

# Syria Telcom Customer Retention Program

8/16/2022



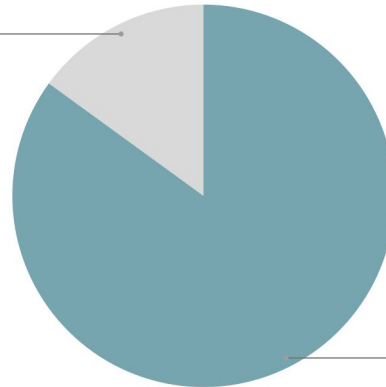


# Business Problem

Develop a preventative customer retention plan that will decrease the current churn rate.

Customer Retention

Churn  
15.0%



Retained  
85.0%



# The Data

Data from SyriaTel was split into a training and testing group.

Train data - used to optimize model

Test data - used to validate final model



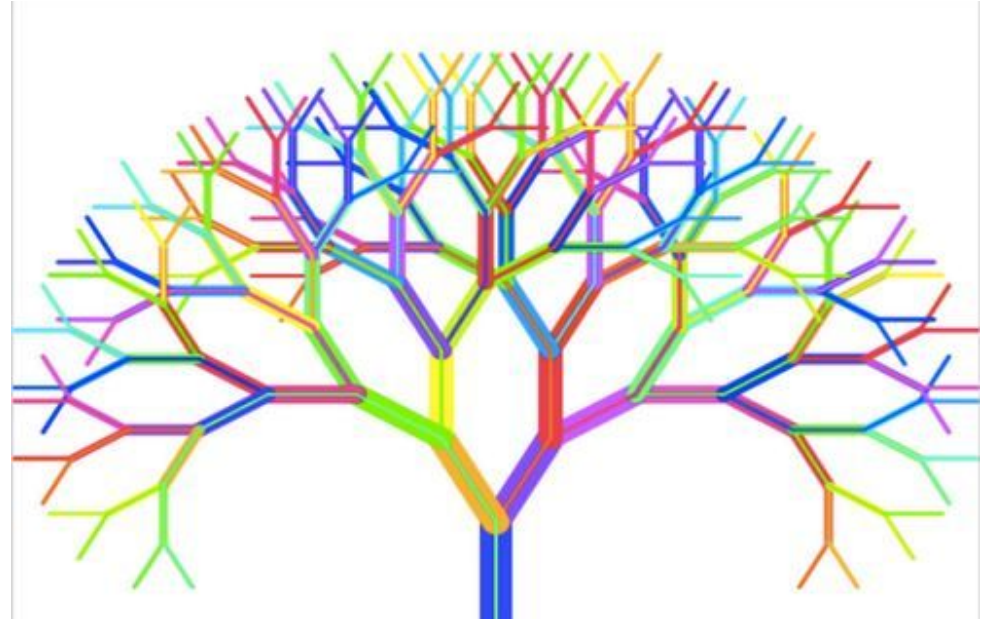
# Iterative Modeling Approach

DummyClassifier

Logistic Regression

Decision Tree

Random Forest Classifier



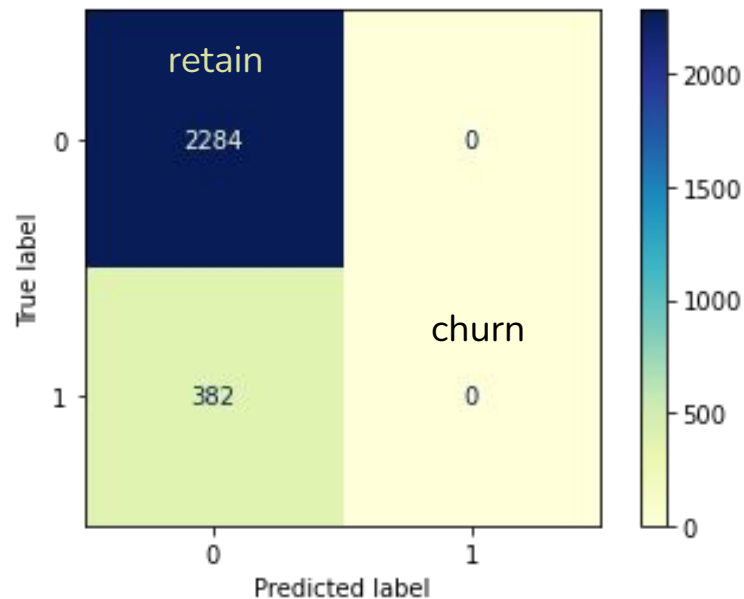
<https://www.fromthegenesis.com/random-forest-classification-python/>



# Baseline Model

A Dummy Classifier will predict the dominant class.

