

# SYRIATEL CUSTOMER CHURN

Buisness Success: Machine Learning to help drive  
growth

# OVERVIEW

- Customer churn refers to the rate at which a company loses customers
- Churn results in revenue loss and impact the brand image of the service provider in the public.
- Addressing churn requires additional investment to acquire new customers, which is generally more expensive than retaining existing ones.

# PROBLEM STATEMENT

- The dangers churn poses our stakeholders in the product improvement department in SyriaTel has provided data to aid in identifying key features that influence churn.
- The goal is to develop a predictive model that can identify key customer factors that indicate churn
- Subsequently target these key areas that can reduce churn in order to position itself as a market leader.

# Objectives

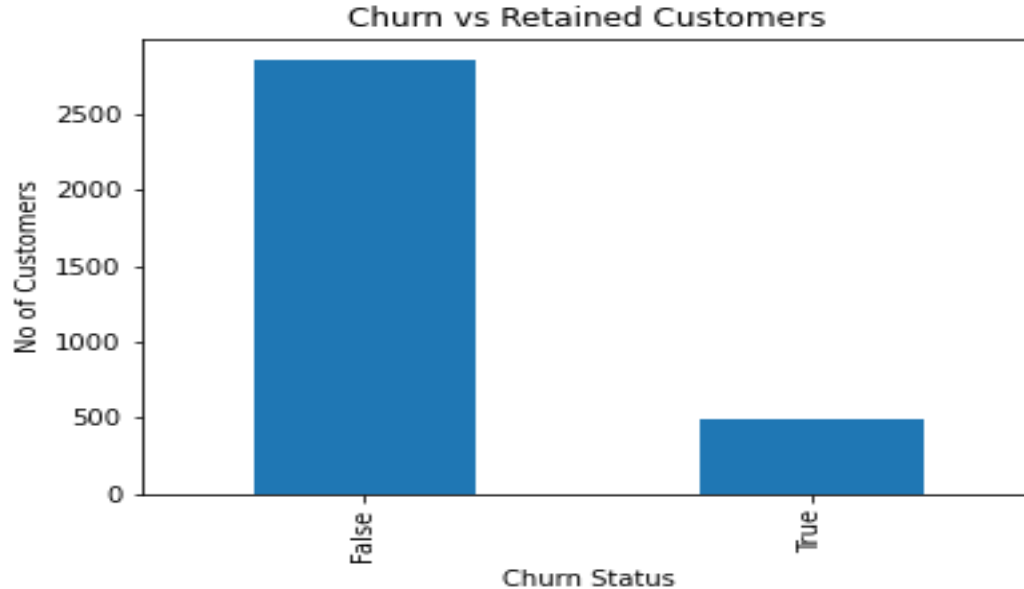
- I. Develop a best predictive model for accurate churn estimations with an accuracy of over 80%
- I. Identify key features that affect churn



