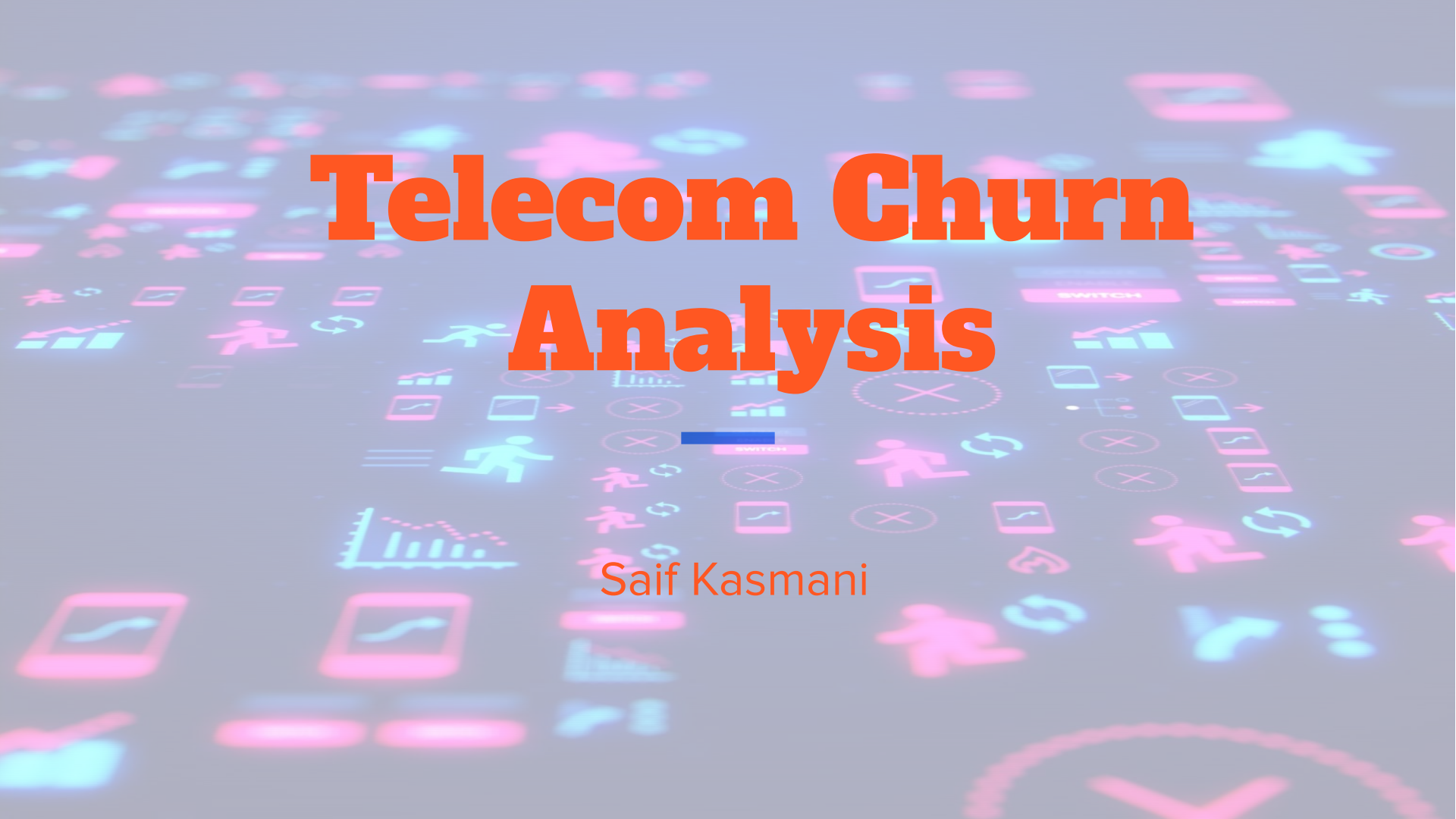


Telecom Churn Analysis

The background of the slide is a light blue gradient with a dense pattern of semi-transparent, glowing icons. These icons include various symbols related to telecommunications and data analysis, such as smartphones, bar charts, line graphs, people running (representing churn), circular arrows (representing cycles or loops), and network-related symbols like signal waves and switches. The overall aesthetic is modern and tech-oriented.

