Sindura Reddy Challa

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EDUCATION

University of Maryland, Baltimore County — Maryland, USA
MPS in Data Science — *Aug 2023 – May 2025*

Vidya Jyothi Institute of Technology — Hyderabad, India
B.Tech in Information Technology — *Aug 2019 – May 2023*

TECHNICAL SKILLS

Languages & Libraries: Python (Pandas, NumPy, Scikit-learn), SQL
Machine Learning & Forecasting: Time Series Modeling, Forecasting, Supervised/Unsupervised Learning, Classification, Regression, XGBoost, Random Forest, Feature Engineering, Model Evaluation (MAE, RMSE, R^2)
Data Analytics & Processing: Data Cleaning, Statistical Analysis, Hypothesis Testing, Data Fusion, ETL Pipelines, Excel (PivotTables, LOOKUP, IF statements, Time Series Charts)
Visualization & BI Tools: Tableau, Tableau Prep, KPI Design, Calculated Fields
Platforms & Tools: Databricks, Git, GitHub, Jupyter Notebook

EXPERIENCE

Data Analyst Intern — Apr 2021 – Jun 2021
Knowledge Solutions India — *Remote*

- Used Python and Scikit-learn to explore clinical data and build classification models aimed at identifying high-risk heart disease cases, achieving 87% accuracy by implementing an ensemble of logistic regression, decision tree, and random forest algorithms
- Improved predictive reliability by reducing false negatives by 23% through targeted feature engineering using seven health-related variables, and optimized model performance using grid search and k-fold cross-validation
- Designed 12+ data visualizations (heatmaps, ROC curves, risk profiles) to interpret model outputs and summarize key performance indicators (KPIs) such as accuracy, precision, recall, and patient risk group distributions

PROJECTS

Highway Maintenance Forecasting Model — **May 2025**

* Processed and integrated 3M+ spatial-temporal records from HPMS and FAF datasets, joining traffic, pavement condition, and infrastructure metadata across 2,000+ highway segments over a 10-year period
* Engineered time-based and location-aware features to train and compare forecasting models (Random Forest, XGBoost, LSTM), improving RMSE by 30% and enabling reliable prediction of long-term pavement degradation trends
* Evaluated model performance using KPIs such as RMSE, MAE, and R^2, and used scenario testing to simulate varying maintenance budgets and prioritize high-risk road segments
* Developed an interactive geospatial dashboard with filters for year, severity, and region; visualized deterioration patterns through choropleth maps and time-series plots to support data-driven infrastructure planning

Retail Sales Trend Analysis Dashboard — **Jan 2025**

* Used Excel to preprocess and transform 500K+ online retail transactions, including filtering invalid rows, handling missing values, and creating calculated fields to derive monthly revenue, average order value, and product-level performance metrics
* Created pivot tables and time-based aggregations in Excel to summarize revenue trends, identify top-performing products, and highlight seasonal patterns before exporting curated datasets into Tableau for advanced visualization
* Designed an interactive Tableau dashboard featuring KPI cards for total revenue, average order value, and top product categories, implemented filters by country, date range, and customer segment to support dynamic exploration and drive insights for inventory and promotion planning

E-Commerce Shipment Performance Dashboard — **Nov 2024**

* Cleaned and analyzed 11K+ shipment records using Python to evaluate delivery status, shipment weight, product cost, discounts, and logistics attributes such as warehouse block and shipment mode
* Built a Tableau dashboard with KPI cards for on-time delivery rate, average shipment weight, product cost, and delayed shipment percentage; included filters by warehouse, shipment mode, product importance, and customer gender
* Identified delivery bottlenecks and delay trends, revealing that flight shipments and heavily discounted orders had a higher likelihood of late delivery