85% Accuracy but fails to identify any of the churned customers





# Evaluation Metric Recall

<u>TRUE NEGATIVE</u> Correctly Identified Retain	<u>FALSE POSITIVE</u> Identified Churn But Retained \$\$
<u>FALSE NEGATIVE</u> Failed to Identify Churn \$\$\$\$	<u>TRUE POSITIVE</u> Correctly Identified Churn

Recall: How many churns can we identify.

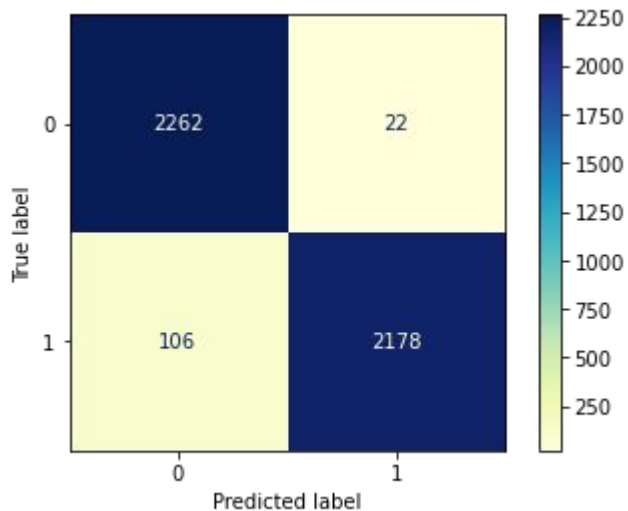