Saif Kasmani

What is Churn?

The churn rate is the percentage of subscribers to a service who discontinue their subscriptions to the service within a given time period.

$$\frac{\text{USERS AT BEGINNING OF PERIOD} - \text{USERS AT END OF PERIOD}}{\text{USERS AT BEGINNING OF PERIOD}} = \text{CHURN RATE}$$

Why is churn so important?

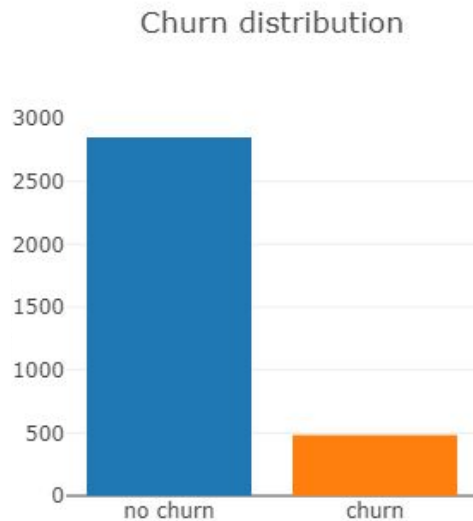
Churn is important because it directly affects your service's profitability. It is common to assume that the profitability of a service is directly related to the growth of its customer base. That might lead business owners to imply that in order to grow their customer base, the rate of acquiring new customers must exceed the churn rate.

Our Goal

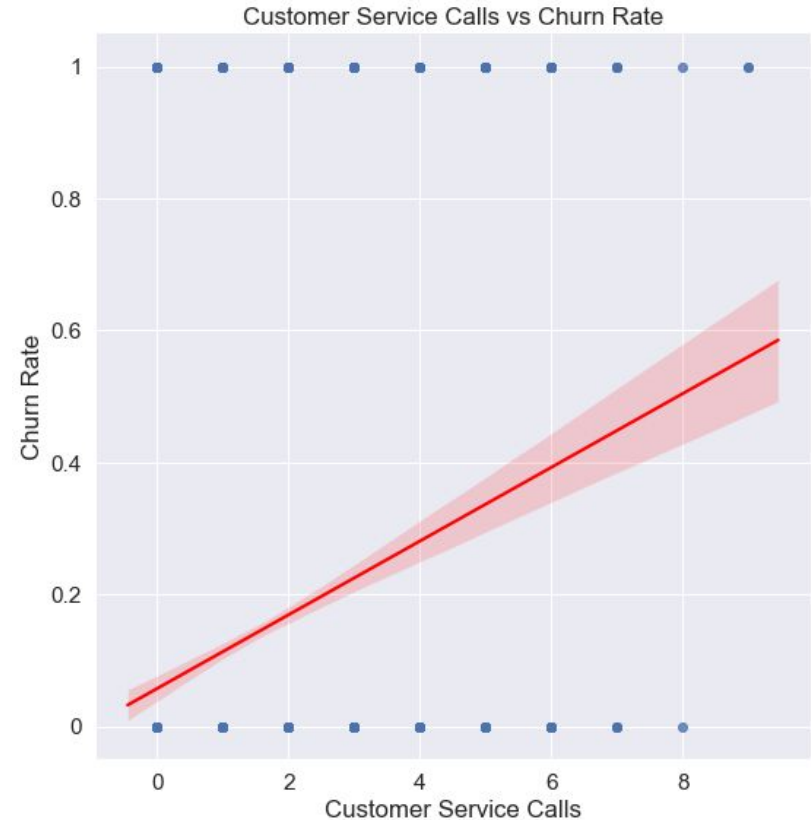
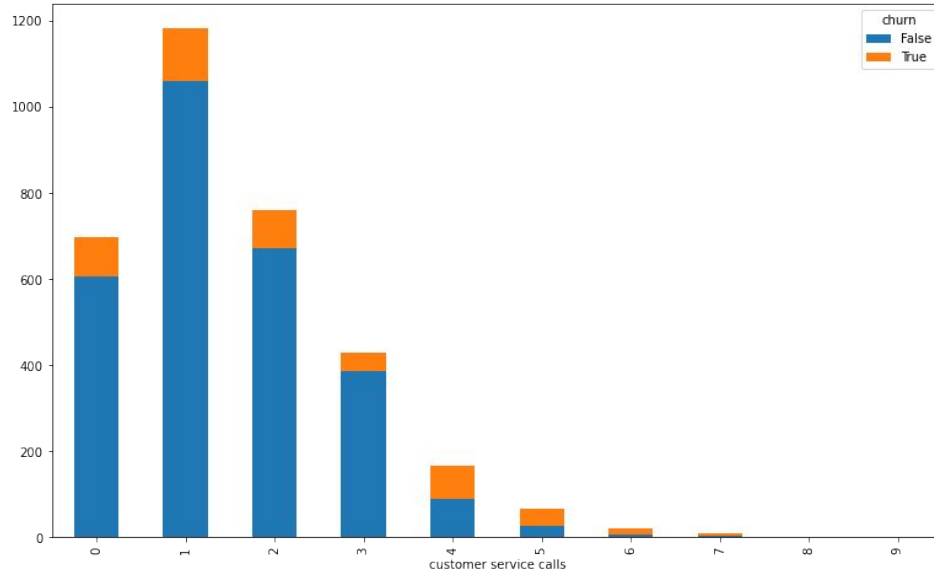
Predicting churn for a telecom company so it can effectively focus a customer retention marketing program (e.g. a special offer) or improve certain aspects based on the model to the subset of clients which are most likely to change their carrier. Therefore, the “churn” column is chosen as target and the following predictive analysis is a supervised classification problem.

