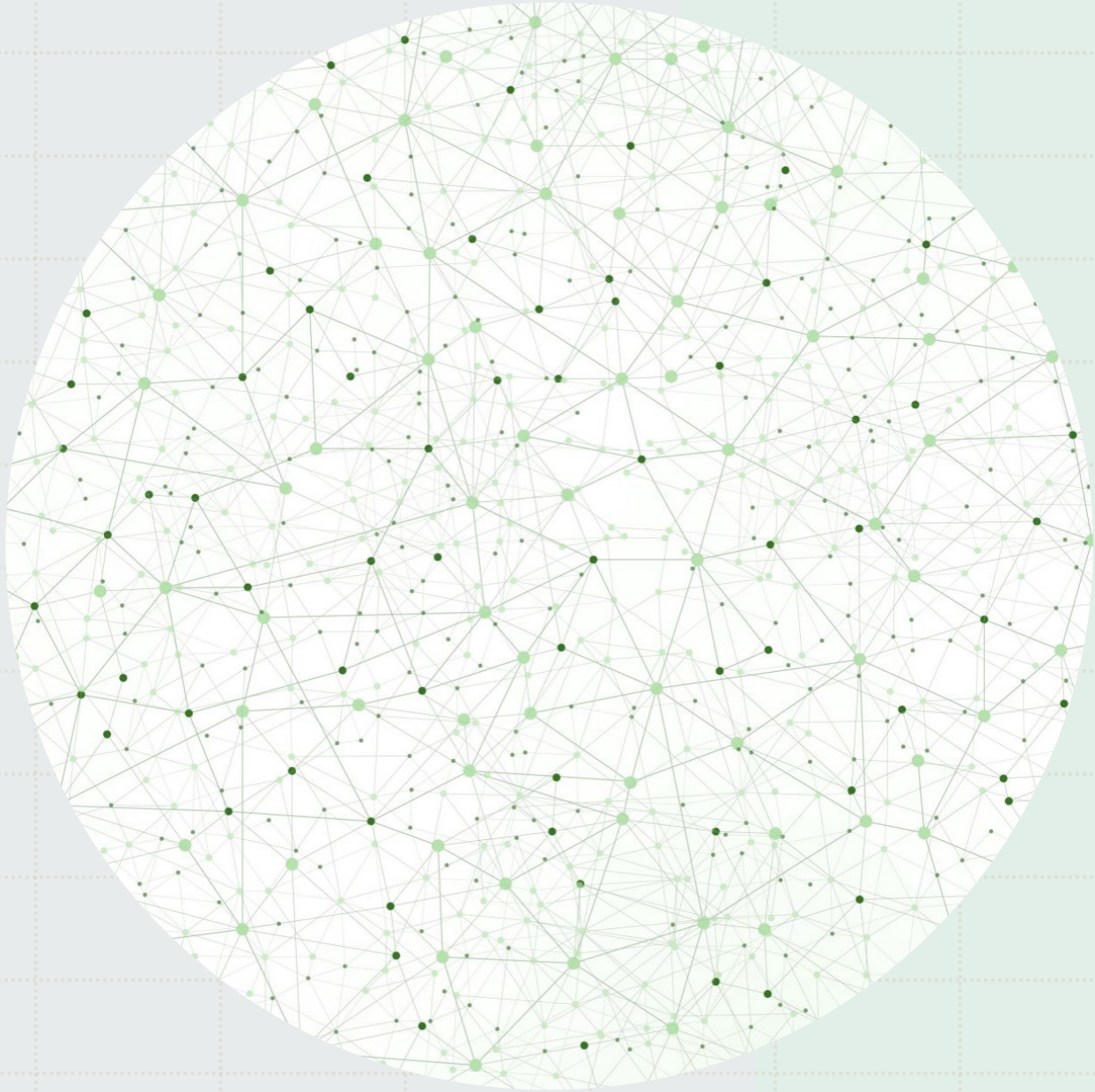
SyriaTel Customer Churn Analysis

By Justin Giovatto



Introduction

- Main Business Problem:
  - How to reduce customer churn and increase business profits?

- Primary Project Goal:
  - Help SyriaTel keep customers by preventing churn and offer business strategies on how to do so based on the analysis provided.

