Syria Telecommunication Company churn analysis

recommendations to a telecom company to prevent churn or predict potential ones.

Overview

We are going to perform a predictive analysis for a telecommunication company in order to provide solid insights for potential future churn.

Specifically, this will cover:

Performing a train-test split to evaluate model performance on unseen data

Applying appropriate preprocessing steps to training and test data

Identifying overfitting and under-fitting

Business Understanding

The primary goal of this project is to help the company to predict potential churn through the implemented model and perhaps take serious actions to prevent them.

Data Understanding

I will be using the Churn in Telecom's dataset, modeling the churn based on all other numeric features of the dataset.

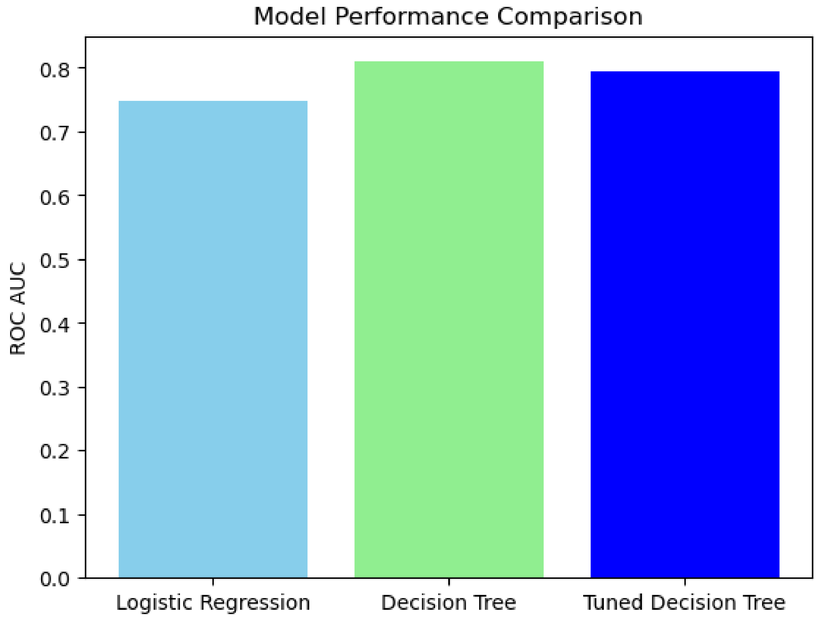
Data Preparation

Before analysis, the dataset underwent the following preprocessing steps: Cleaning: Removed duplicate entries, fixed inconsistent genre labeling, and corrected invalid values.

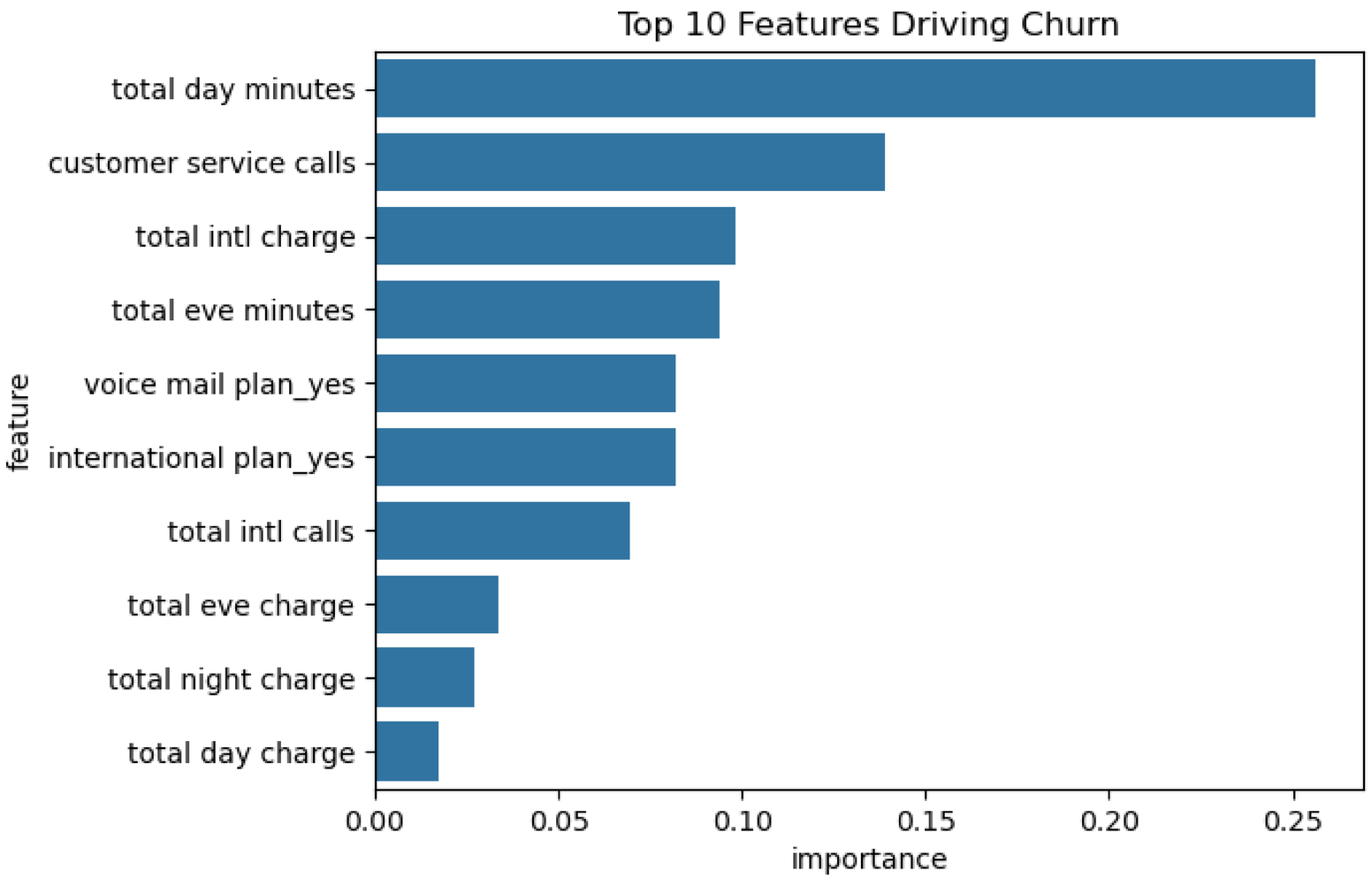
Analysis and Recommendations

After training and analysis we come out with some insights that could help predict and potentially reduce churn in the company business.

1) Best Model Recommendation would be Tuned Decision tree since it has the highest ROC AUC score compared to Logistic Regression.



Customers who spend more time per day tend to churn the most, that may due to the service charging fees. Therefore I would recommend to propose affordable service bundle.



Another factor which is related to churn is customer service calls. Either the customer is not satisfy after calling, or he cannot find people to take his case in consideration. Then I would recommend to improve customer service experience.

Conclusion

Dealing with churn in a company is never easy, that's the reason why you have to constantly figure out issue sources and how to manage to fit clients need in the best way. And predictive modeling is one of the powerful tools which allows you to anticipate and correct potential undesirable changes in business flow.

Good luck !