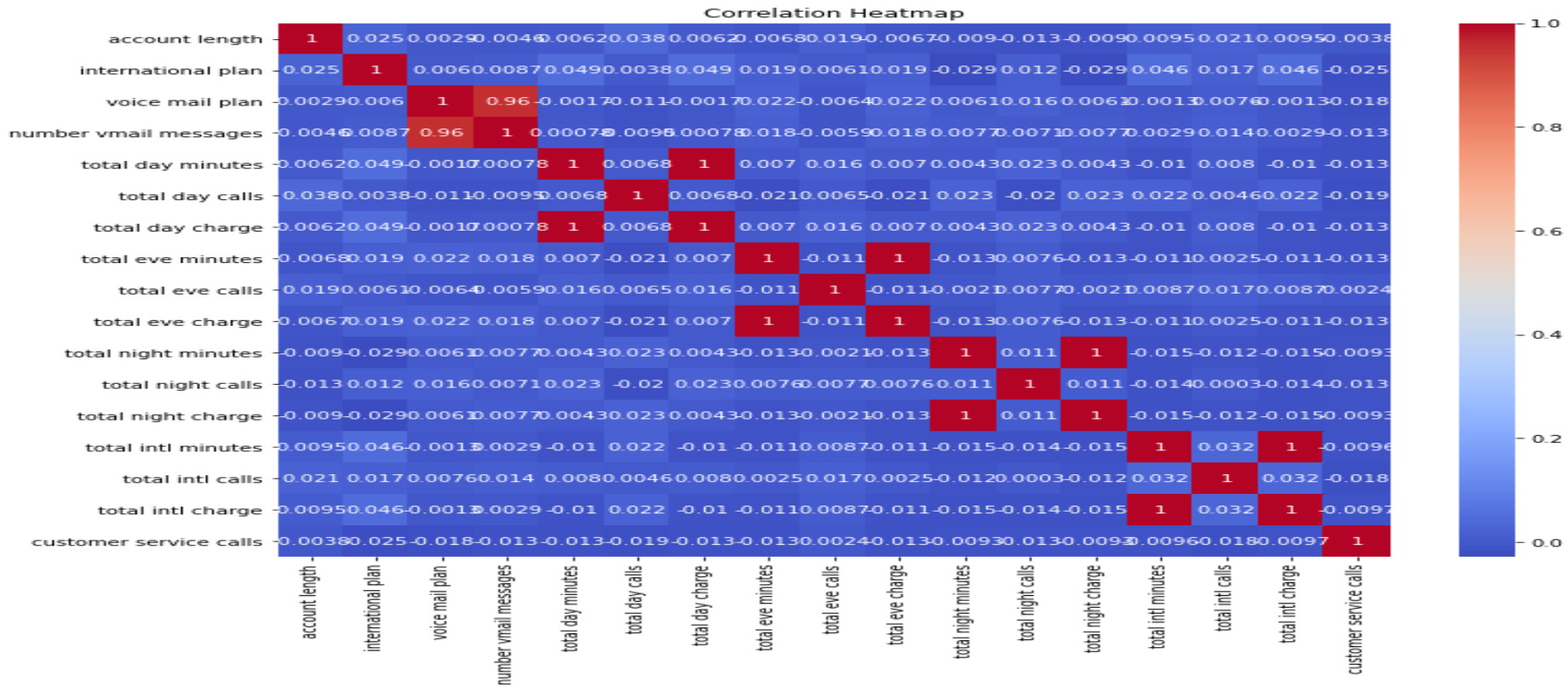
# METHODOLOGY AND TECHNIQUES

The dataset employed in this analysis originates from Kaggle and pertains to SyriaTel. The predictive models utilized for the analysis include logistic regression, decision tree, and random forest.

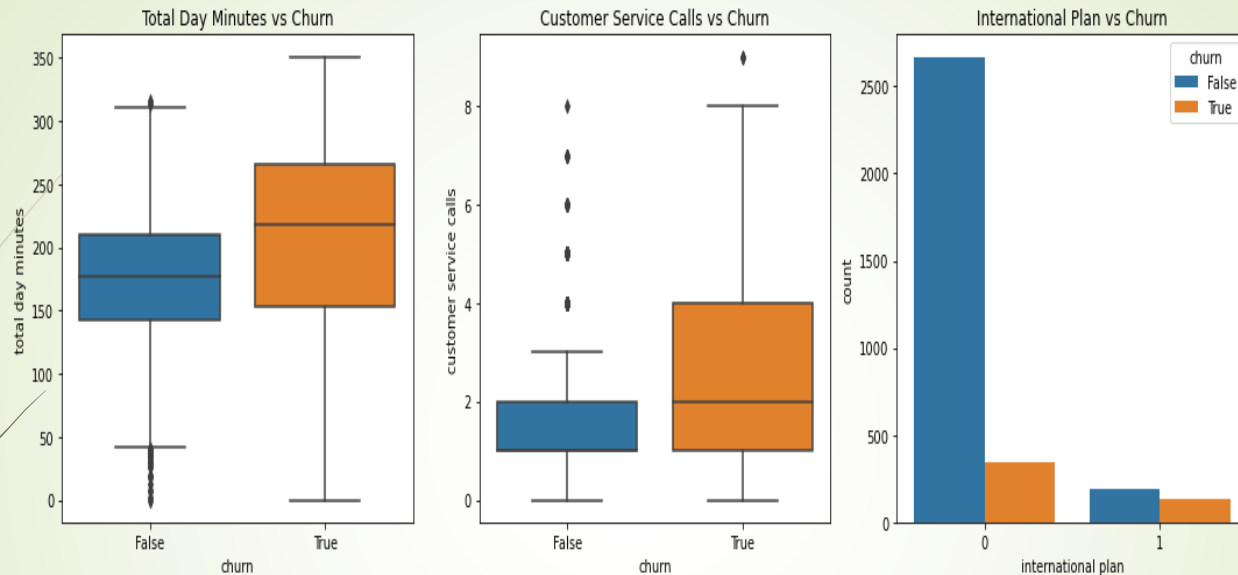




The figure above shows churn data in our dataset with an average of about 15%



The figure below shows correlation heatmap between target variable and key features analyzed



