



Steve Abonyo

DSF Phase 3 Project

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Overview



Classification model of Syria Tel Company on customer churn:

Aim:

Leading Reasons for high churn rate and how to mitigate them

Business Problem

To know if a customer will soon stop doing business with them.

This information is important to SyriaTel Company because the high churn rates have made them realise losses in their business



Implications of the Analysis



- The company will eventually stop making losses due to the high churn rates
- They will know the major reasons leading to high churn rates
- They will improve their service/product delivery to reduce the customer churns

Data & Methodology

Data

- Data provided was for SyriaTel Company to solve a binary classification problem.
- The target variable from this dataset is the customer churn rate.
- Main factors affecting the customer churn are the total day charge/minutes and the customer service calls



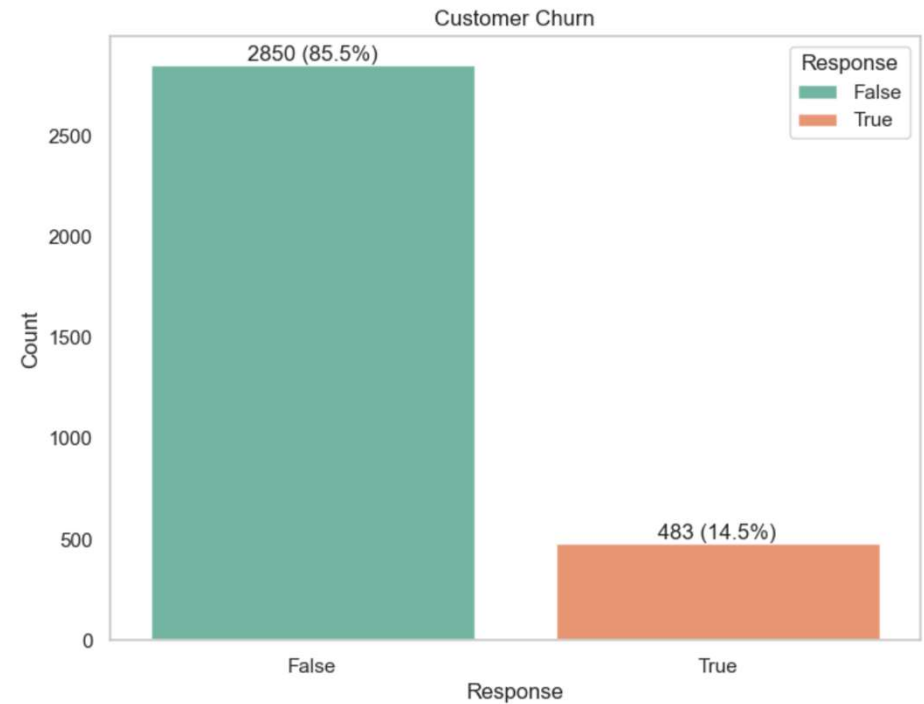
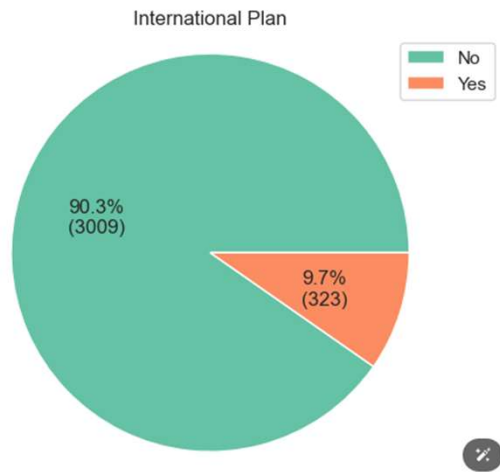
Methodology

- **Data preview/cleaning:** Check for missing, null values and data summary
- **EDA:** Univariate and Bivariate Analysis
- **Preprocessing:** Correlation, OHE, Multicollinearity, scaling, handling imbalance
- **Classification models:** Logistic regression, Decision Trees, Random Forests, Gradient Boosting, KNN, XGBoost and Cross Validation