Our Data

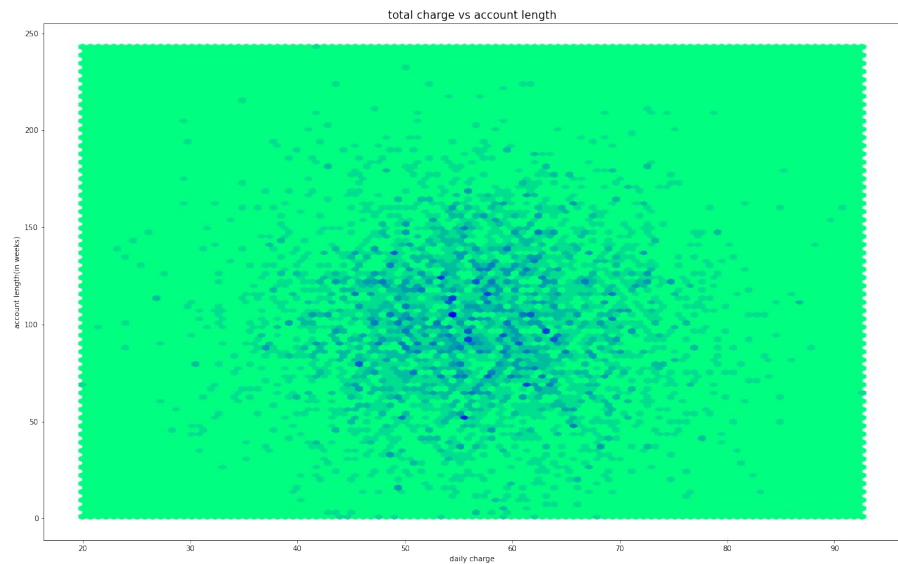
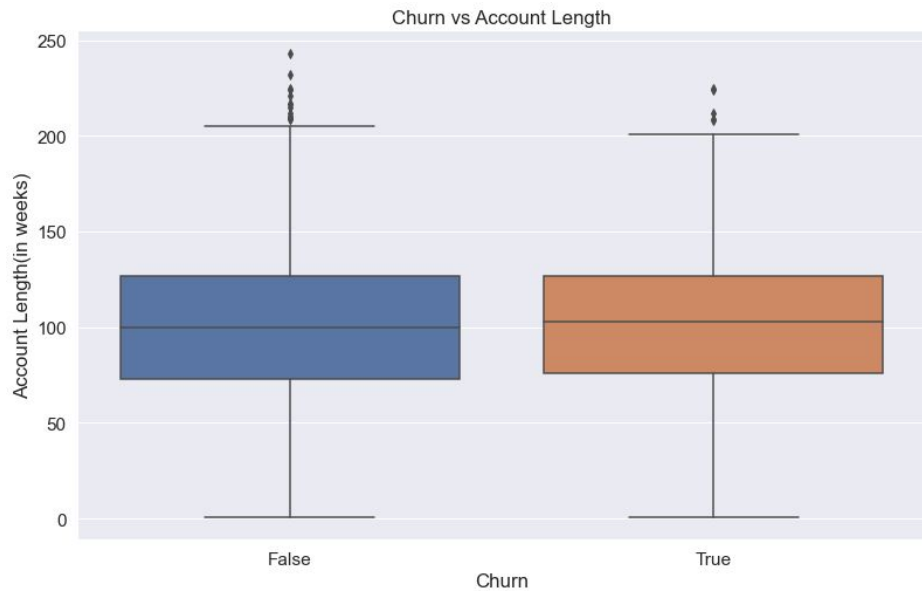
In the data we were given, our target value
which is churn was only 14.491% in 3333 customers.