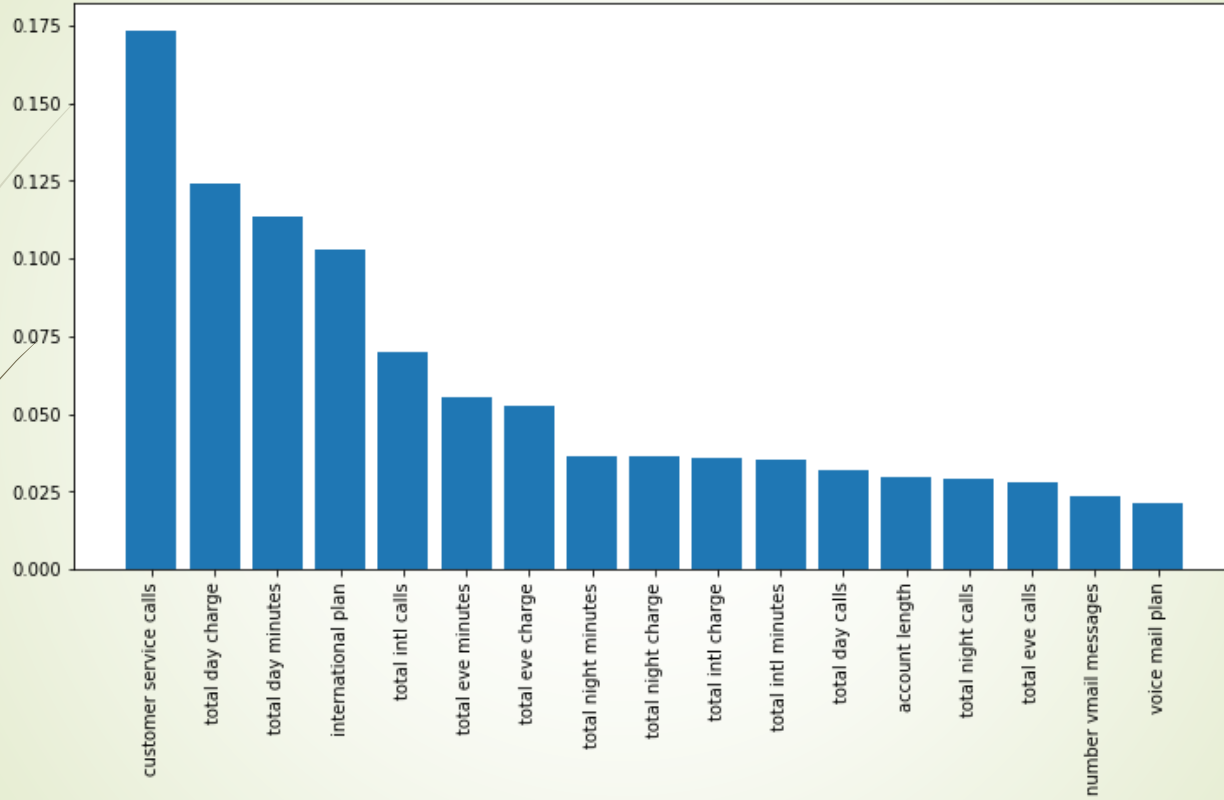
- Frequent customer calls indicate a significant higher chance to churn
- Users who are on the international plan are also more likely to churn
- Users who use more total day minute are more likely to churn



# CONCLUSION

- The hyperparameter tuned random forest model was the best performing model, showing an accuracy of 97% with an fl score of 82%
- Features of note in this model are shown below; of note are total day minutes, customer service calls total day minutes and international plan being the most significant while number vmail messages, account length and total eve calls are the least

Feature Importances - Random Forest



# RECOMMENDATIONS

- **Recommendations**
- Customer service investigate most common problems customers experience can help for a targeted fix that will alleviate the issue.
- Investigate pricing structure as daily minutes to match competitors
- Review international plan cost could be a key driver in this challenge may need to restructure plan to entice customers to stay

# NEXT STEPS

- A breakdown into customer service calls to target key issues using key word searches
- Investigate connectivity issues by area
- Investigate if technology can handle high volumes during the day time as that could also cause the drop offs

Thank You