Methods

- Data will be used to create classification models to predict customer churn
- Models will then be analyzed according to precision metric
- Best performing model will be analyzed for top feature importance
- Business recommendations will then be presented

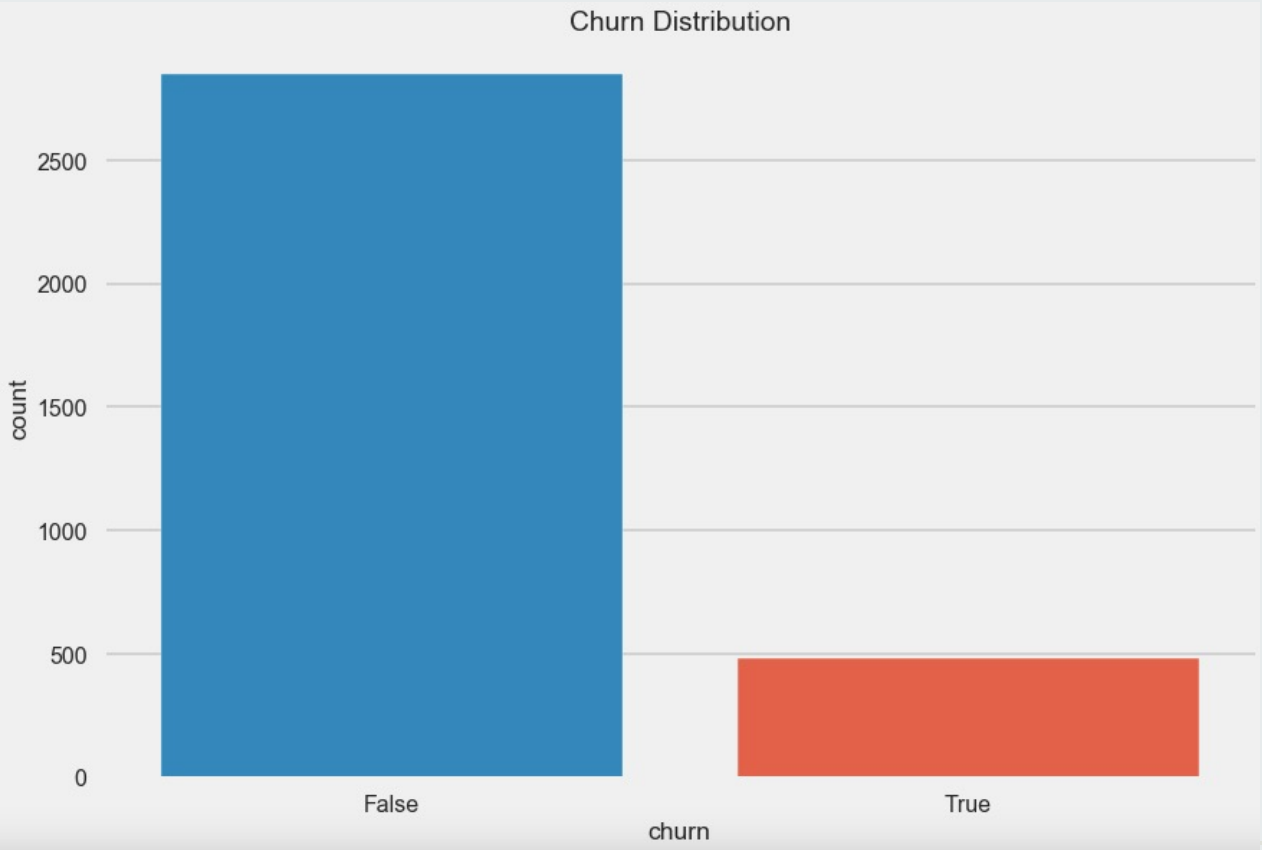
Dataset

- Contains information on 3,333 SyriaTel customers

- Models used will focus on the following features from the dataset:
  - Account length
  - Account minutes
  - Account charge
  - Account total calls
  - Customer service calls
  - Number of voice mail messages
  - Voice mail plan
  - International plan

