



# SyriaTel Customers Report

June 15, 2022

# Table of Content

Business Problem

Data

Customers Churn Rate

Methods

Initial Model

Final Model

Feature Importance

Conclusions

Furthermore



# Business Problem

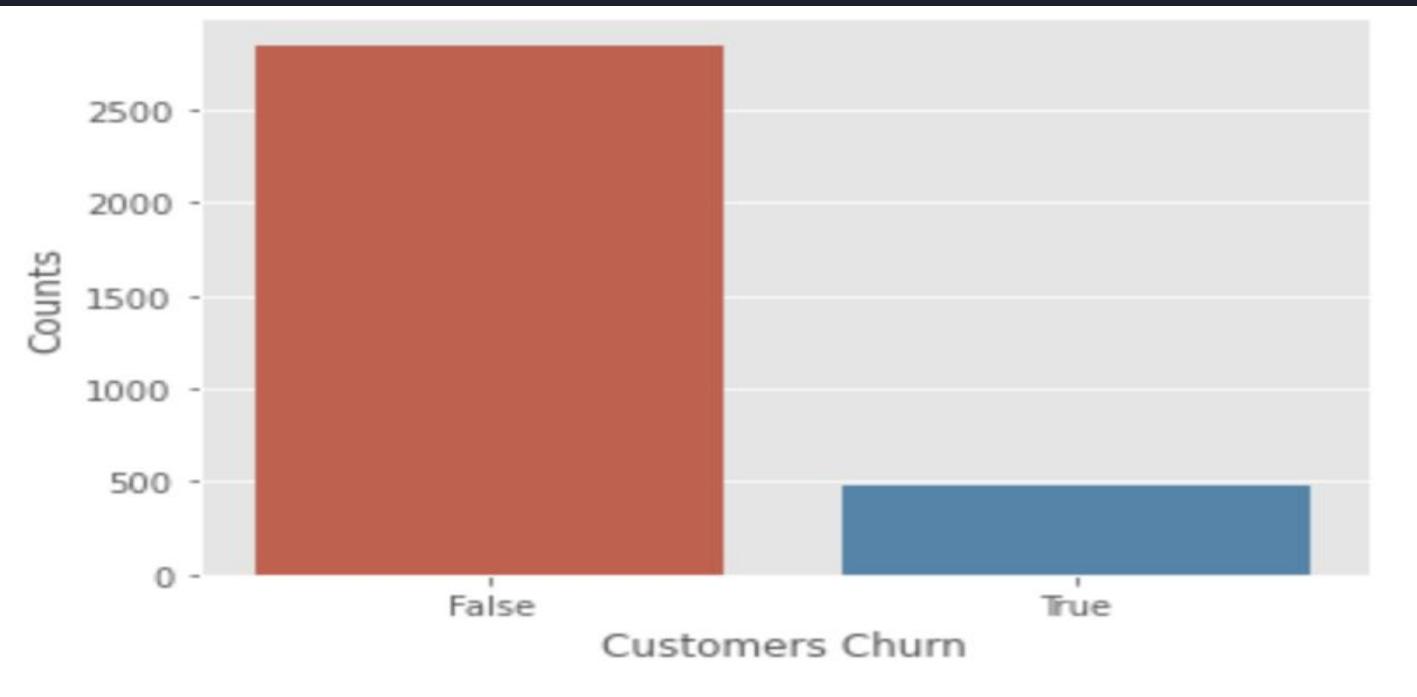
- Decreased revenue brought management's attention
- Higher churn rate than other carriers'
- Predict Customers are most likely to cease the service



# Data

- 
- 01 SyriaTel provided a dataset containing 3333 customers
  - 02 21 features including account length, state, charges, minutes, plans and churn
  - 03 Churn rate is 14% in this dataset

