SYRIATEL CUSTOMER CHURN

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BUSINESS CASE

- A telecommunication company called SyriaTel has enlisted data scientists to create a model that predicts when the customers are leaving their business. The data scientist is expected to build an accurate model and report features that may be an indicator that the customer will be more likely to leave.

THE DATA

- SOURCE OUTLIERS
- Dataset from Kaggle

- SHAPE
- Over 3300 rows and 20 columns

- ISSUES
- Pretty clean set, only issue is imbalance

- OUTLIERS
- No major outliers that could skew the models

KEY QUESTIONS
DATA DETAILS

1. Which plans are customers satisfied with?
2. Which factors lead to service discontinuation?
3. How can SyriaTel retain customers?

Churn telecom dataset provided:
1. 3333 observations and 21 columns.
2. The 'churn' column is the target to predict.
3. There is a class imbalance, 483 customers churned and 2850 did not churn.
4. May require SMOTE.

DATA PREPARATION

- Exploratory Data Analysis

- Removed corelated columns

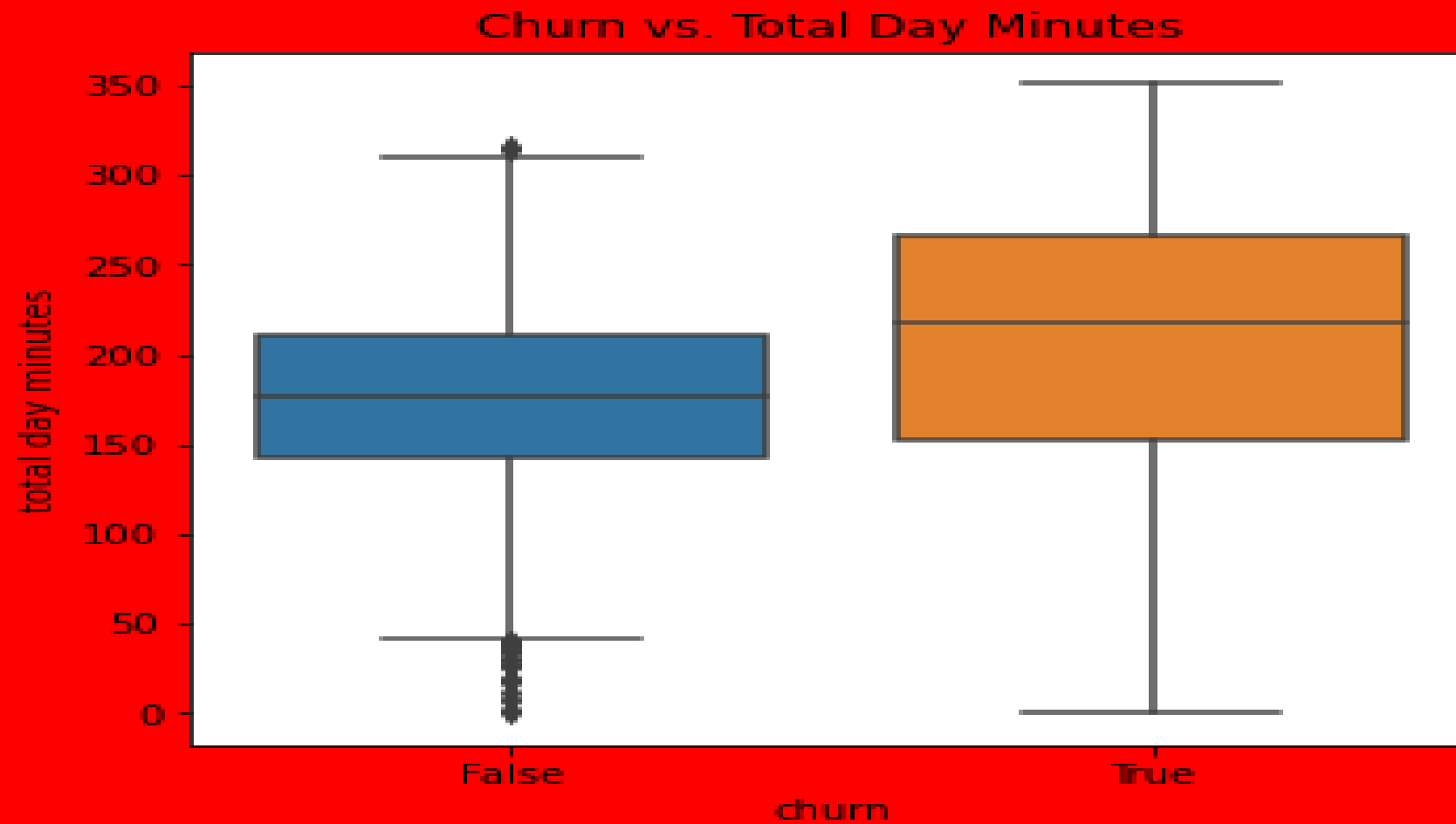- Applied SMOTE to remove imbalance

VISUALIZATIONS

- People with international plans are way more likely to churn. Perhaps other companies are offering more competitive pricing.

- Minutes spent on the phone during the day are correlated with customers leaving the service

