

Syriatel Customer Churn Prediction

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Project overview

This project aims to create a predictive model to help SyriaTel, a telecommunications company, identify customers likely to churn. By predicting potential customer attrition, the company can implement strategies to retain them, thereby improving customer loyalty, optimizing marketing efforts, and minimizing revenue losses associated with churn.

Problem statement

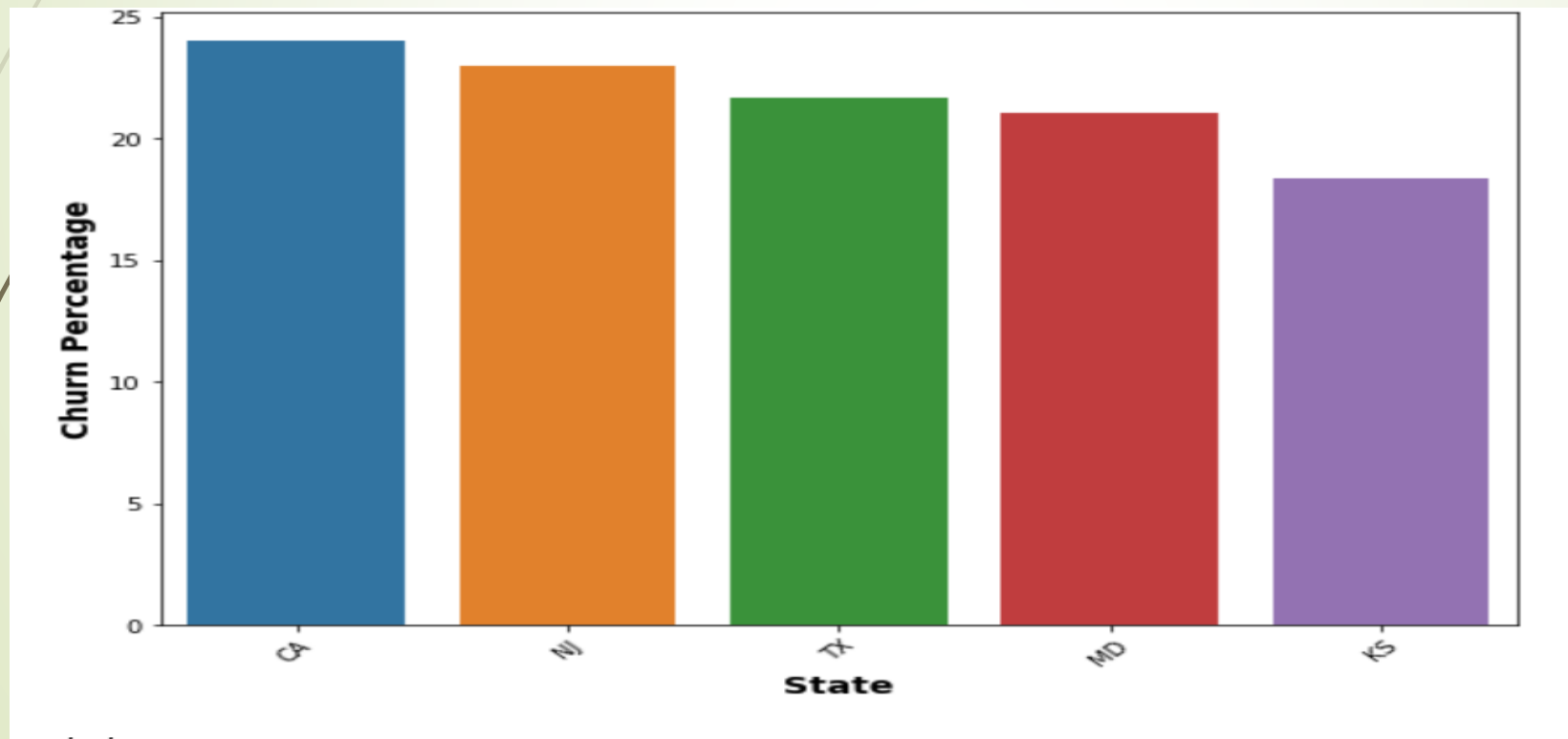
SyriaTel is interested in identifying patterns that contribute to customer churn, so they can take action to prevent customers from leaving.

