

SyriaTel: How to keep the customer churn?

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Outline

- The aim: to provide suggestions about how to keep the customers churn to SyriaTel company
- Data analysis: A binary classification model is built to identify important features closely related to customer churn
- Suggestions

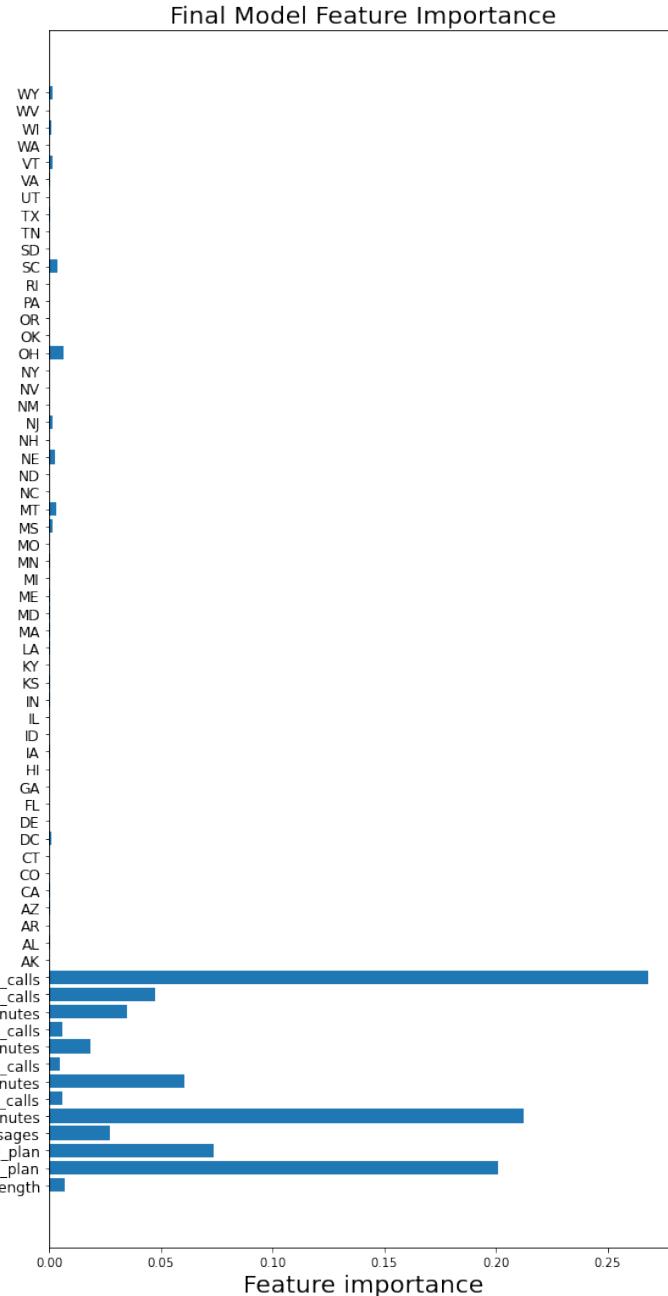
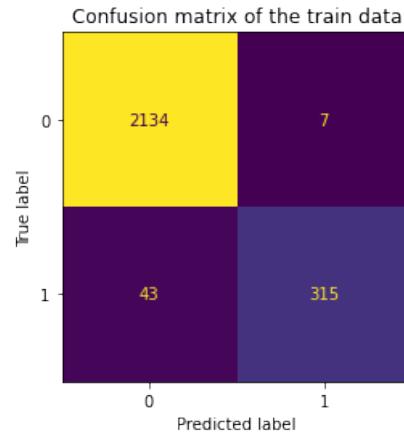
Data

- Data source:
 - bigml_59c28831336c6604c800002a.csv
- Data summary:
 - 20 features
 - 1 target: churn with false or true
 - 3333 customers

```
RangeIndex: 3333 entries, 0 to 3332
Data columns (total 21 columns):
 #   Column           Non-Null Count  Dtype  
 --- 
 0   state            3333 non-null    object  
 1   account length   3333 non-null    int64  
 2   area code         3333 non-null    int64  
 3   phone number     3333 non-null    object  
 4   international plan 3333 non-null    object  
 5   voice mail plan  3333 non-null    object  
 6   number vmail messages 3333 non-null    int64  
 7   total day minutes 3333 non-null    float64 
 8   total day calls   3333 non-null    int64  
 9   total day charge  3333 non-null    float64 
 10  total eve minutes 3333 non-null    float64 
 11  total eve calls   3333 non-null    int64  
 12  total eve charge  3333 non-null    float64 
 13  total night minutes 3333 non-null    float64 
 14  total night calls  3333 non-null    int64  
 15  total night charge 3333 non-null    float64 
 16  total intl minutes 3333 non-null    float64 
 17  total intl calls   3333 non-null    int64  
 18  total intl charge  3333 non-null    float64 
 19  customer service calls 3333 non-null    int64  
 20  churn             3333 non-null    bool  
dtypes: bool(1), float64(8), int64(8), object(4)
```

