



SyriaTel-Churn- Prediction

AUTHOR;

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Business Understanding

► Overview

- The goal of this project is to build a predictive model that helps SyriaTel, a telecommunications company, to predict customer churn. By identifying customers who are likely to stop using the services soon, SyriaTel can take proactive measures to retain them and reduce customer attrition. This model will be valuable for improving customer retention, optimizing marketing campaigns, and reducing churn-related revenue losses.

Problem Statement

- ▶ SyriaTel is interested in identifying patterns that contribute to customer churn, so they can take action (e.g., offer special deals, improve customer service) to prevent customers from leaving.

Data Understanding

- ▶ our data was sourced from google kaggle.it has 3333 rows and 21 columns
- ▶ data had no missing values and duplicates
- ▶ our dataset has three datatypes:float64,int64 and bool

Data analysis

- ▶ Customers without international plan majority are not likely to churn while those with international plan the number is smaller for both churn and not churn.
- ▶ Area code 415 has more slightly higher number for those who are likely to churn than other area code.
- ▶ customer service calls 0,1,2,4. shows high churning number compared to the others

Modeling

- ▶ The dataset was divided into Training and testing
- ▶ Training a model, enabling it to learn patterns, relationships, or functions from the data while testing is used to predict the unseen data.
- ▶ we used the logistic model, Random forest and decision trees. The modeling process involved optimizing performance through hyperparameter tuning to identify the best-performing model.
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Evaluation

- ▶ From the different model I used that is logistic regression, decision trees and random forest model I found that the best model was random forest model with roc score:86%
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Conclusion

- ▶ The analysis aimed to identify the key factors influencing customer churn for our subscription service. It was found that low customer engagement, high complaint rates, and infrequent service use were the strongest indicators of churn. While the data was generally comprehensive, the absence of detailed demographic information limited the scope of the analysis. Overall, the findings confirm that customer dissatisfaction is a primary driver of churn, and addressing this issue can significantly reduce turnover rates.

Recommendations

- ▶ 1.Improve on customer services calls: This may include services such as wait time and customer satisfaction.
- ▶ - 2.Introduce customised and affordable call plans for boh day and night calls
- ▶ - 3.Proactive Customer Outreach: Regularly reach out to customers to gather feedback and address concerns
- ▶ - 4.Security Measures: Implement stringent security measures ensure customer privacy and data protection
- ▶ - 5.improve area code services: from analysis we can see area code 415 has high customer churn.
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