Data understanding

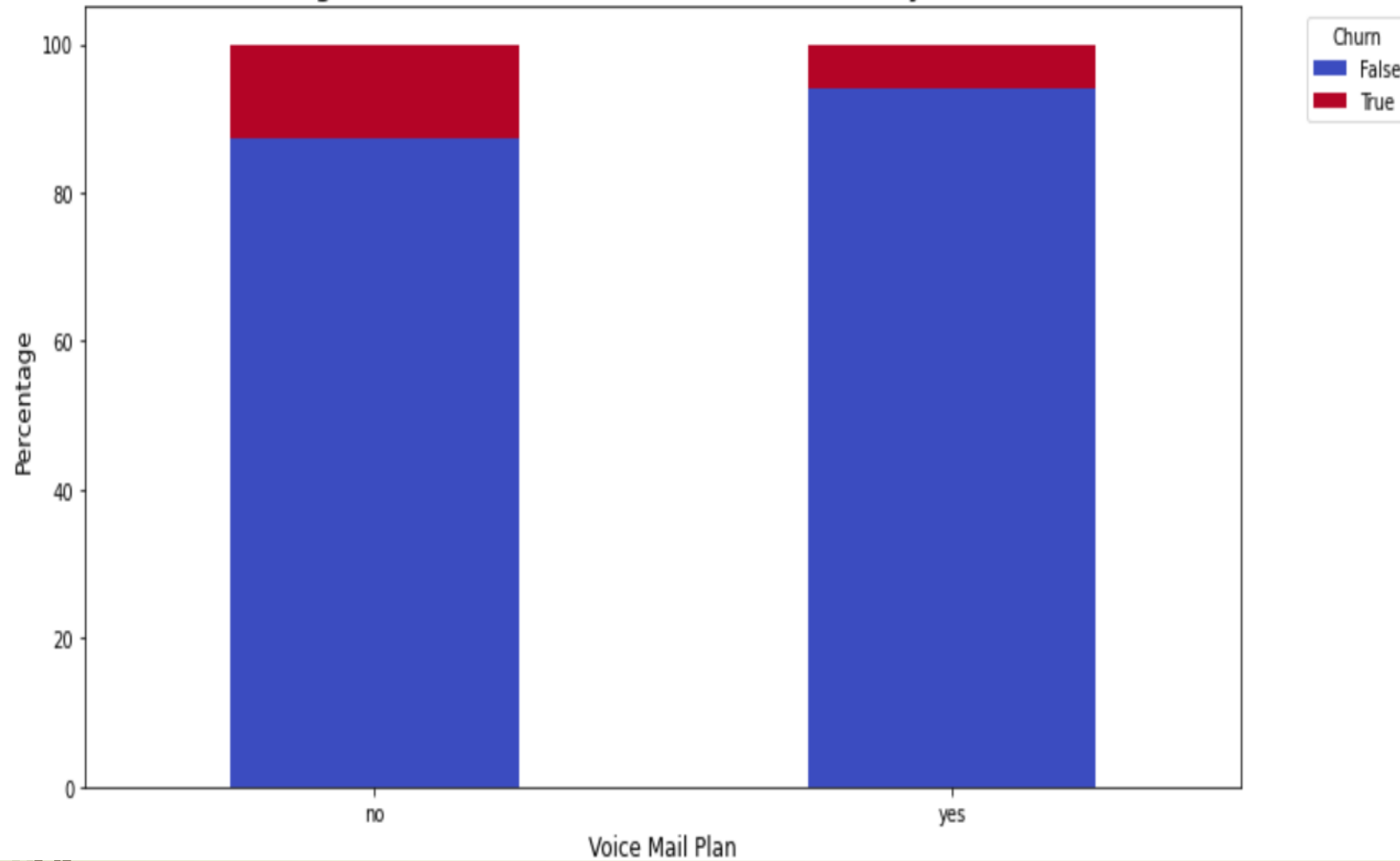
The dataset used in this project originates from SyriaTel and contains detailed information about the company's customers. Each record represents a unique customer with attributes that reflect their interactions with SyriaTel's services. It consists of **3333 rows** and **21 columns**, providing substantial data for robust analysis.

