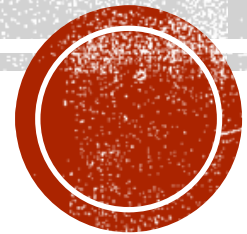


PREDICTING SYRIATEL CUSTOMER CHURN



BUSINESS UNDERSTANDING

- **Overview**
- SyriaTel is a telecommunication company interested to know how they can keep customers around for long. Customer churn refers to the loss of customers over a specific period. Building a classifier to predict customer churn will help SyriaTel keep their customers.



■ Challenges

1. Understanding customer behaviour and to avoid churning
2. Understanding the needs of customers so as to provide them with quality services and avoid churning
3. Understanding the data provided so as to build reliable predictive models

Problem Statement

Customer churn poses a significant challenge to service providers, impacting revenue streams and hindering long-term sustainability. Syria Tel needs a predictive model to proactively identify and address factors contributing to customer churn



Objectives

1. To gather the correct data to ensure effective results
2. To build and train data for analysis
3. To build the right predictive models and assess its performance

Proposed Solution

To build the right predictive models for SyriaTel to predict factors contributing to customer churn based on historical data and improve on all areas



Data Preparation

Loaded the which dataset provided consists of 3333 records with 21 columns. Upon analyzing the dataset, I found out there are no missing values ,and no duplicates.

Exploratory Data Analysis

I then performed a univariate and bivariate analysis on the dataset to explore the target variable

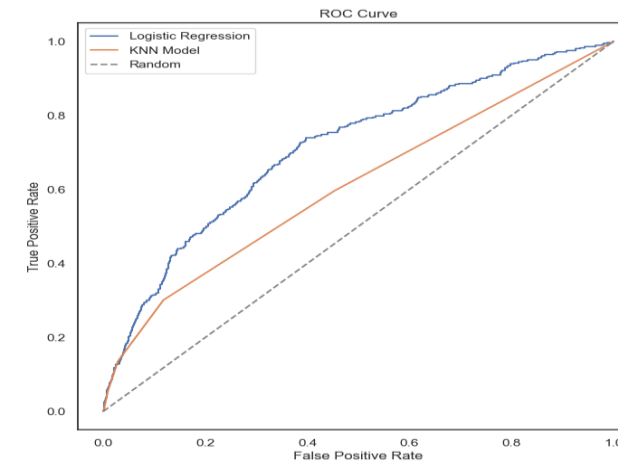


MODELLING

After checking for multicollinearity and performing a train test split , I used logistic regression and KNN model to check for accuracy and later used hyperparameter tuning to get the final logistic regression

Evaluation of the final model

After tuning with the best hyperparameters, final tuned logistic model identified through grid search achieved an accuracy of 85.25% on the test set



■ Recommendations

1. Pricing strategies to address charges on products and services offered by SyriaTel
2. SyriaTel needs to look into operations in states such as Texas and Maryland that exhibited higher churn rates.
3. Gather information on why customers frequently call the customer care service.
4. Provide clear and comprehensive information through self-service options to reduce the necessity for contacting customer service.

