Dhruvraj Singh Rathore

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EDUCATION

Texas A&M University

Master of Science in Data Science

Aug. 2024 - Present

SRM Institute of Science and Technology

Chennai, India

Bachelor of Technology in Computer Science Engineering

Jul. 2018 – May 2022

EXPERIENCE

Student Research Assistant

Oct. 2024 – Present

School of Public Health, Texas A&M University

College Station, TX

- Conducted descriptive statistical analysis on Medicaid Survey data using Python and SAS.
- Automated graph generation for project presentations using R, reducing processing time by 30%.
- Performed hypothesis testing using T-tests and Pearson correlation to identify relationships between target columns, and utilized Q-Q plots to analyze distribution similarities across datasets over multiple years.

Data Analyst Dec. 2022 – Jun. 2024

Draup Business Solutions

Bangalore, India

- Implemented scalable and robust ETL data injection pipelines with PySpark and SQL in AWS EMR jupyter notebooks, enhancing reliability and resulted in a 35% improvement in end-to-end data integrity.
- Led a **cross-functional initiative** to architect a dashboard, processing 200 million **data checks through Airflow to generate 100+ exceptions**; rapid resolution of production issues.
- Integrated AWS Lambda with S3 and DynamoDB to support ad-hoc client data request.

Data Analyst Jul. 2022 – Nov. 2022

HighRadius Corporation Hyderabad, India

- Transformed data gathering phase by simplifying data extraction and preprocessing steps with Python and SQL, decreasing total time for analysis by 50%.
- Developed a keyword matching algorithm to automate matching of claims to deductions, yielding **3x increase in** net recovery rates and resulting in savings of approximately \$50M.

Data Science Trainee Aug. 2021 – Jun. 2022

HighRadius Corporation

Hyderabad, India

- Collaborated with multiple Fortune 500 CPG companies to facilitate AR work distributions utilizing **time series** data in Python, reducing manual efforts by 4 times.
- Created predictive models for customer payment date patterns leveraging machine learning regression models, Bagging, and boosting algorithms, resulting in a 70% increase in model accuracy.
- Optimized deployed ML models, boosting automation efficiency by 25% and achieving 35% revenue savings

Projects

Metastatic Cancer Detection | Python, CNN, Pytorch, Git/Github, Neural Networks Nov. 2024 - Dec. 2024

- Integrated deep learning model using CNNs to classify metastases in histopathological images from the PatchCamelyon (PCam) dataset.
- Applied data augmentation and batch processing to enhance model generalization and training efficiency.
- Achieved an F1 score of 0.8768, demonstrating high accuracy in automated cancer metastasis detection.

Metro Interstate Traffic Volume | Python, Statistical Techniques, Model Development Nov. 2024 - Dec. 2024

- Built a traffic congestion model using scikit-learn, with feature scaling, one-hot encoding, and time-series analysis.
- Applied Random Forest, Lasso, Ridge, Linear, and Polynomial Regression with cross-validation.
- Used pandas, NumPy, Matplotlib, and Seaborn for data analysis; tuned hyperparameters with GridSearchCV.
- Evaluated with RMSE and R-squared; Polynomial Regression showed the best accuracy.

SKILLS

Programming: Python, SQL, Pyspark, R, SAS

Database: Postgres, MySQL, MongoDB, DynamoDB, Snowflake

Libraries: Pandas, NumPy, Matplotlib, Scikit-learn, PyTorch, TensorFlow

Miscellaneous: Git/GitHub, CI/CD AWS Suite (EMR, S3, EC2, Glue, Lambda), LLMs, Spark