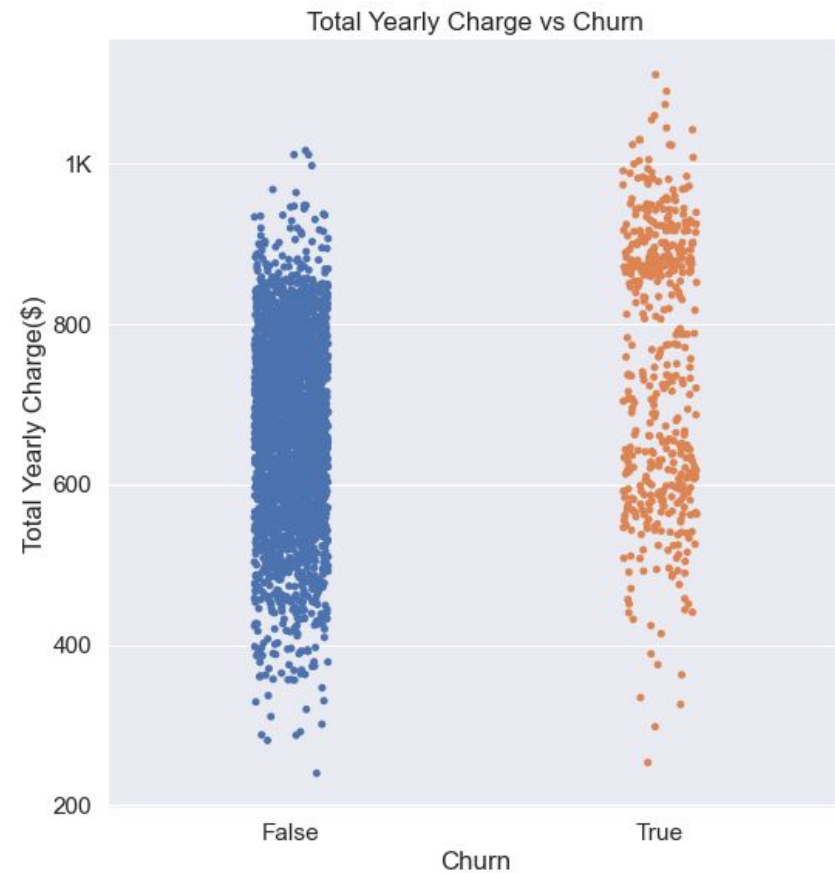
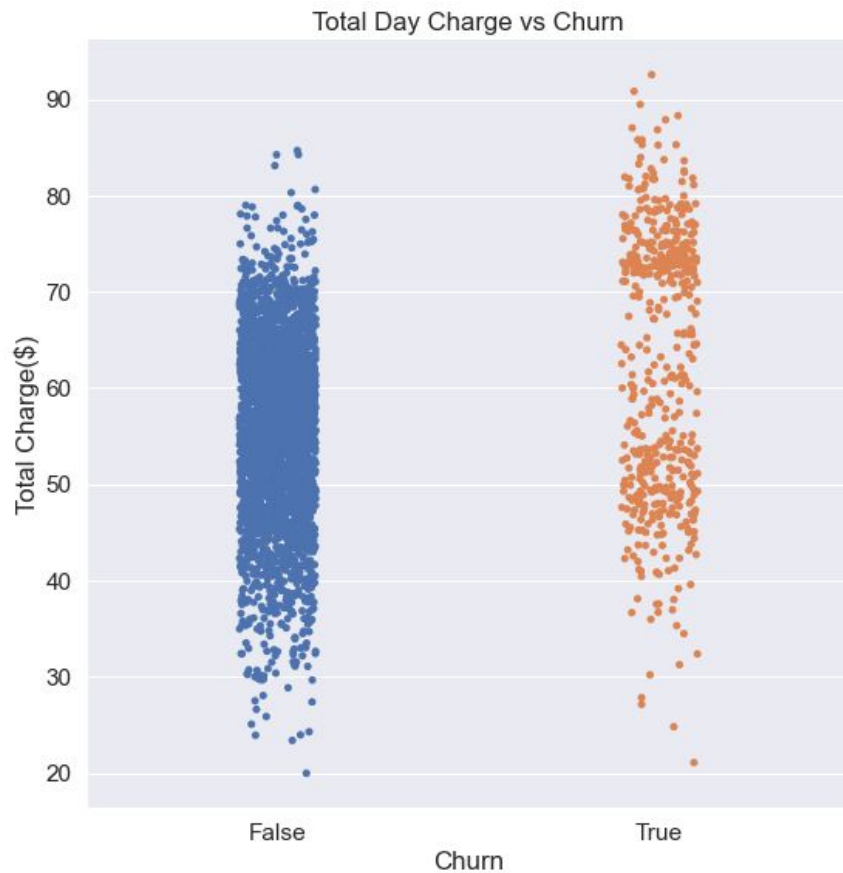
Q1) Do we see an increase in churn rate with more customer service calls?