Primary Concern: False Negatives



# Final Model - Random Forest Classifier

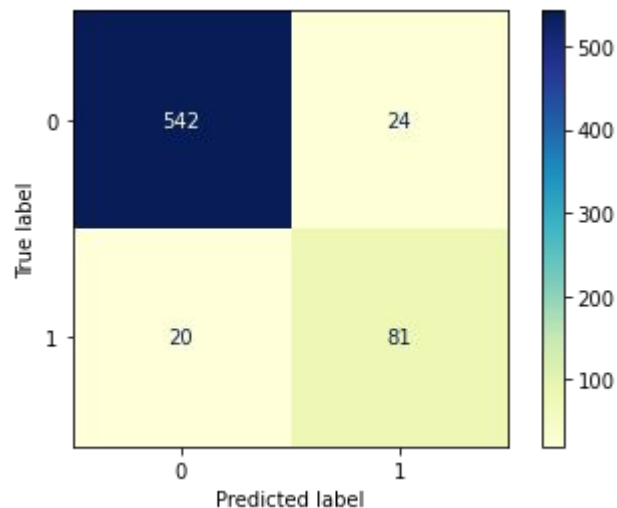
Training Results

Recall : 95%



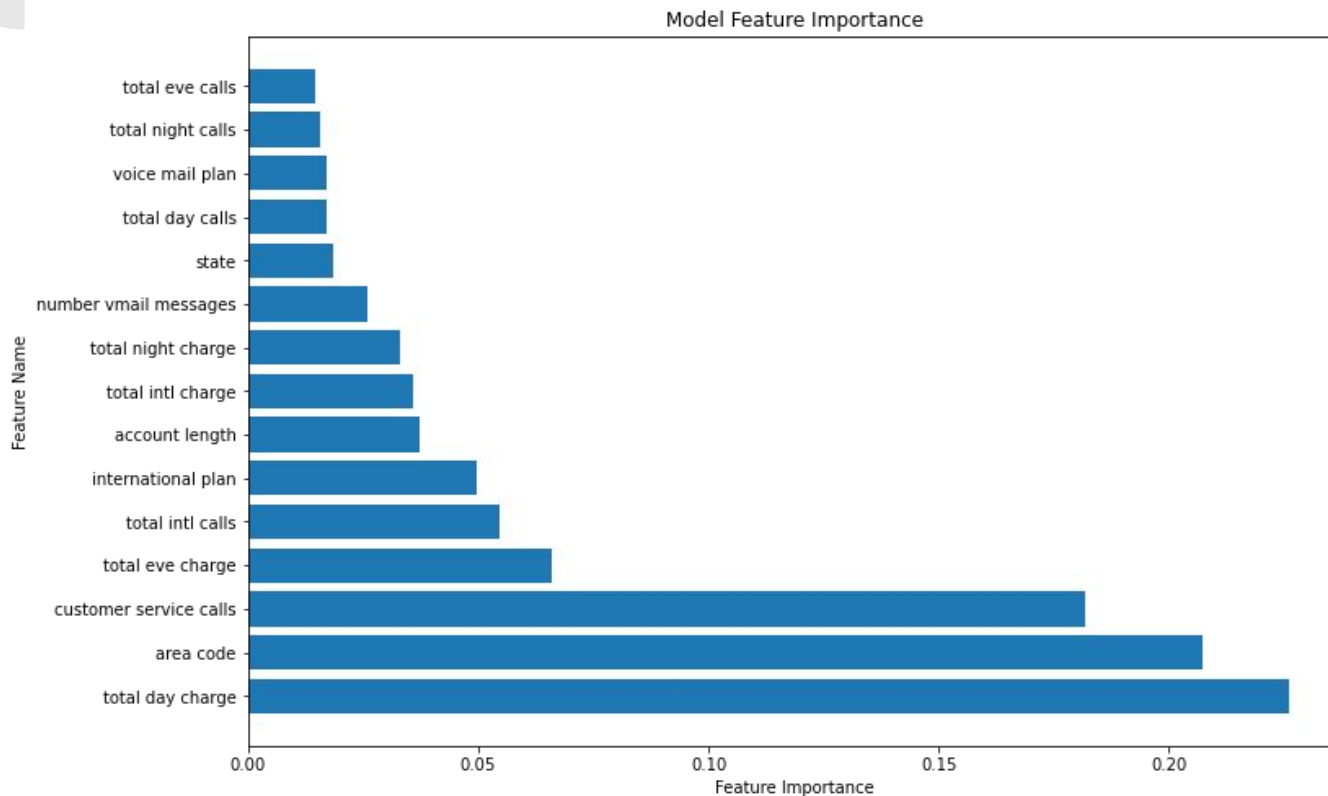
Test Results

Recall : 80%



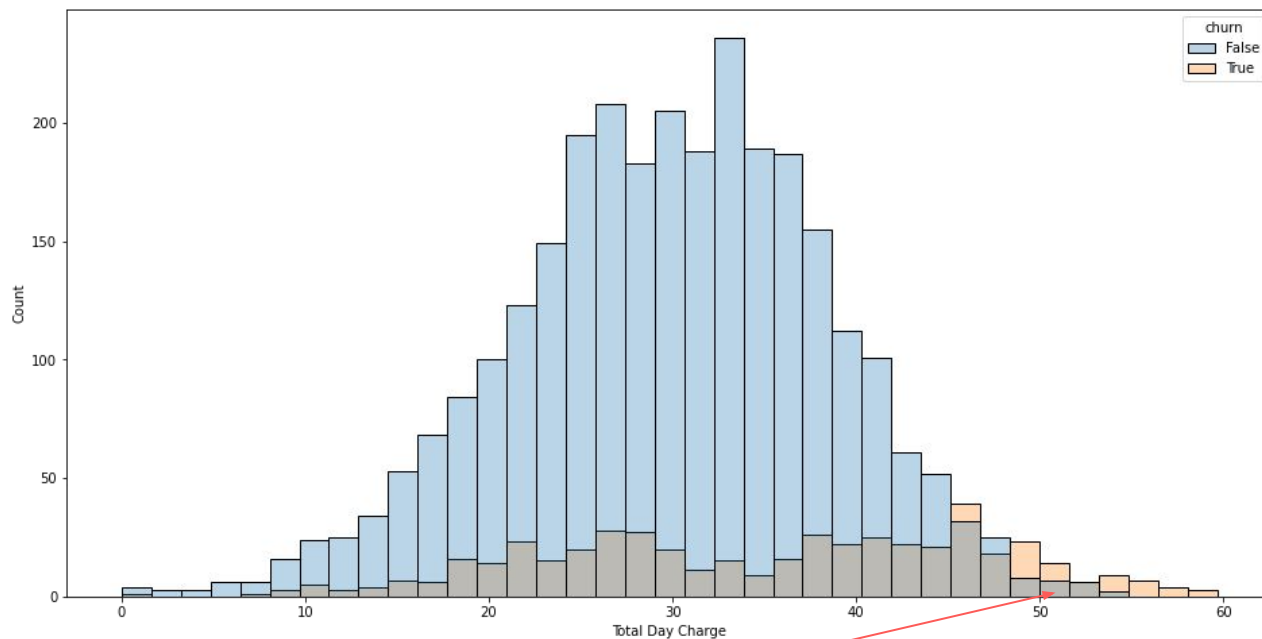


# Feature Importance





# Recommendations: Total Day Charge

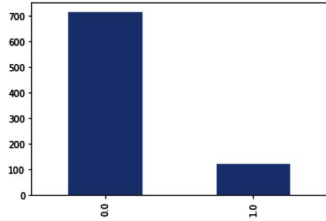


Take care of the heavy users.