# Customers Churn Rate

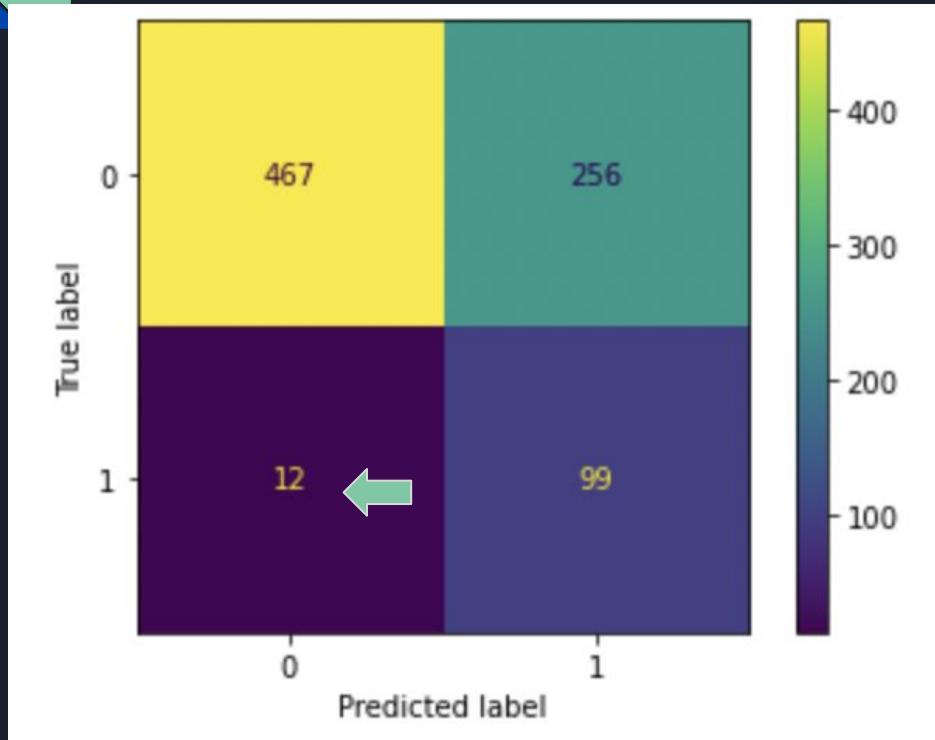




# Methods

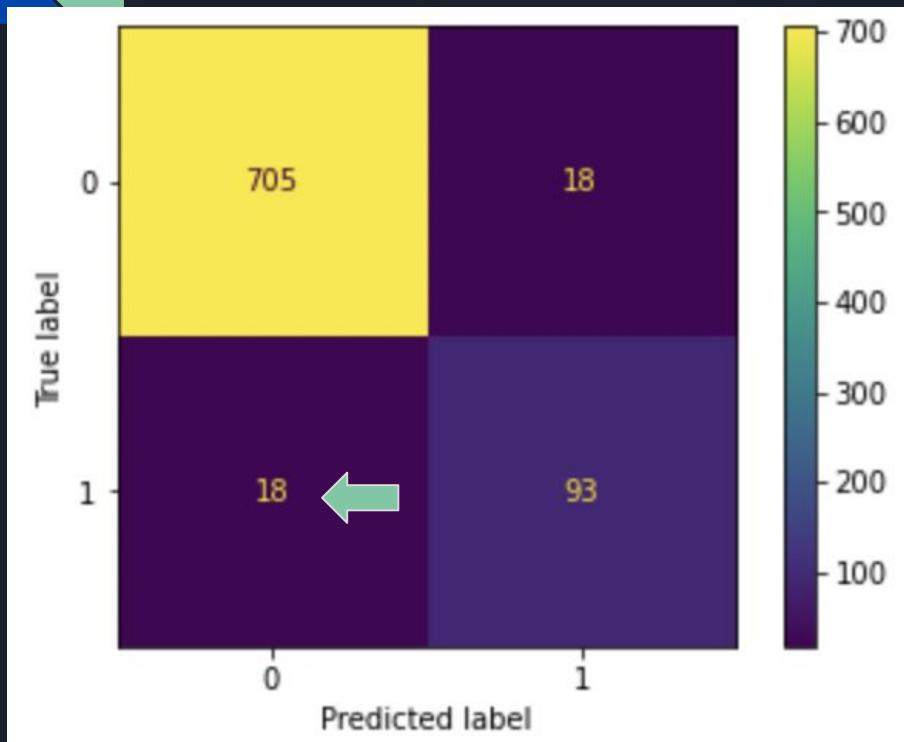
- Check if any missing values and convert boolean columns data into binary data
- Use Logistics Regression as baseline model
- Use different types of models to evaluate
- Choose the best model and tune the parameters
- Use final model to identify customers churn
- Looked through feature importance in the final model

