BLACK FRIDAY SALES PREDICTION

Technocrats

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CONTRIBUTION

Arun Reddy Nalla

Random Forest Regression
City & Product Category Analysis
Literature Survey

Darun Arumugham

Linear Regression
Staying in City & Age Analysis
Data Preprocessing

Siddhartha Pitchika

Decision Tree Regression
Gender & Marital Status Analysis
Report Preparation

Varshitha Seralathan

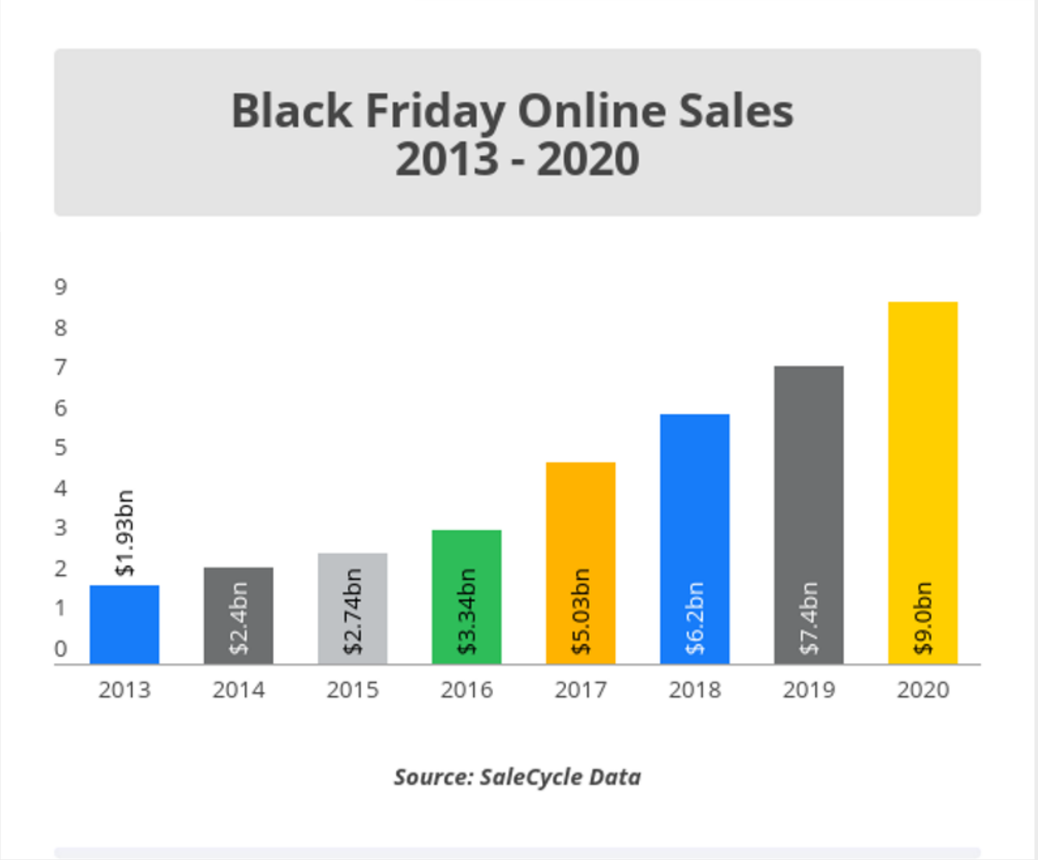
XG Boost Regression
Purchase & Occupation Analysis
Data Preparation

PROJECT MOTIVATION

- The key products and/or services your company offers.
- Black Friday Sales – biggest sales in North America
- Huge demand, high discounts, bulk purchases
- “Hyper discount culture”
- Wastage of products, poor quality checks

Main challenge:

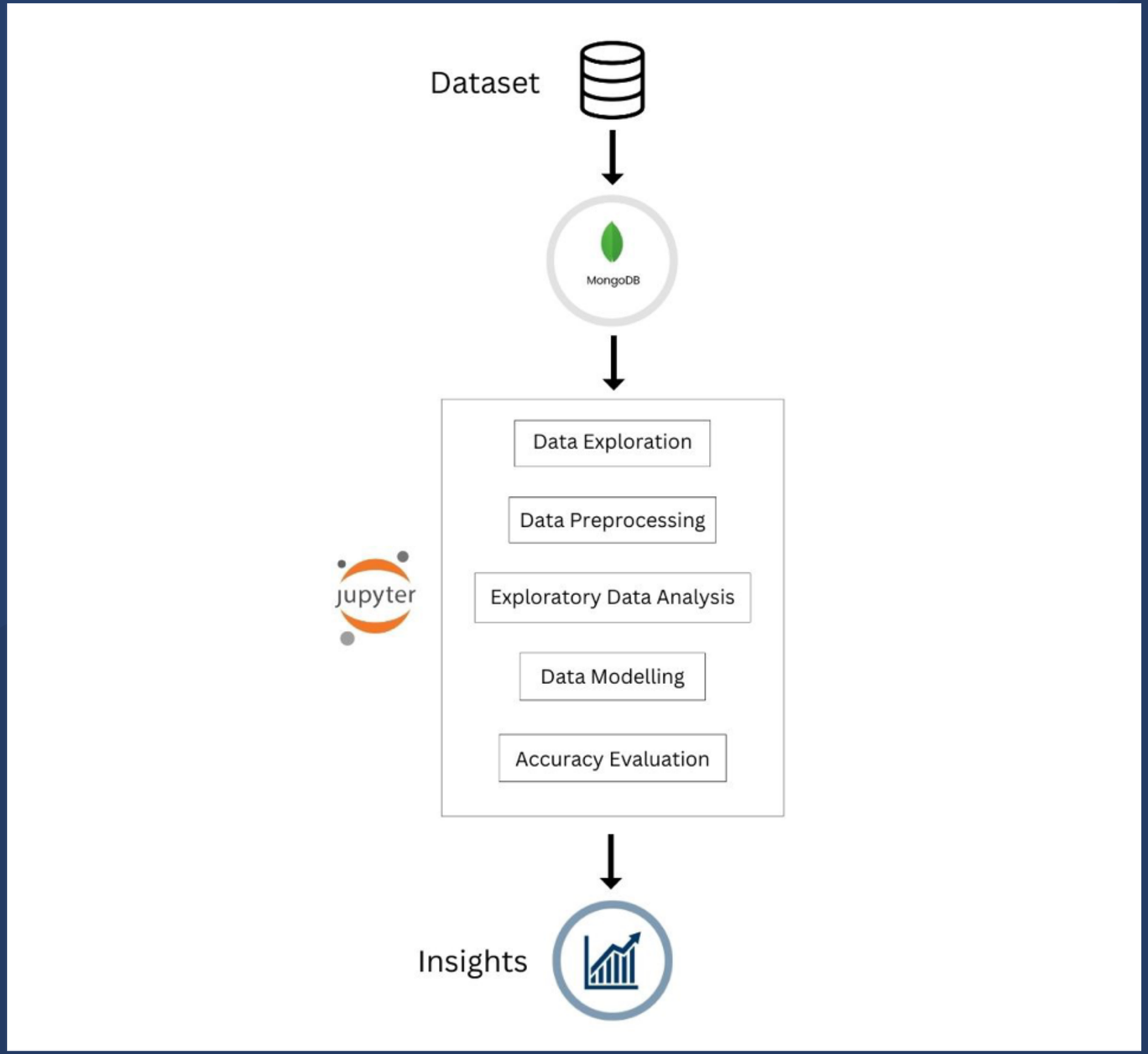
- Identify products that would be in demand
- Identify their target demographic
- Find appropriate sales strategies.



EXISTING WORKS

RESEARCH PAPER	MODELS ANALYZED	CONCLUSION
Ramasubbareddy S. et al.	Rule-Based Decision Tree, Decision Tree, Random Forest, Ridge Regression, and Linear Regression	With an RMSE rate of 2291, Rule-Based DT beats other machine-learning algorithms
C. M. Wu et al.	XGBoost, Linear Regression, MLK classifier, Decision Tree, Decision Tree with bagging, and Deep Learning model using Keras	Suggests to use simple models like linear regression
Odegua and Rising	K-Nearest Neighbor, Random Forest, and Gradient Boosting	With an MAE rate of 0.409178, Random Forest surpassed the other algorithms

PROPOSED ARCHITECTURE

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CONCLUSION & FUTURE PLANS

- Our project deals with determining product prices based on historical retail store sales data.
- Our project compares various models and generates predictions, our model will help the retailer to get insights into customer choice of products to decide the price and quantity of the products.
- This will lead to a discount based on customer-centric decisions, boosting both the retailer's and the customer's profit.
- For future research, we can perform parameter tuning and apply different algorithms and mining techniques.
- Automated dashboard for business planning.

THANK YOU