



# SyriaTel Customers Report

June 15, 2022

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# Business Problem

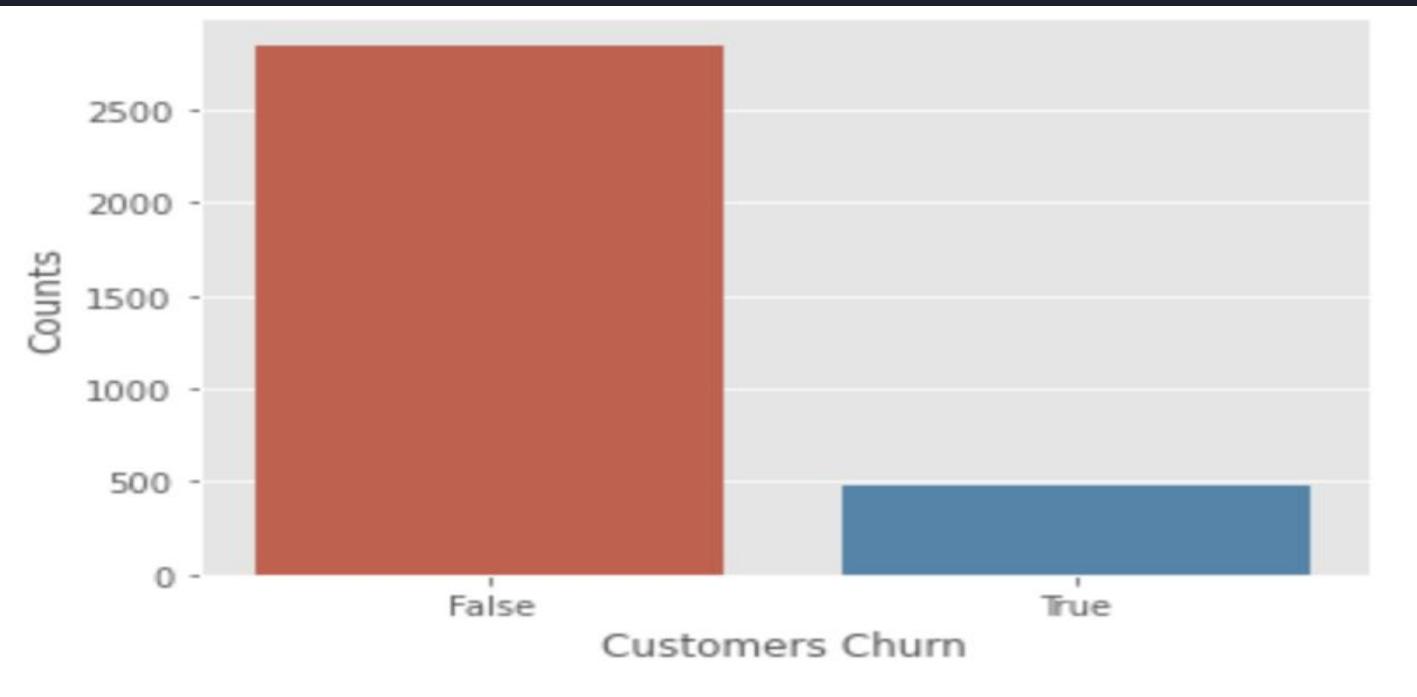
- Decreased revenue brought management's attention
- Higher churn rate than other carriers'
- Predict Customers are most likely to cease the service