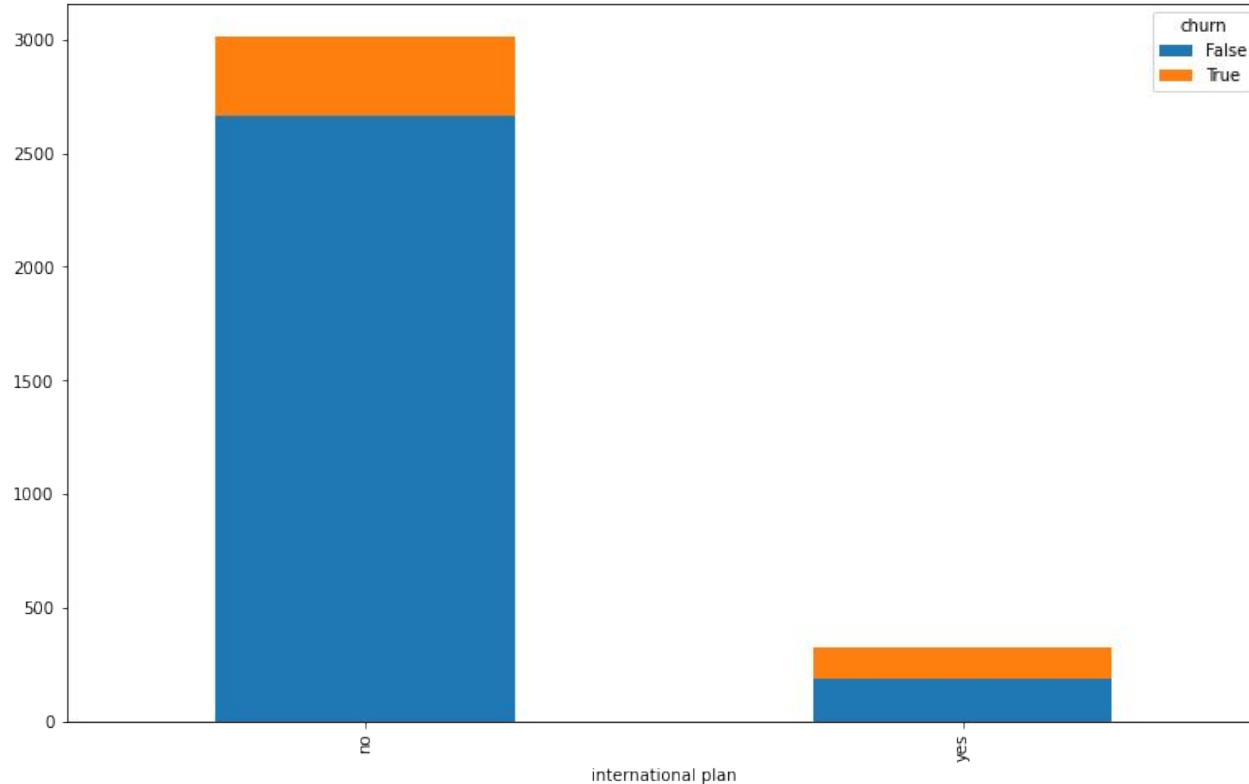
Q2) How does account length matter?

