



# Predicting Churn

## Classification using Machine Learning

SyriaTel wants to reduce customer churn by identifying customers who are at risk of leaving.

Project by:

Dennis

Muriungi

# Business Problem

- Customer churn leads to revenue loss
- SyriaTel wants to identify customers likely to leave
- Early prediction allows proactive retention strategies



# Data Understanding



## Dataset

SyriaTel Customer Churn



## Target variable:

Churn (TRUE / FALSE)



## Features include:

- Call minutes and charges
- International plan usage
- Customer service calls

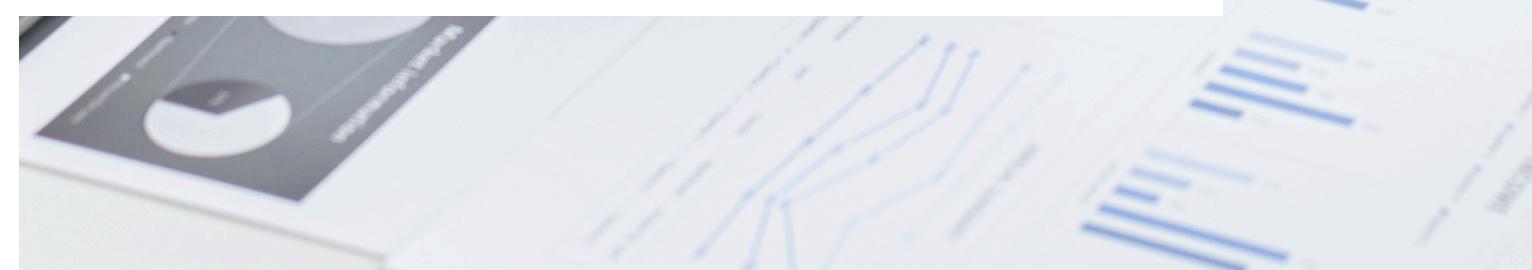
# Models Used

## 01 Logistic Regression

- Baseline model
- Easy to interpret
- Low recall for churned customers

## 02 Decision Tree

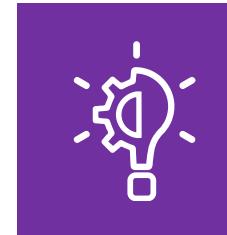
- Captures non-linear patterns
- Strong improvement in churn detection



# Results



## Logistic Regression



- Churn recall: 14%
- ROC-AUC: 0.83

## Decision Tree

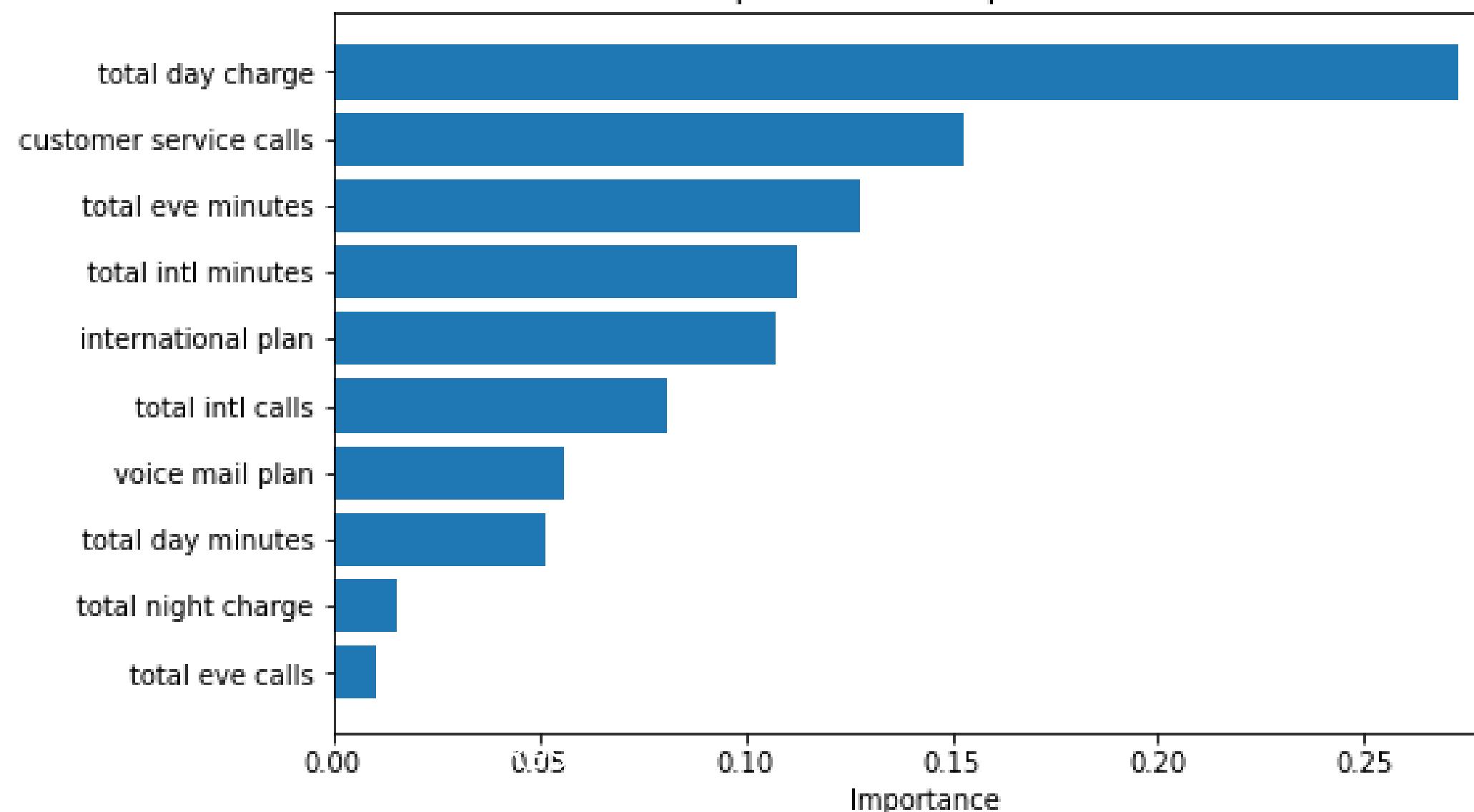


- Churn recall: 67%
- ROC-AUC: 0.89

**67%** Improvement in model to find churn

## FEATURE IMPORTANCE

Top 10 Feature Importances



## Conclusion & Recommendations

**Decision Tree performed better overall**

- Decision Tree is the preferred model
- Customer service calls strongly indicate churn

**SyriaTel should:**

- Target high-risk customers early
- Improve customer support experience



**Thank for  
Your Attention**