# Initial Model



Recall score : 89%  
Accuracy score: 67%

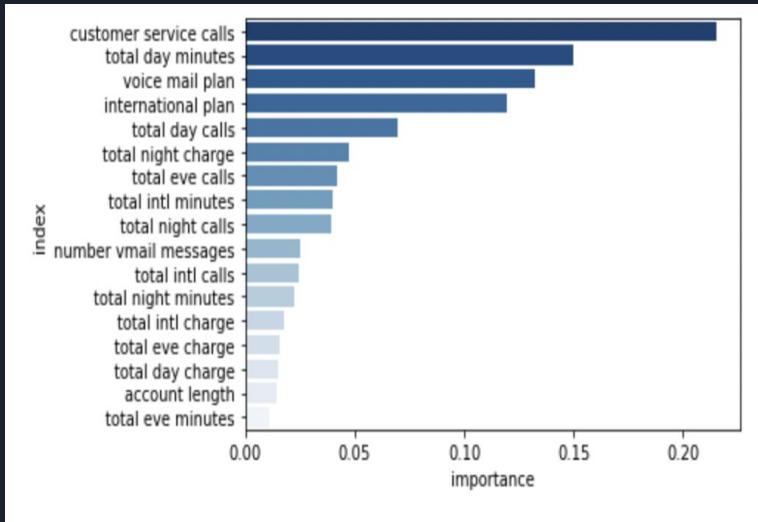
# Final Model



Final result

Recall score :84%  
Accuracy score 96%

# Important Features



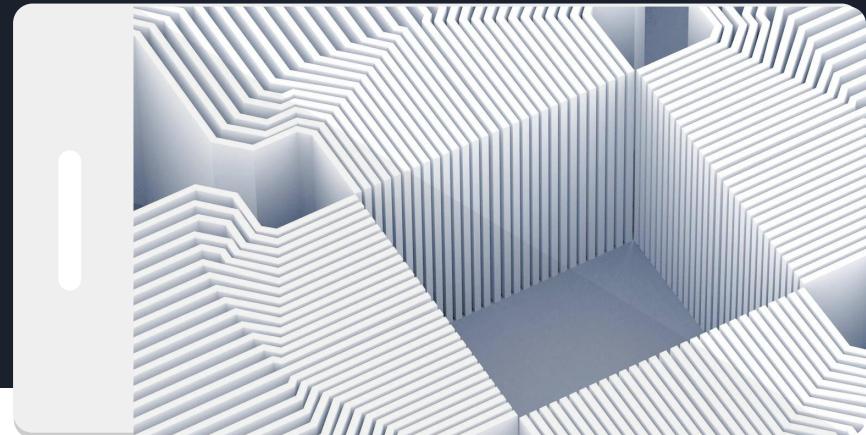
First 4 highest weight in Feature Importance:

- Customer service calls
- Total day minutes
- Voicemail plan
- International plan



# Conclusions

- Find the main reasons for calling
- Improve voicemail plan and international plan services
- Review the plan rates if they are competitive





# Furthermore

- Provide surveys after customers' calls
- Rapidly solve customers' inquiry or concerns
- Use emails/text message to send information customers might be interested in



Thank you!

Claudia Tsai