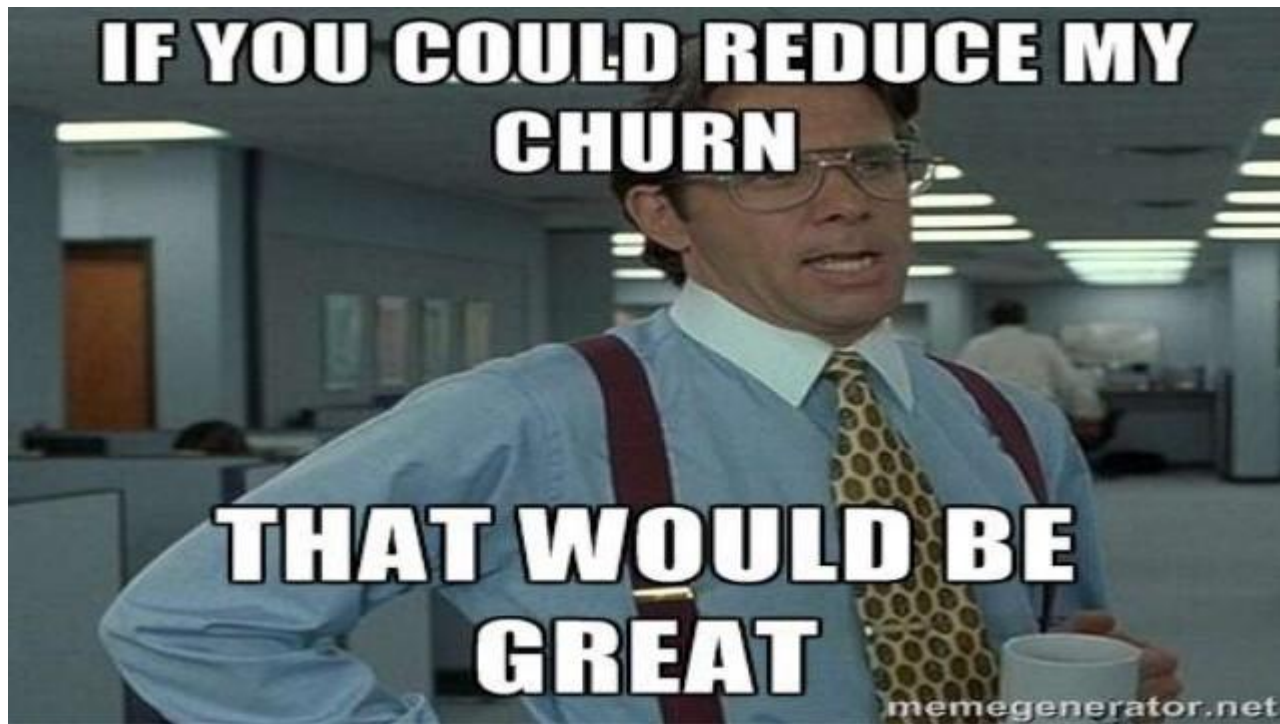


Q3) Monthly/Yearly Charge vs Churn Rate



Q4) How does international plan affect churn rate?