- More than 3 customer service calls from a customer suggest that they are on the brink of leaving
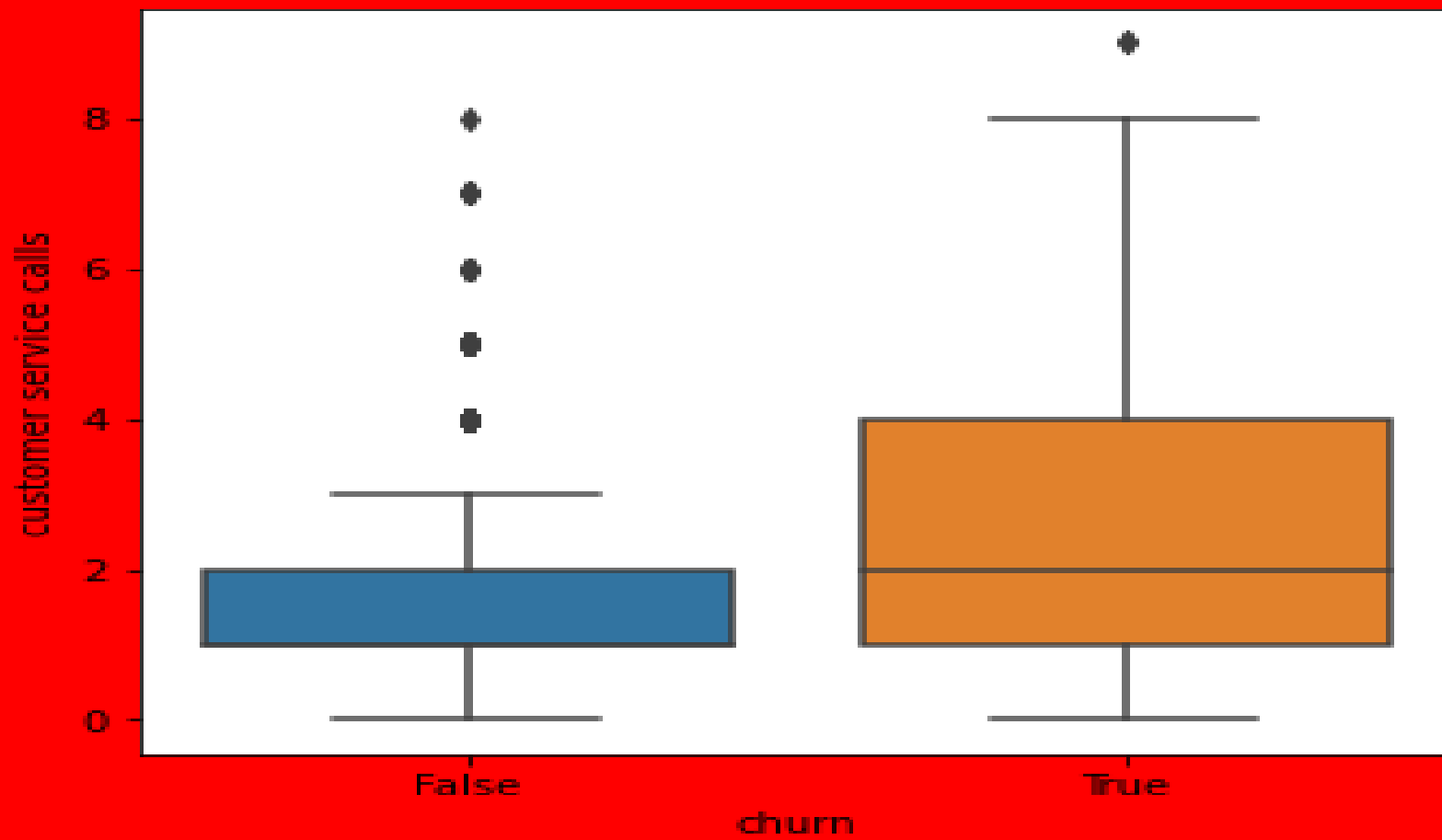
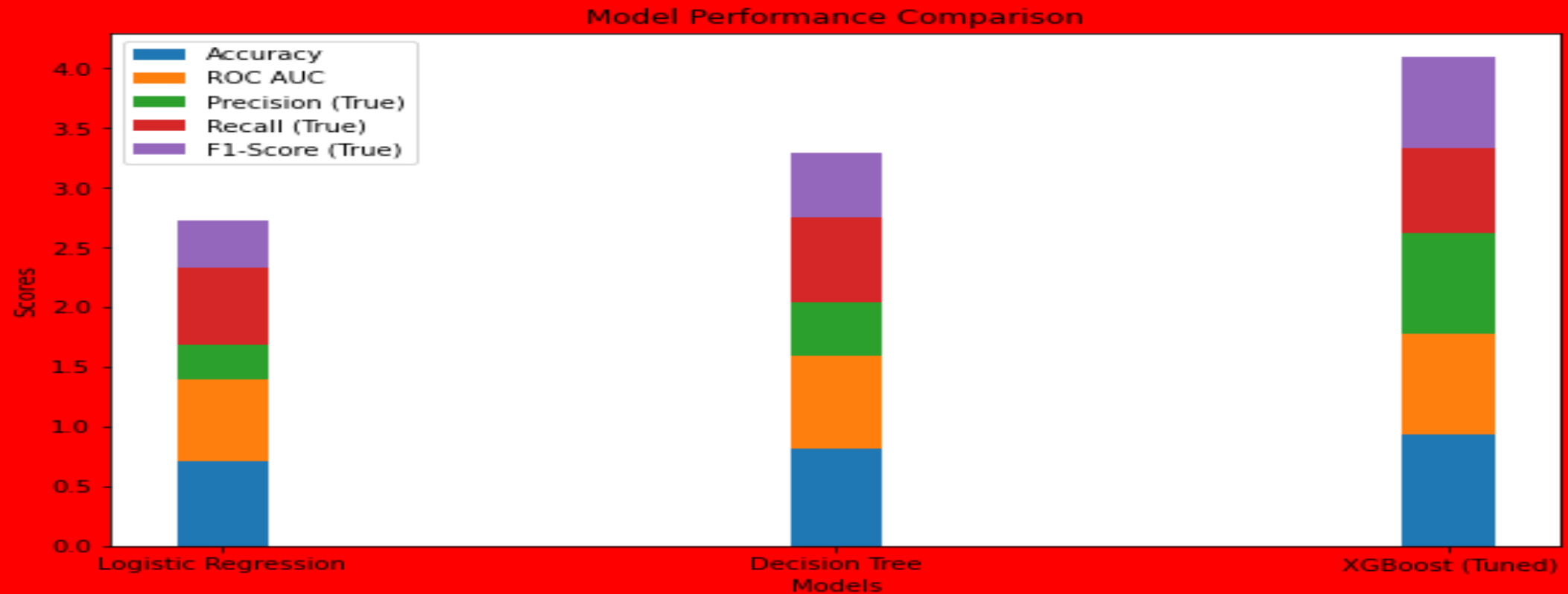# CHURN VS INTERNATIONAL PLAN
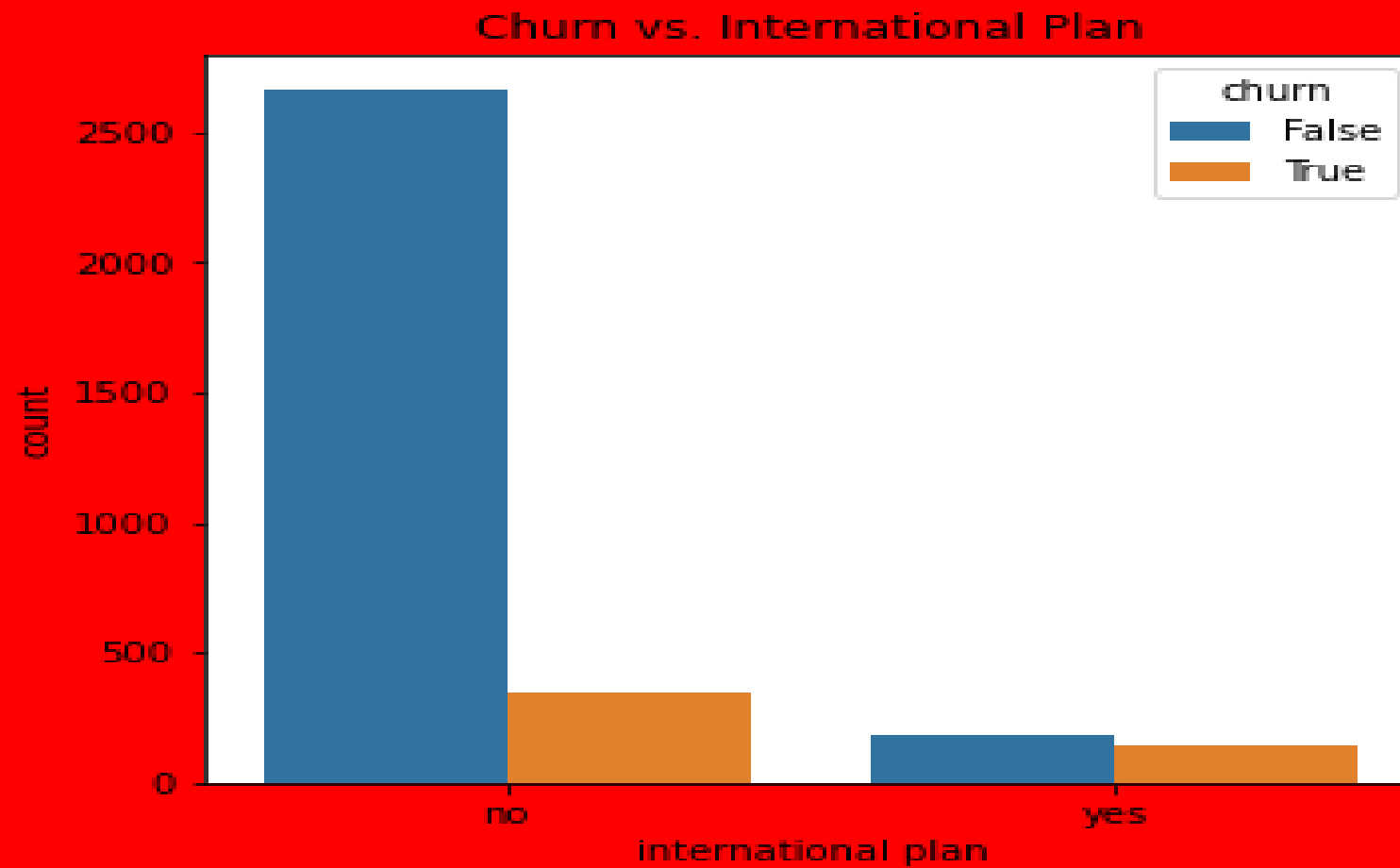
Churn vs. Total Day Minutes

Churn vs. Customer Service Calls

FINAL MODEL

BEST MODEL: XGBCLASSIFIER BEST
SCORE (AUC): 0.909523946628058I

- RECOMMENDATIONS

- Increase the quality of customer service to reduce the amount of times called, especially focusing on customers who call repeatedly.

- Provide better plans for those who use more minutes like decreasing charge rate after hitting a cap of 240 call minutes instead of a flat rate per minutes.

- Give out some rewards or benefits for customers for their account length over time to promote customer loyalty.

- Implement customer retention strategies around key predictors like providing added benefits and incentives for customers with an international plan

- FUTURE WORK

- Delve into international call customers and investigate why they are leaving.

- Determine if the number of minutes per day is correlated due to some other factors or is it playing a significant role in customer churning.

- Get more specific information on our clients and see if that can help us better predict whether they are more likely to churn or not.

- Analyze coverage in different states an see if that has an impact on customer churn

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THANK YOU!

For more details visit my GitHub:

https://github.com/mwanza00