Dataset

- Churn Class Imbalance

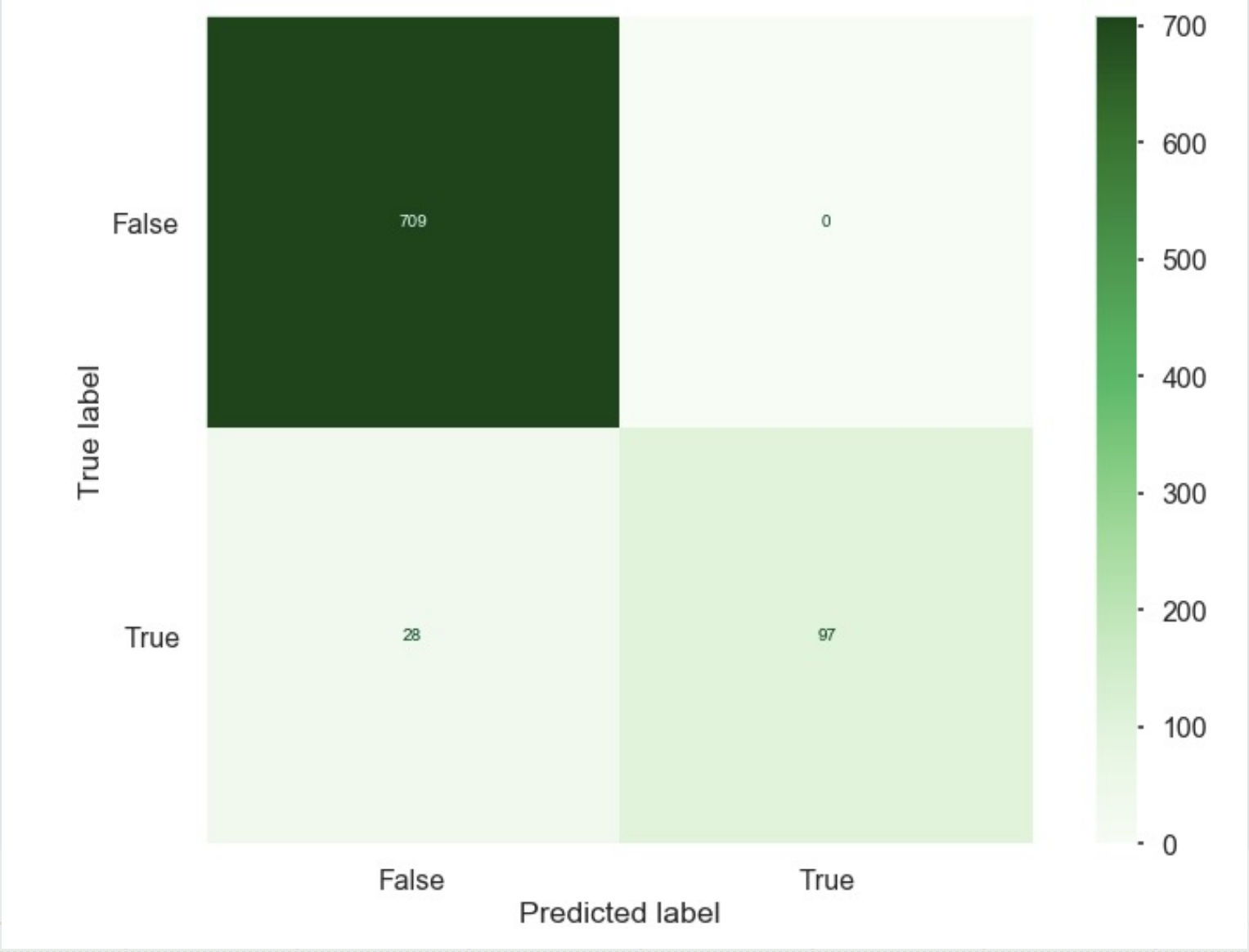


Model C2

- Random Forest Model (Tuned Parameters)
- Highest model precision score of 100%
- This model successfully predicted true-positives (true-churn) 100% of the time on testing data