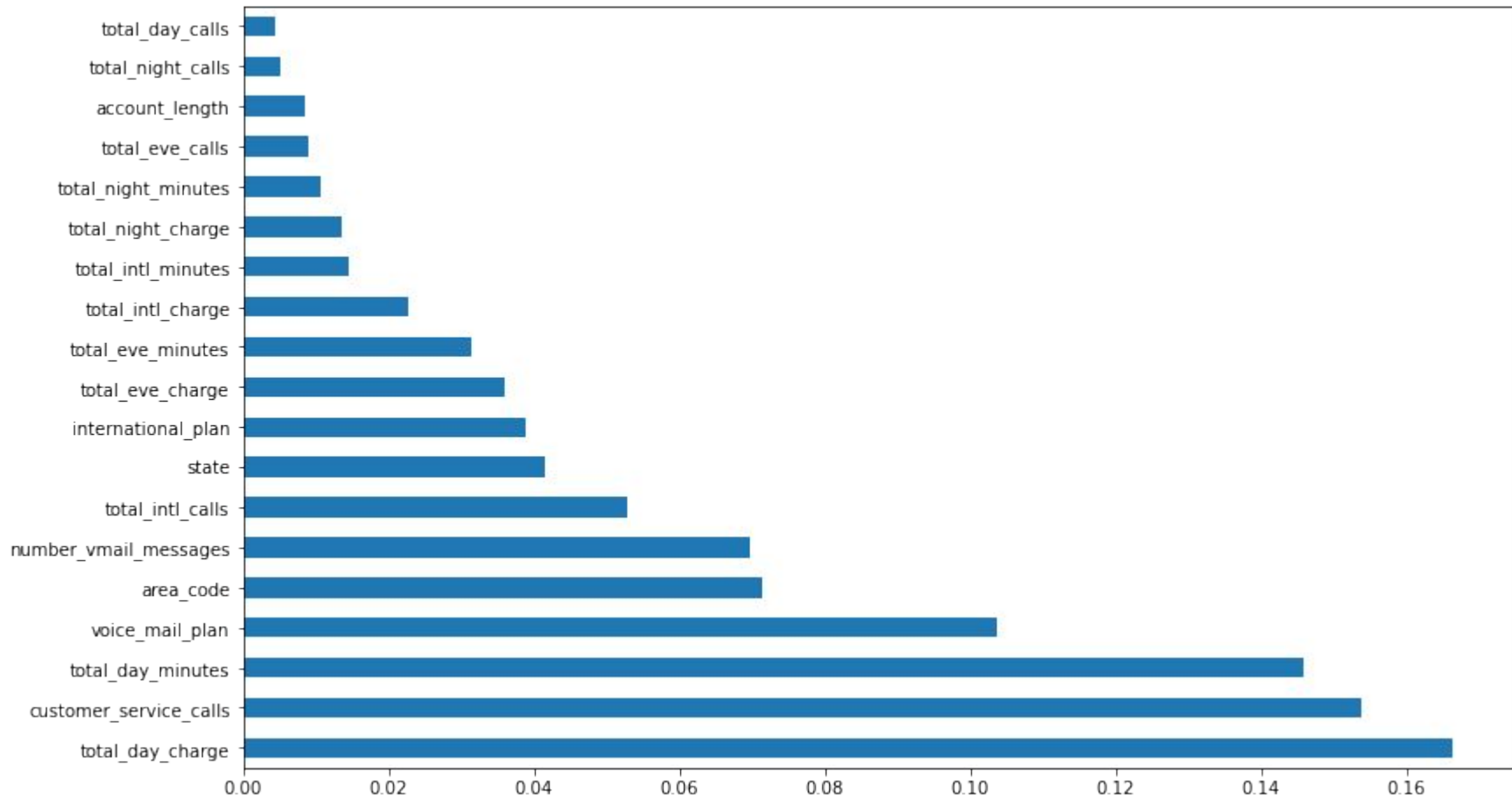


Model Feature Importance

- * Total Charge
- * Customer Service Calls (The user has made)
- * Total Day Minutes
- * International Plan

Model Accuracy = 94% (Model Used - Extreme Gradient Boosting Classifier)

***Accuracy** = Number of correct predictions / Total number of predictions



Recommendations based on Model

- 1) One of the most important predictors for the Model is the number of **customer service calls**. This might imply that the company should improve its customer service and solve the issues of customers calling in repeatedly.
- 2) Another important feature is the **total day minutes** and the **total charge**,. The company could try to either lower its charge per minute for clients, which have many day minutes or it could offer flat rates for calls.
- 3) For the final recommendation i suggest the Telecom company to present special offers according to the **customers life-time(Account Length)** value.
- 4) Follow-up with customers using **international plan**.

Future Work

- 1) Get data on payment methods.
- 2) See if churn rate is affected by special promotions of other carriers.
- 3) Internet plans.
- 4) Contract based plans (Month-to-Month, One Year, Two Year)
- 5) Type of issue information in customer service calls.
- 6) Survival Analysis (The Cox Proportional Hazards Model)

I WILL FIND YOU



AND I WILL GET YOU BACK

memegenerator.net

**THANK
YOU :)**

<- Le Telecom
Companies