# Data

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

# Customers Churn Rate

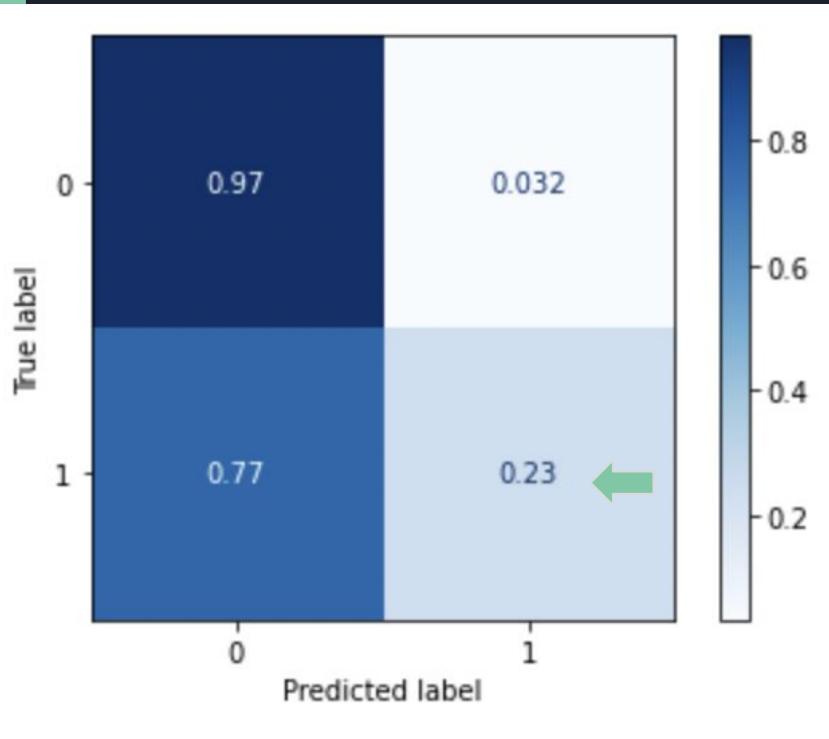




# Methods

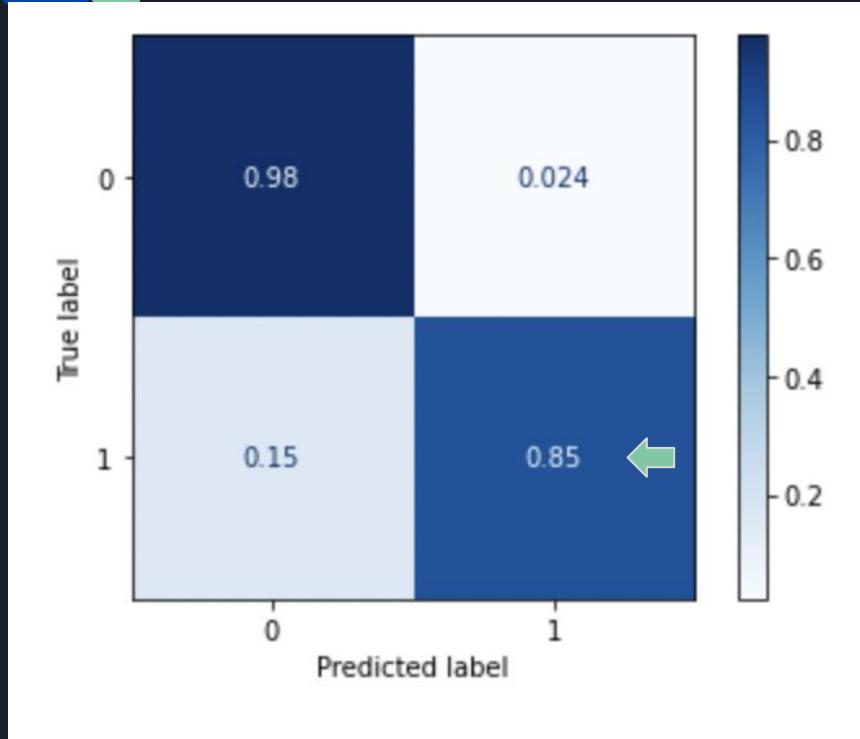
- Check if any missing values and convert boolean columns data into binary data
- Use Logistics Regression as baseline model
- Use different types of models to evaluate
- Choose the best model and tune the parameters
- Use final model to identify customers churn
- Looked through feature importance in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

# Initial Model



Recall score : 23%  
Accuracy score: 87%

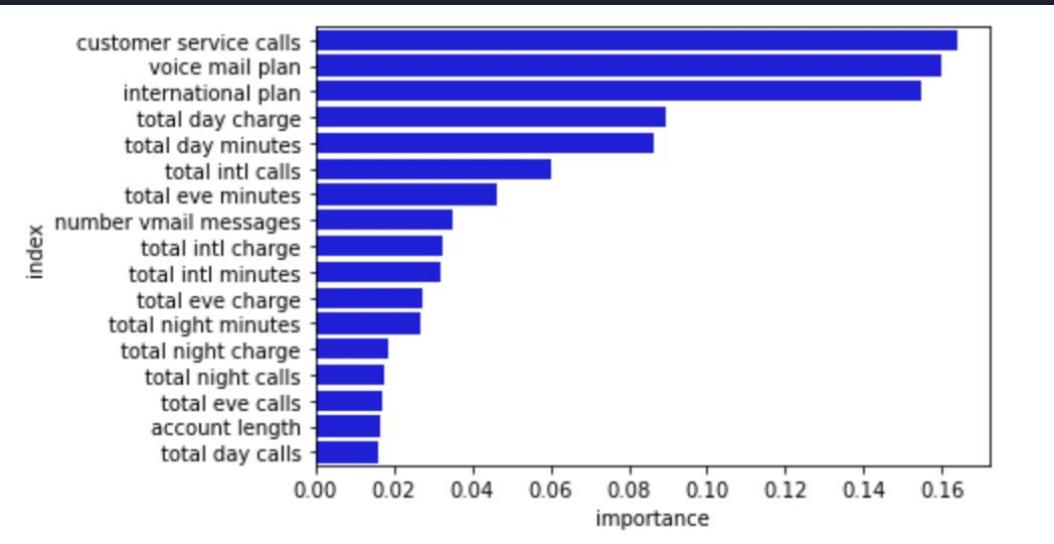
# Final Model



Final result

Recall score :85%  
Accuracy score 96%

# Feature Importance



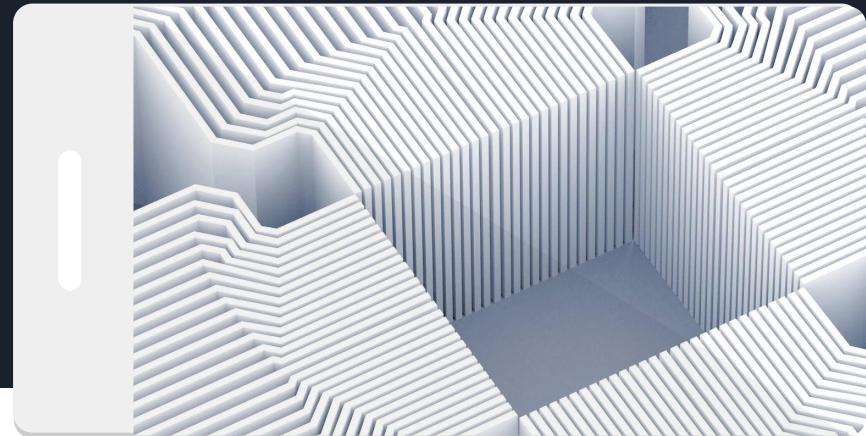
First 4 highest weight in Feature Importance:

- 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!

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