



SyriaTel Customer Churn Predictive Analysis

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INTRODUCTION

- ▶ This project seeks to predict customer churn using a dataset from Syriatel telecommunications company. This churn prediction will help businesses in identifying customers likely to leave, thus enabling them to take the necessary retention measures.

OVERVIEW

OBJECTIVES

- ▶ Analyze the dataset to understand the churning trends
- ▶ Train multiple classification models
- ▶ Evaluate and compare models using various performance metrics
- ▶ Identify the most influential features driving churn.
- ▶ Provide actionable recommendations to stakeholders.

METHODOLOGY

The project utilizes machine learning algorithms to analyze historical customer data and identify patterns and indicators of churn. The model is trained on a labeled dataset to predict the likelihood of churn for each customer.

BUSINESS PROBLEM

- ▶ The company stakeholders wish to determine which features influence customer churning and derive insights that will enable them to make strategic decisions to curb the high churn rate.

DATA UNDERSTANDING

- ▶ The data for the project was obtained from the Kaggle website:
<https://www.kaggle.com/datasets/becksddf/churn-in-telecomsdataset>
- ▶ Data includes customer demographics and services
- ▶ Churn Status: whether the customer left the service or not

PROCESS

- ▶ Loading the data
- ▶ Exploratory Data Analysis
- ▶ Preprocessing
- ▶ Model Building
- ▶ Evaluation
- ▶ Feature importance
- ▶ Conclusion and recommendations

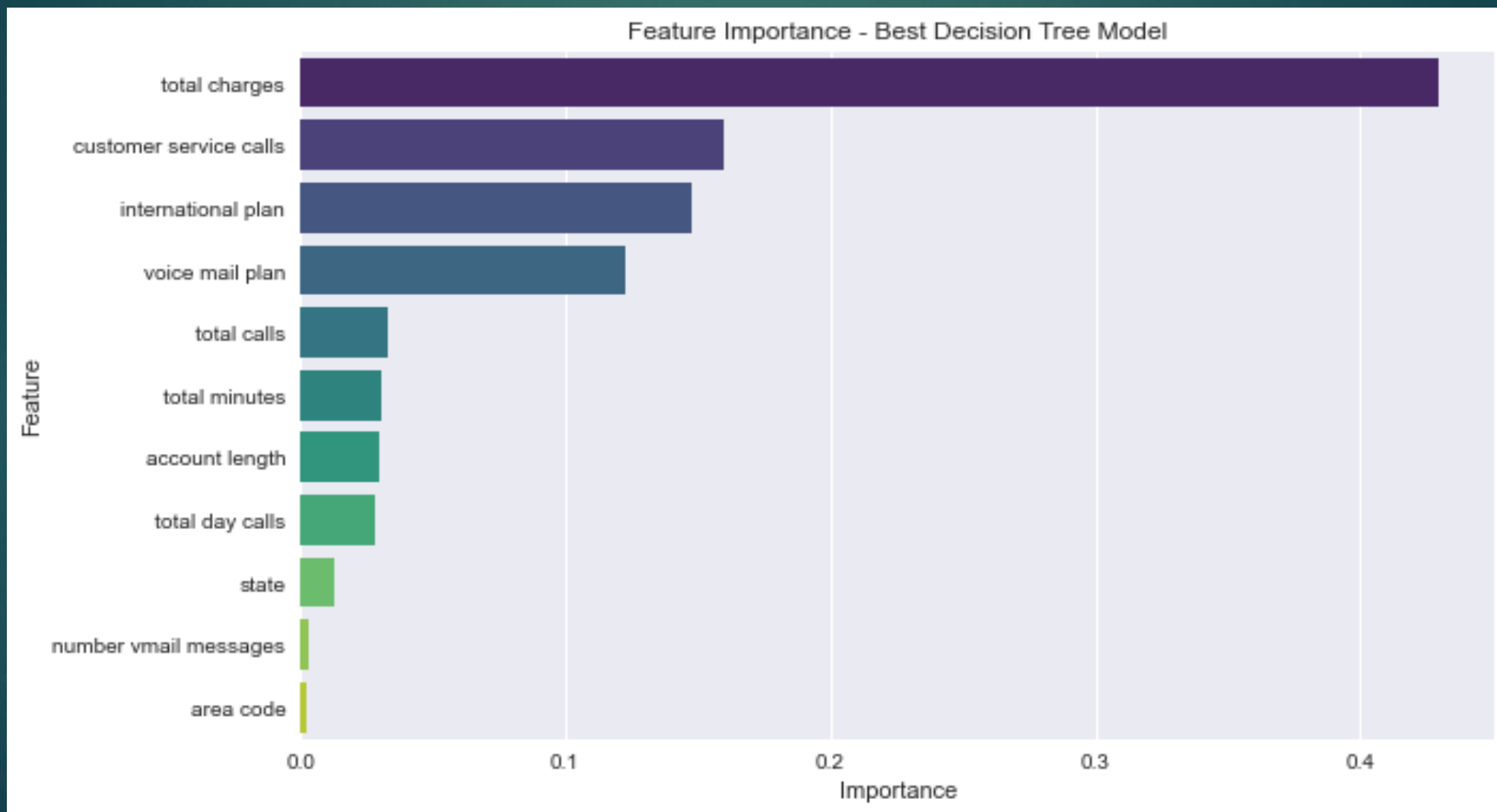
MODELLING

MODEL	ACCURACY	AUC-SCORE
LOGISTIC REGRESSION	68%	76%
DECISION TREE	94%	85%
RANDOM FOREST	95%	69%

FINDINGS

- ▶ Decision tree performed better than the other models
- ▶ The important features include:
 - ❖ Voicemail plan
 - ❖ International plan
 - ❖ Total day charge
 - ❖ Customer service calls

FEATURE IMPORTANCE GRAPH



CONCLUSION AND RECOMMENDATIONS

- ▶ After our analysis we have found that the best model is the decision tree model.
- ▶ The features that lead to higher churning have been found to include the total day charge, customer service calls, voicemail plan, international plan and total calls

RECOMMENDATION

- ▶ To reduce the total day charge or give incentive by offering bonuses and promotions together with loyalty programs.
- ▶ To train their customer service staff in ways to deal with the customers better
- ▶ To come up with good and affordable packages for international and voicemail plans.

NEXT STEPS

- ▶ Implement the recommendations stated.
- ▶ Gather more data for modeling to improve accuracy.