

# Customer Churn Classification

Phase 3 Project by David Boyd





## Business Problem/Use Case

A telecommunications company wants to identify the **leading factors** of why a customer **cancels their service**. By understanding the factors which most strongly contribute to their churn rate they can set up work streams to help mitigate and reduce this effect over time, which will increase the LTV and overall ROI for the company.



# Data

There are **3,333** records in the dataset

There are **21** different features, containing **customer service** contacts, charges, calls and minutes split by **different times of day** and whether the plan has an international add on or a voice mail add on



# Methodology

- Created a classification model to predict customer churn.
- Trialled out several different models to assess performance

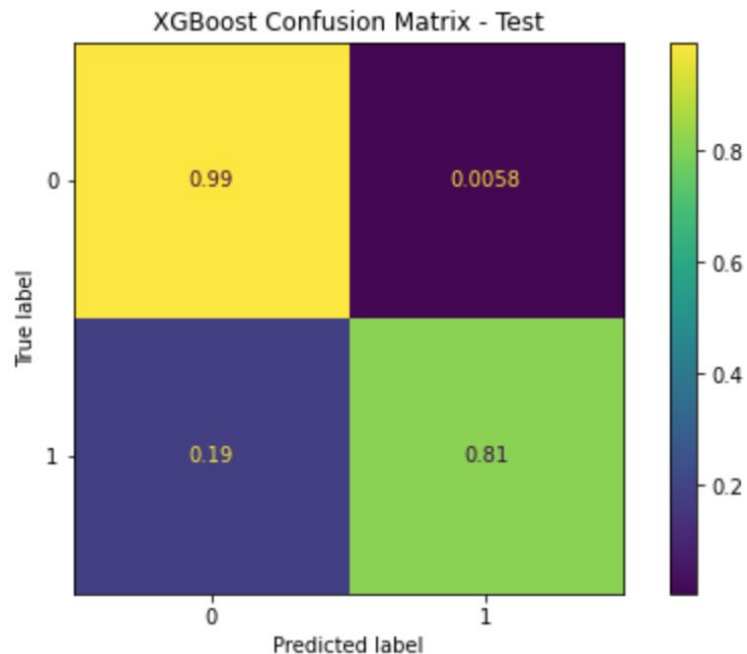
Metric used to assess performance was called **Recall** - This is because we want to limit our false negatives as these are customer that we predict won't churn but actually do, meaning we haven't put into place any engagement plan to prevent them from churning



# Model Performance

The final model performance drove the following metrics:

- **Recall** - 81%
- **F1 Score** - 88%

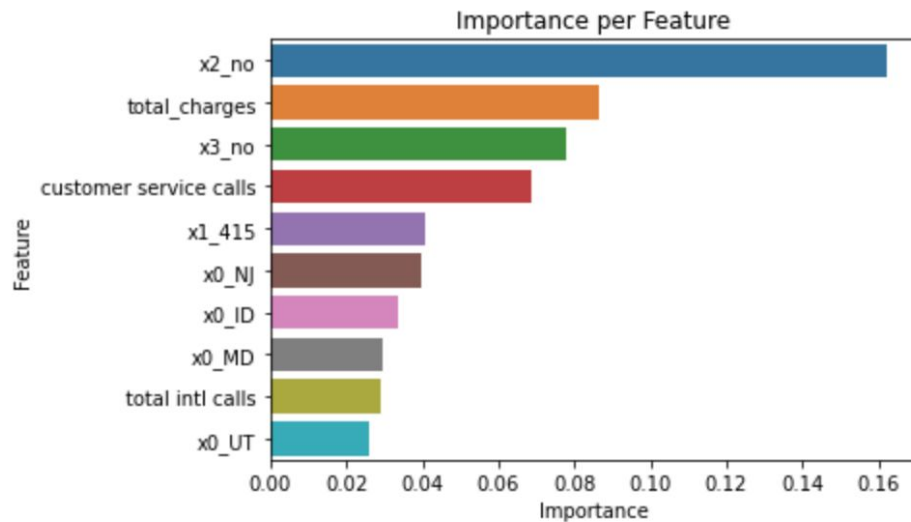




# Key Findings

After building the classification model we can see that the features which are most important to driving customer churn are the following:

- Not having an international plan
- Not having a voicemail plan
- The number of customer service contacts
- The total charges placed on an account





# Business Recommendations

Based on the most important factors that lead to churn I suggest the following business actions:

- Set up a program to further investigate what threshold of customer service contacts has the biggest impact
- Look at evaluating pricing models and creating a tier for lower price points for customers who don't take out international or voice mail plans
- Seeing as certain states have a higher tendency to churn than others, investigate whether regional pricing would lead to an increase in LTV by reducing churn

**Any Questions?**