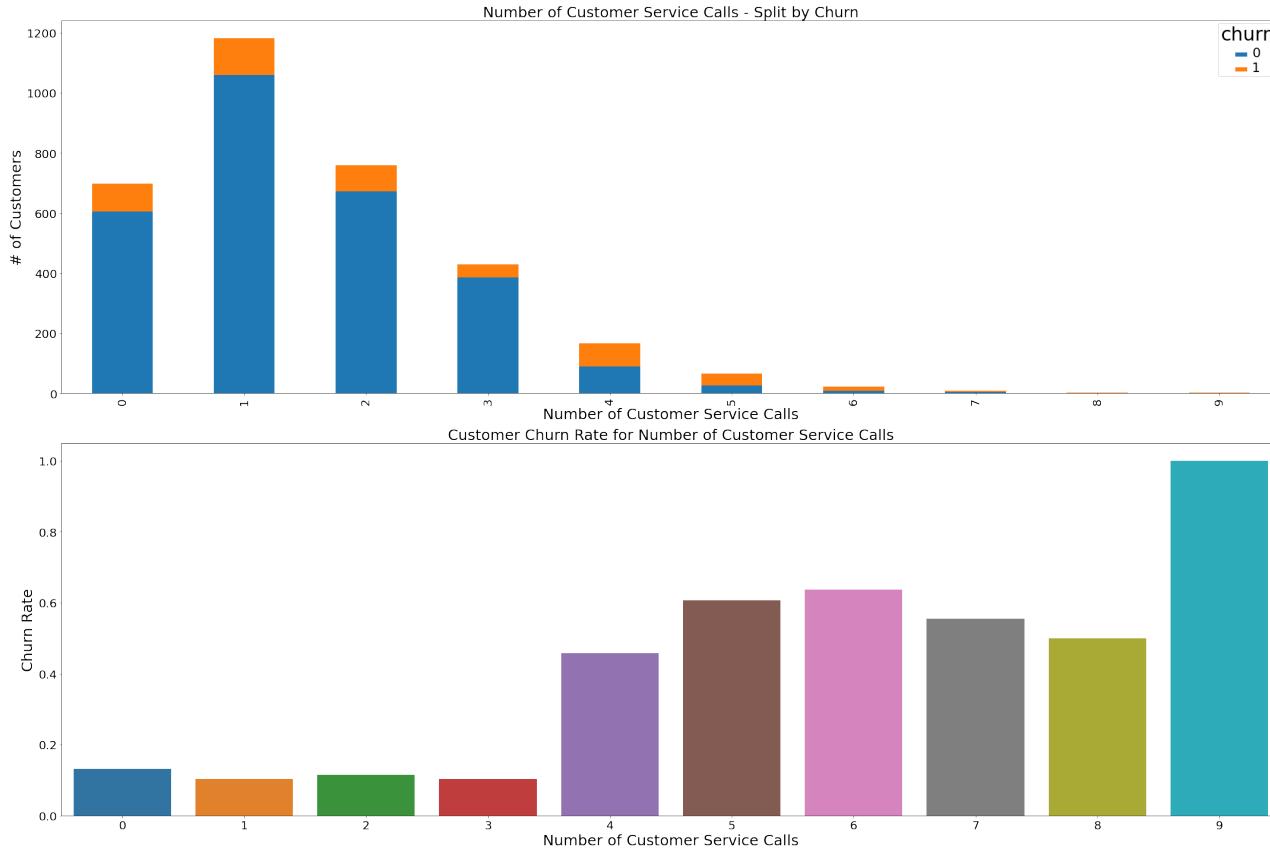
Data Analysis

- Classification model: GradientBoostingClassifier
- Classification performance



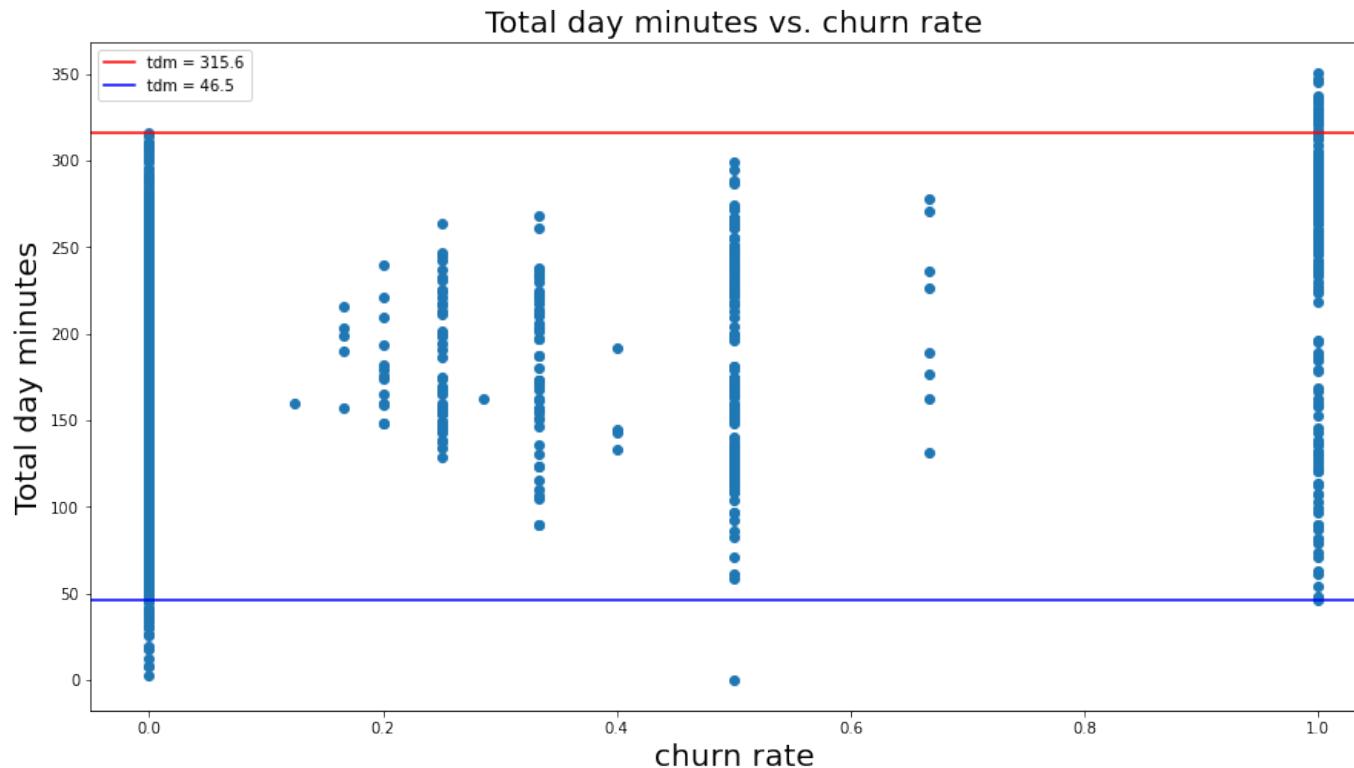
- Important features:
 - Customer_service_calls