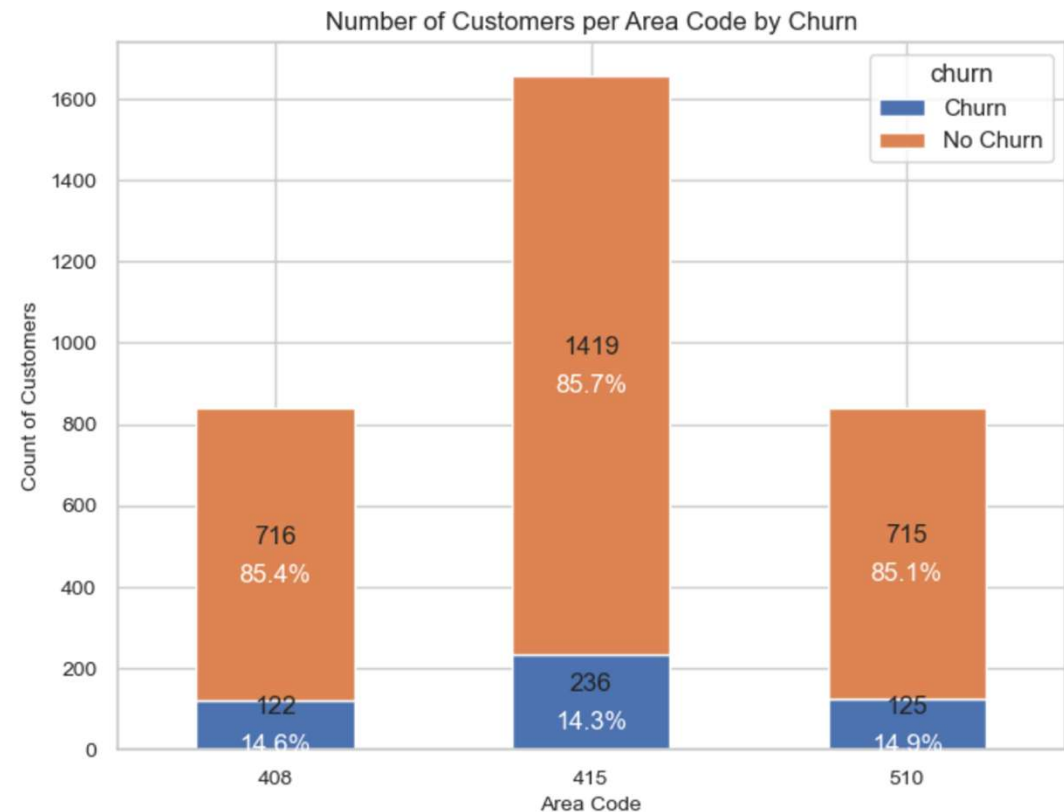
Results

- Imbalance in the customer churn
- Most customers are not in the international plan

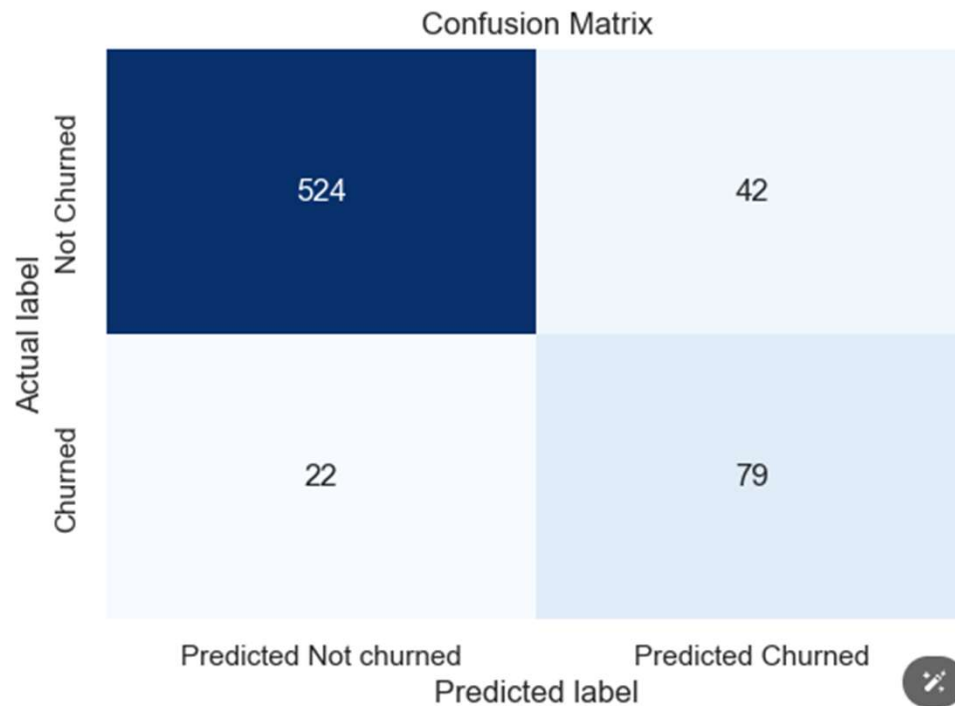


Results

- The customer churn across all the 3 area codes is relatively the same, i.e., approximately 14%



