



# Churn in Telecom

Elimelech Berlin - June 2023



## Summary

Based on modeling to predict customer churn, identified strategies to retain their patronage:

- Offer discounts on high minutes usage plans
- Ensure customers' issues are resolved within 3 customer service calls
- Offer discounted international service



# Overview

- Business Understanding
- Data
- Modeling Results
- Recommendations
- Limitations/Further Investigation
- Thank You



# Business Understanding

- Identify customers who are likely to churn
- Devise & implement targeted policies to retain such customers



# Data

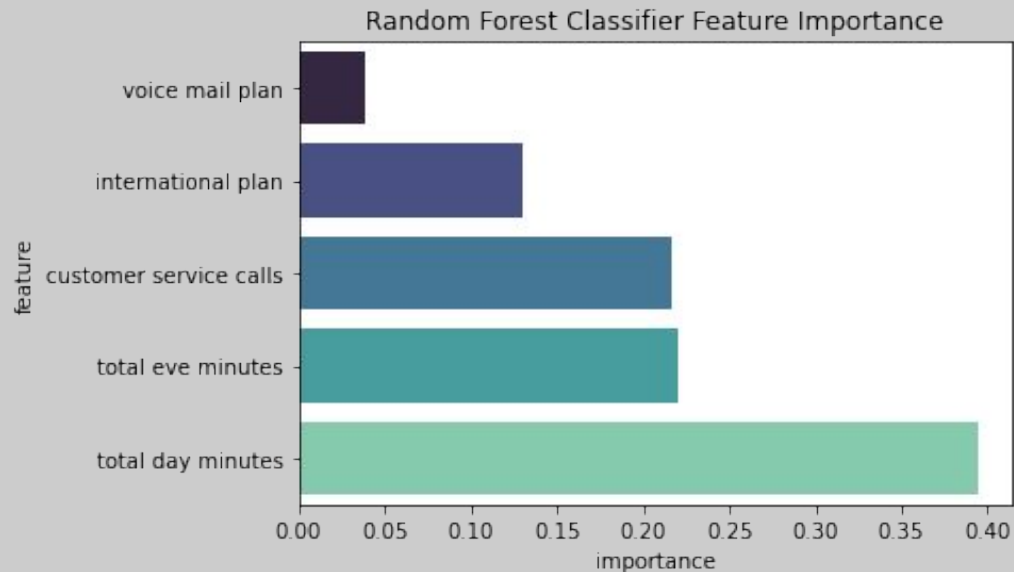
Dataset (from Kaggle) describes 3k+ US telecom service accounts.

Includes a variety of details, including:

- Phone number
- International plan status
- # of customer service calls
- Total usage type minutes (day/night)

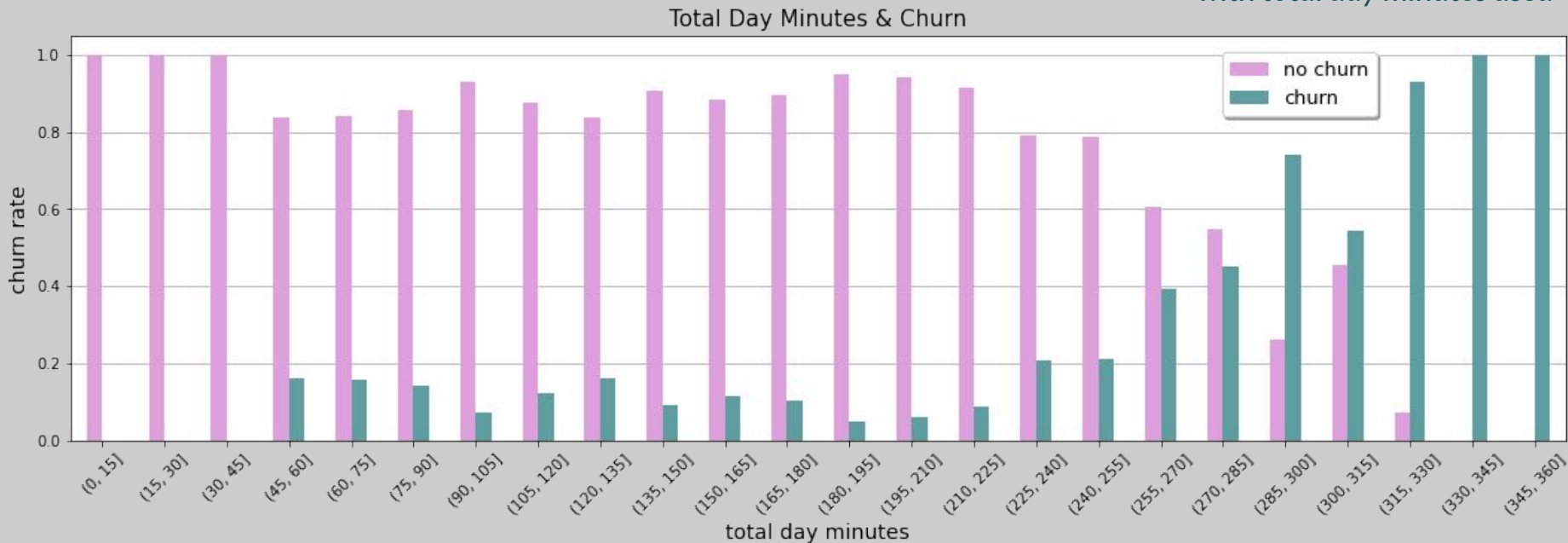
# Modeling Results

The best-fit model yields  
the following insights  
about feature importance:



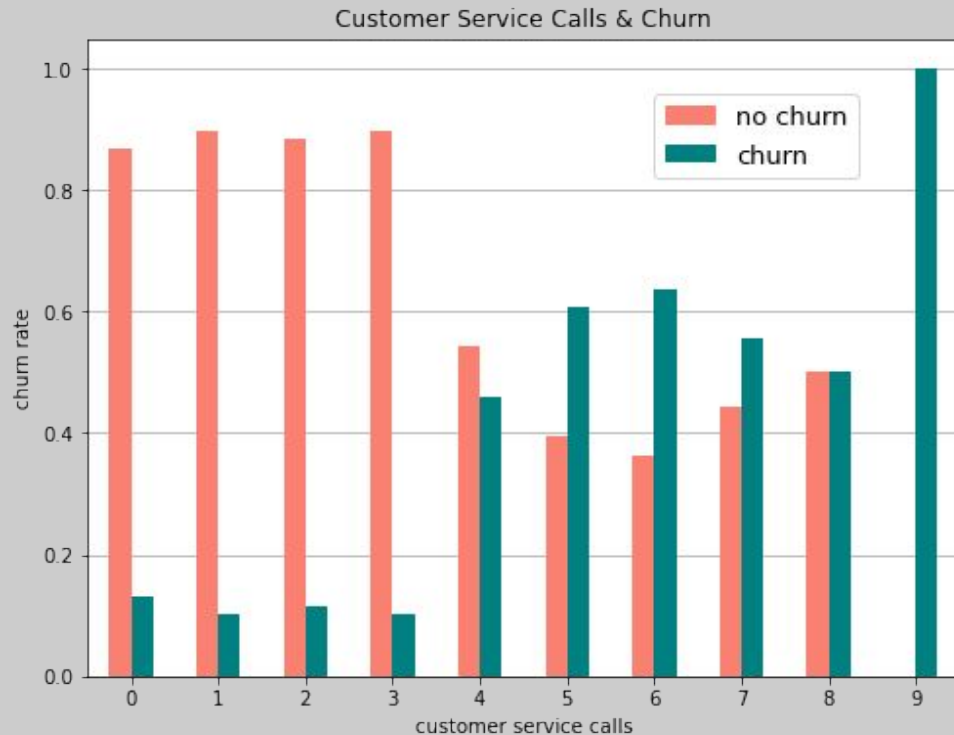
# Total Day Minutes

*Churn rate increases  
with total day minutes used*



# Customer Service Calls

*Churn rate jumps  
at 4 service calls*

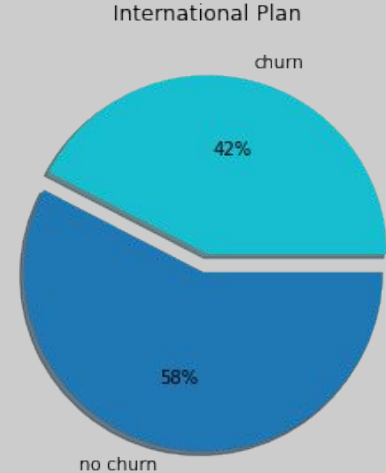
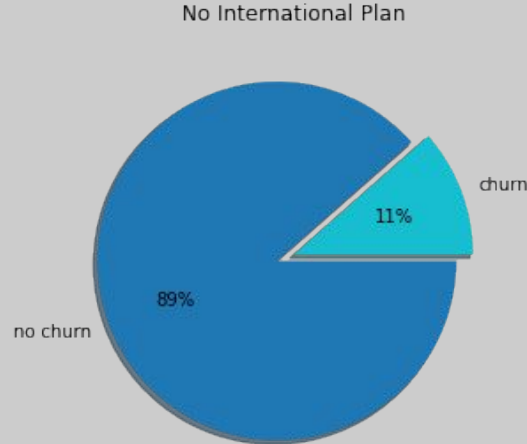




# International Plan

## International Plan Churn Rate

*Churn rate of  
customers with  
international plan is  
triple of those  
without*





## Recommendations

- Offer discounted high minutes usage plans
- Resolve customer issues within 3 service calls
- Offer discounted international service plans



## Limitations/ Further Investigation

- Model's limited predictive ability (*further exploration of different models needed*)
- Consider other metrics to assess models' performance based on business context (*recall vs. precision vs. f1-score*)
- Determine underlying cause of patterns revealed by the model



# Thank You!

**Email:** [melech.berlin@gmail.com](mailto:melech.berlin@gmail.com)

**Github:** <https://github.com/terminalcoder>

**Linkedin:** <https://www.linkedin.com/in/elimelech-berlin/>