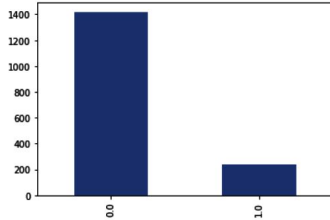
# Recommendations: Area Code

All Customers

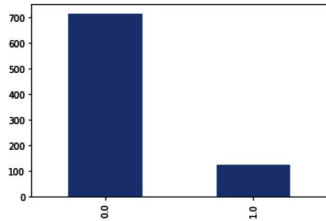
AREA CODE 408  
No Churn:716 Churn: 122 Churn Percentage 0.15



AREA CODE 415  
No Churn:1419 Churn: 236 Churn Percentage 0.14

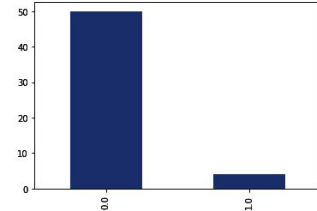


AREA CODE 510  
No Churn:715 Churn: 125 Churn Percentage 0.15

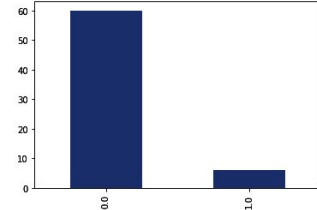


Focus on Area Code 510  
Higher churn rate of customers with  
less than 15 Total Day Charge

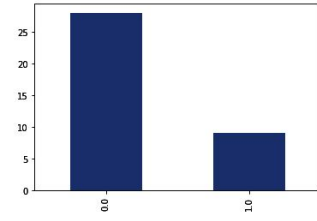
Total Day Charge Less Than 15  
AREA CODE 408  
No Churn:50 Churn: 4 Churn Percentage 0.07



AREA CODE 415  
No Churn:60 Churn: 6 Churn Percentage 0.09



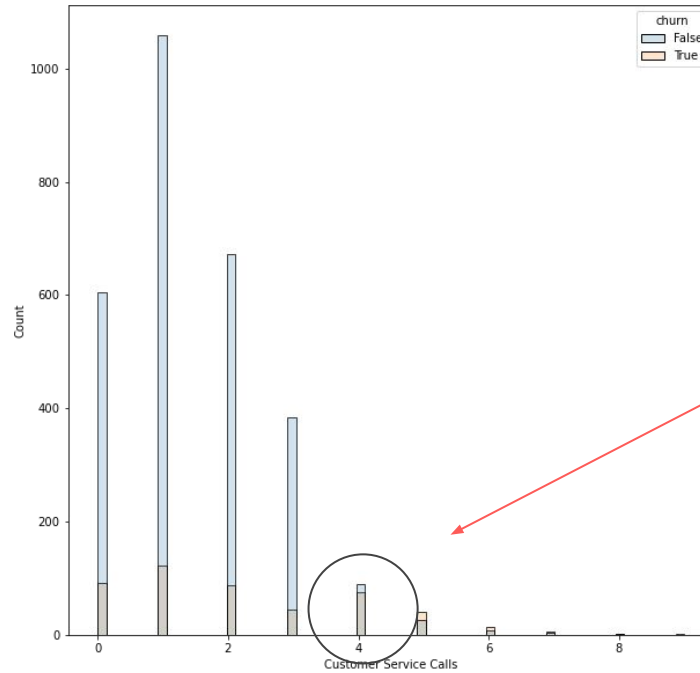
AREA CODE 510  
No Churn:28 Churn: 9 Churn Percentage 0.24



Less than 15 Total Day Charge



# Recommendations: Customer Service Calls



Solve Problems  
before the 3rd  
Call.



# Next Steps

## Deep Dive

- Total Day Charges (possibly total combined charges)
- Area Code 501
- Customer Service Call Protocols

## Future Work

- Member Plan Data
- Competitor Data
- Detailed Customer Service Data



# Questions

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