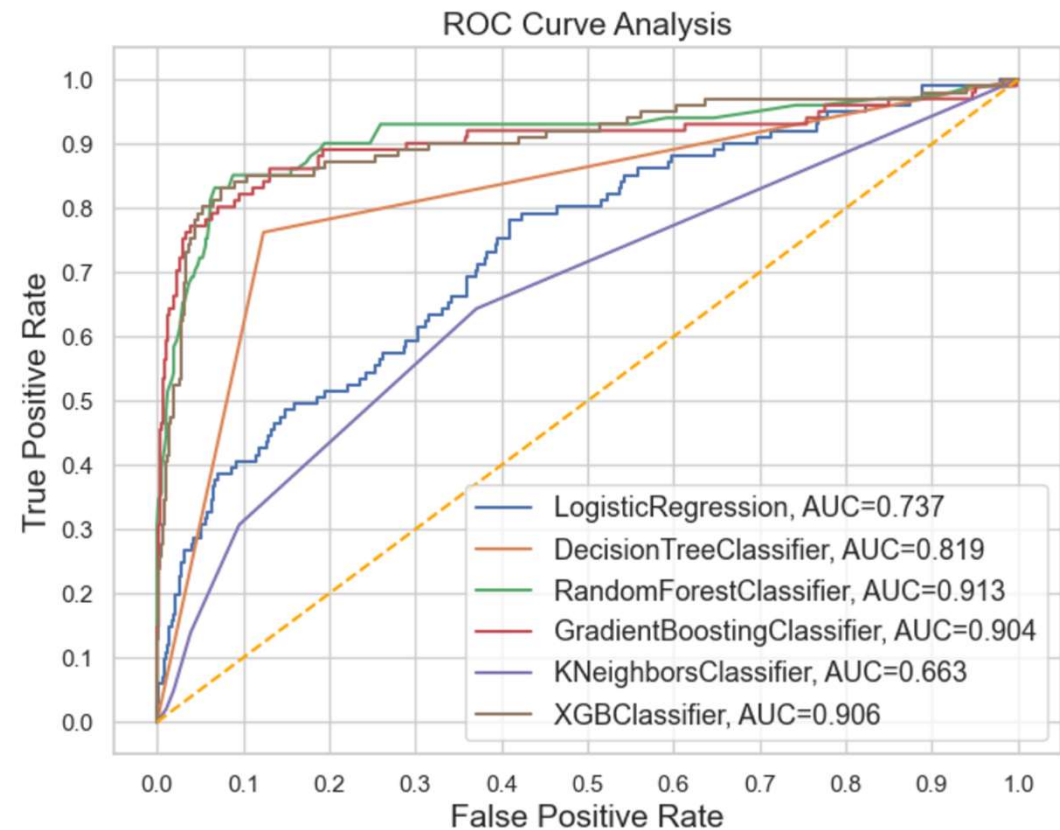
Results



- **Random Forest Model** had the best performance with 524 customers correctly predicted as not churned

Results

- The best performing model by checking the Area Under the ROC Curve (AUC) was the Random Forest

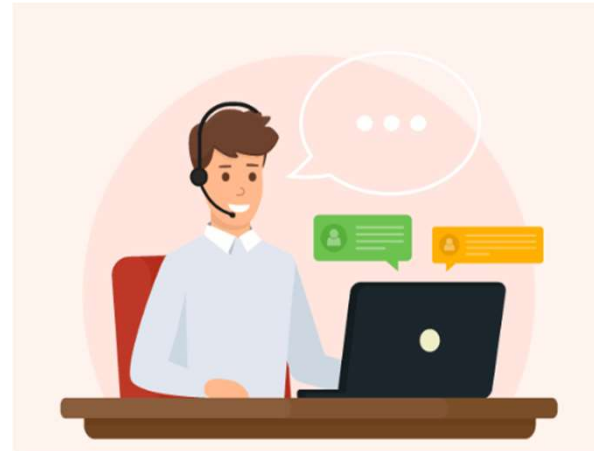


Conclusion

Key factors that influence customer churn

1. The total day
charge/minutes

2. The Customer
service calls



Recommendations

- **Offer better/improved customer service techniques so as to reduce churn rate**
- **Provide offers (better call rates, better data rates) to customers on their communication during daytime**
- **Increase their international coverage/provide better options for their customers to make international calls.**

Next Steps

- **Do more research on the which other Telecommunication company are shifting to and why so as to better their services.**
- **After every specified duration, they should run an analysis to monitor customer churn rate so to mitigate losses do to high**