Data visualization

- The following visualization shows the states that has cusmoers that are more likey churn



Percentage of Churned and Non-Churned Customers by Voice Mail Plan

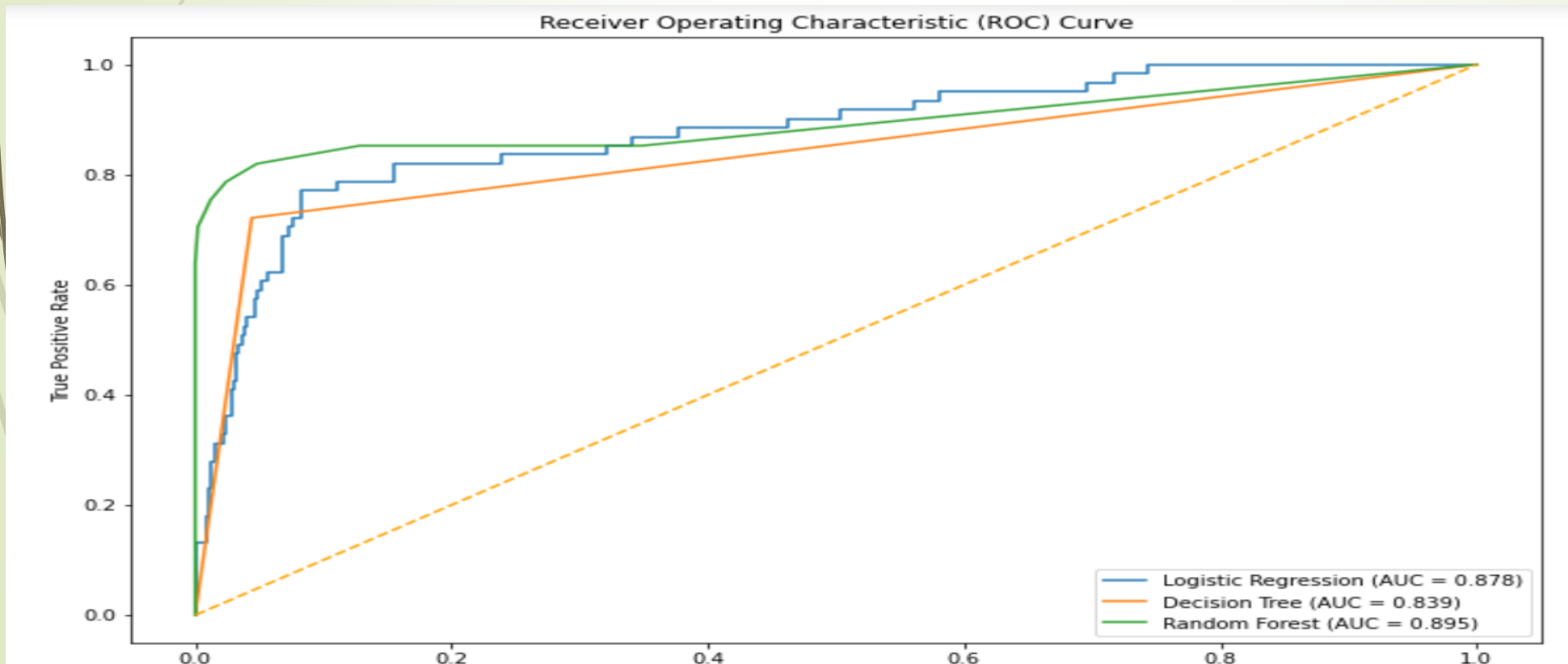


modeling

- The dataset was divided into training and test sets, with the training set used for model fitting and the test set for model evaluation.
- A baseline model was developed using Logistic Regression, while additional models included Decision Trees and Random Forest.

Model Evaluation

- From the different models I used that is logistic regression, decision tree and random forest model I found that the best model was random forest model with AUC of 0.895



Conclusion

- The analysis identified key factors influencing customer churn, including low engagement, high complaint rates, and infrequent service use.
- The findings highlight customer dissatisfaction as the main driver of churn, suggesting that addressing it can significantly reduce turnover rates.

Recommendations

- Improve on customer services
- Introduce customised and affordable call plans for both day and night calls.
- Security Measures: Implement stringent security measures ensure customer privacy and data protection