 - Total_day_minutes
 - International_plan

Suggestion based on customer service calls



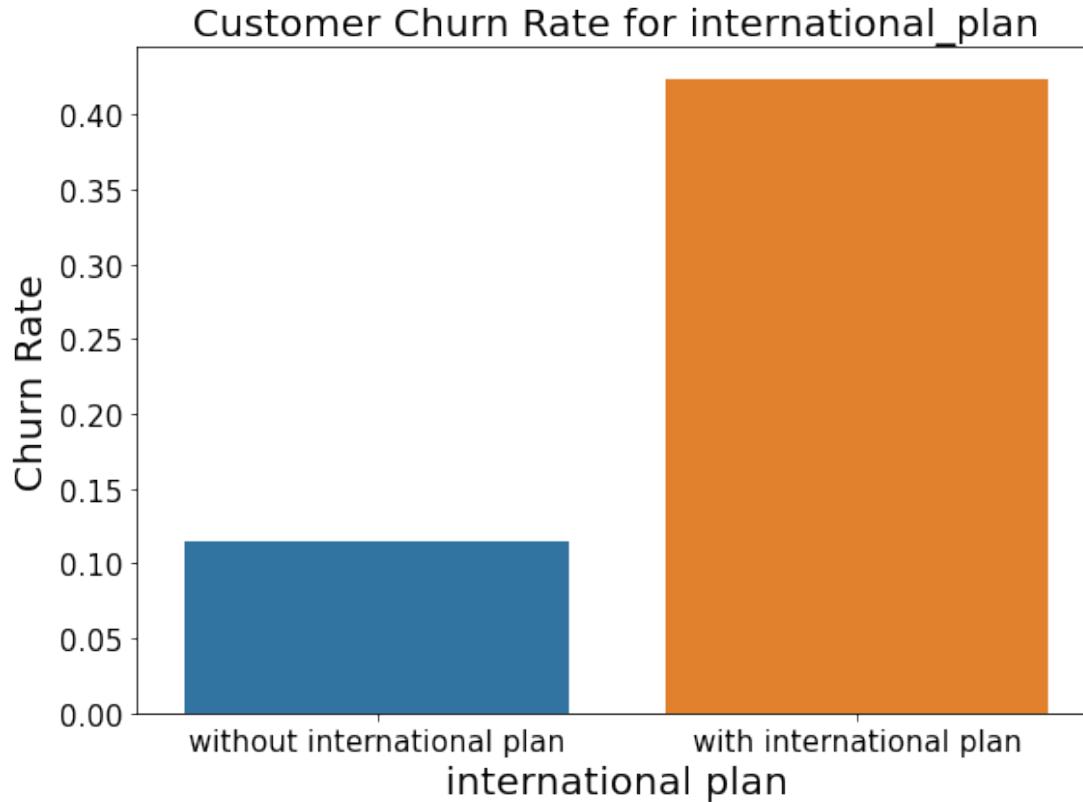
Increase the service calls will keep the customers churn with the service