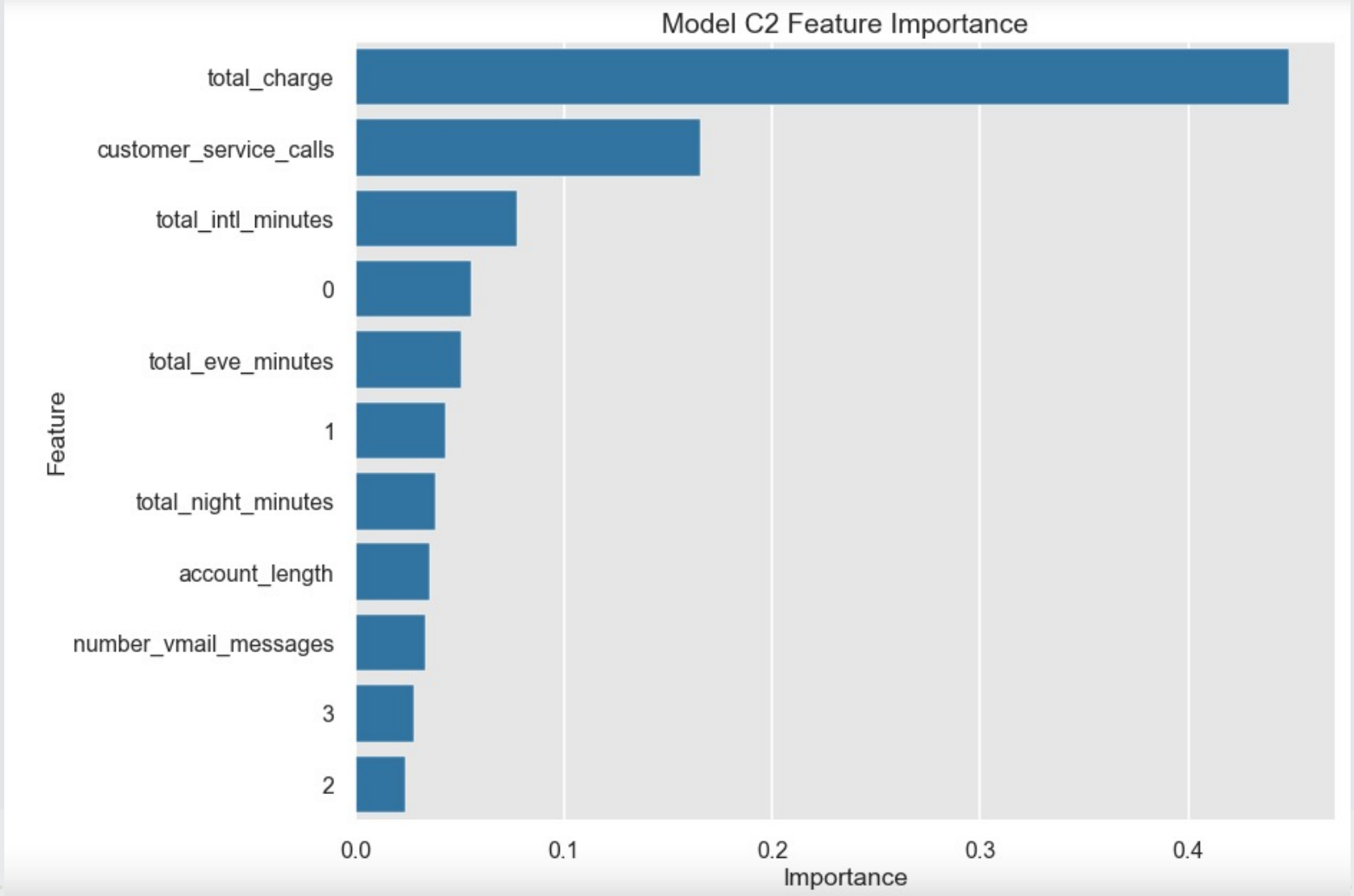
Model Results

Model C2 Evaluation



Model C2 Evaluation

Ranked Features:



Business Recommendations

- **Recommendation 1** – Offer discounts/promotions to customers with higher than average total charge costs.
- **Recommendation 2** – Offer discounts/promotions to customer who frequently call customer service. As well as improving customer service as a whole to better resolve issues.
- **Recommendation 3** – Create a competitive international plan to prevent international customers from leaving as well as attract more international customers overall.

Future Work

- In order to better improve the models, will likely need to to test models on larger customer datasets to see if models remain accurate across a larger customer sample.
- Could also test models on competitors' datasets to see if models are similar across different wireless companies.
- Finally could also build several more unique models as well tuning more model parameters to see if any further conclusions can be reached.

Thank You!

Questions?