

E-Commerce Sales Forecasting Using Machine Learning and Interactive Visualization

R / Python / Random Forest / XGBoost

Portfolio Report

A research-oriented data science project that analyzes e-commerce sales and applies machine learning to estimate sales amounts.

Key Areas

- Data cleaning and preprocessing
- Sales, region, customer, product and profit analysis
- 5,000-record research dataset sample
- Random Forest and XGBoost model comparison
- Evaluation using RMSE, MAE and R^2

Approach / Documentation

The workflow prepares transaction data, engineers useful business variables, explores patterns through visualization, trains machine learning models and presents results through an interactive analytics framework.

Prepared for portfolio presentation. Replace this document with the original full academic/professional report when available.