Suggestion based on total day minutes



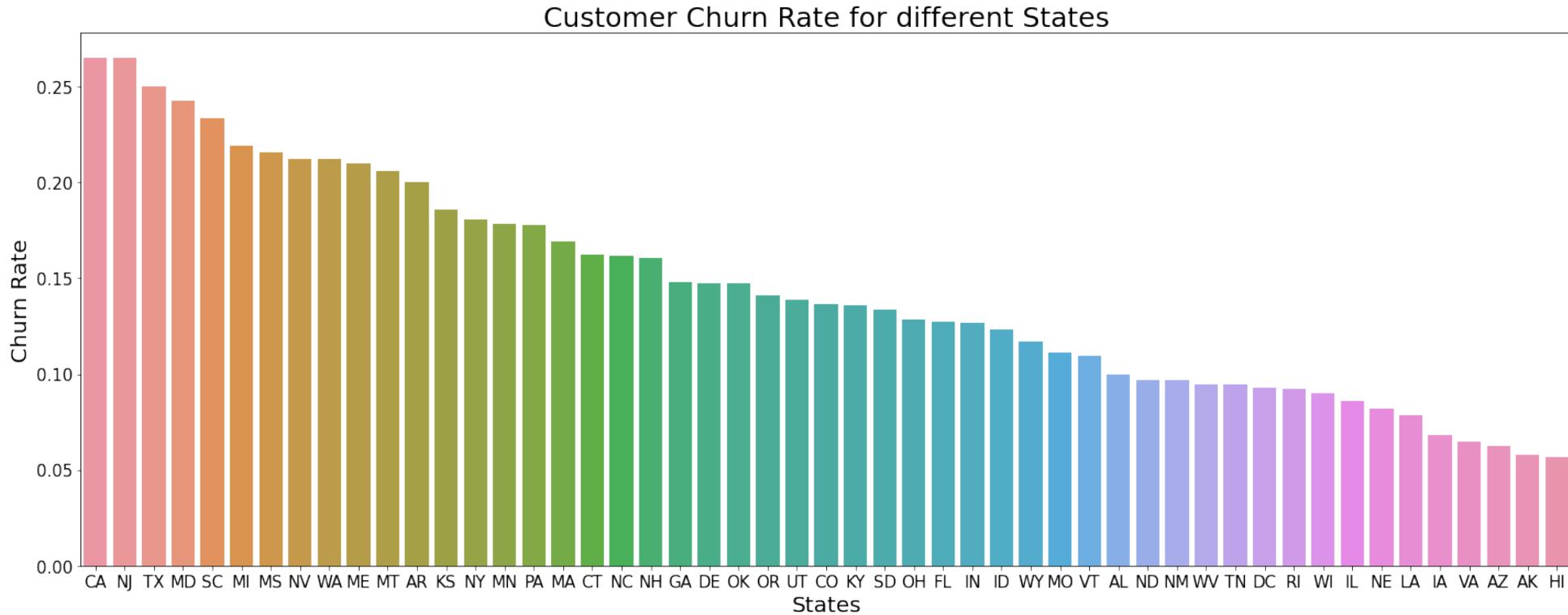
The company needs to work more on the customers with the total day minutes between 46.5 to 316 mins

Suggestion based on international plan



The company could promote the international plan to keep customers churn with the service

Suggestion based on state



The company needs to pay more attention on customers from AZ, AK and HI states