlook
Big Data: Data Warehousing, ETL frameworks, Apache Hadoop, Apache Spark, Apache Airflow, Apache Snowflake

WORK EXPERIENCE

Quantitative Research Assistant | *University at Buffalo, Remote*   *July 2024 - Present*
- Executed data cleaning and preprocessing on a dataset of over 10 million data points using Python, developed first spectrum calculation code, and analyzed power spectral density plots, improving data quality by 30%.
- Currently working on developing Python code to calculate the second spectrum, utilizing C++ code as a reference and consulting relevant research papers for methodology guidance to enhance analytical capabilities.

Quantitative Data Engineer | *Sphere Rays Technolabs, Rajkot, India*   Oct. 2021 – Dec. 2022
- Designed and optimized ETL processes using AWS Glue and Python for data transformation, utilizing S3 for data storage and Redshift for analytics, enhancing data integrity and reducing preparation time for revenue forecasting.
- Developed machine learning models with Random Forest and Support Vector Machines and utilizing statistics to increase revenue forecast accuracy by 25%, and enhanced business intelligence strategies for financial planning.
- Compiled and analyzed large-scale financial datasets, providing real-time insights into revenue streams and forecasting trends to support data-driven decision-making for financial strategies.
- Built and maintained detailed ETL pipelines for data modeling, integrating financial data from multiple sources and supporting advanced revenue segmentation to enable more accurate financial projections.
- Implemented data models in Redshift for revenue reporting, improving key performance indicators precision by 20%, fostering better communication across teams for financial problem-solving.
- Optimized query performance for financial datasets, applying critical thinking to reduce query response times and improve the scalability of forecasting platforms for revenue analytics.
- Applied data governance policies to ensure compliance and data integrity, demonstrating detail-oriented efforts to enhance revenue forecast reliability and support more informed financial decision-making.
- Created interactive Tableau dashboards to visualize revenue trends and financial reporting metrics, providing actionable insights for financial planners, improving revenue forecast KPIs by 15%.

PROJECTS

Stroke Alert: Alerting Healthcare Professionals to Potential Stroke Risk [Code]   Fall 23
- Engineered a system leveraging random forest, SVM, and deep learning models to analyze stroke risk factors, achieving 87% accuracy through hyperparameter optimization and cross-validation while providing an interactive Streamlit interface for healthcare professionals.

Predicting Bank Insolvencies: A Data-Driven Approach [Code]   Spring 23
- Developed a predictive model for bank insolvency, achieving 86% accuracy through the customization of random forest, logistic regression, and XGBoost algorithms, while leveraging external datasets from Kaggle to improve data quality and enhance the robustness of the analysis.