Predicting and Undestanding Customer Churn

SyriaTel Telecommunications

By Kai Cansler

Outline

1.

Customer Service Calls

Is this an indicator of churn?

2.

Location and Churn

How does location effect churn?

3.

Client Usage of Plans

What services are being used?

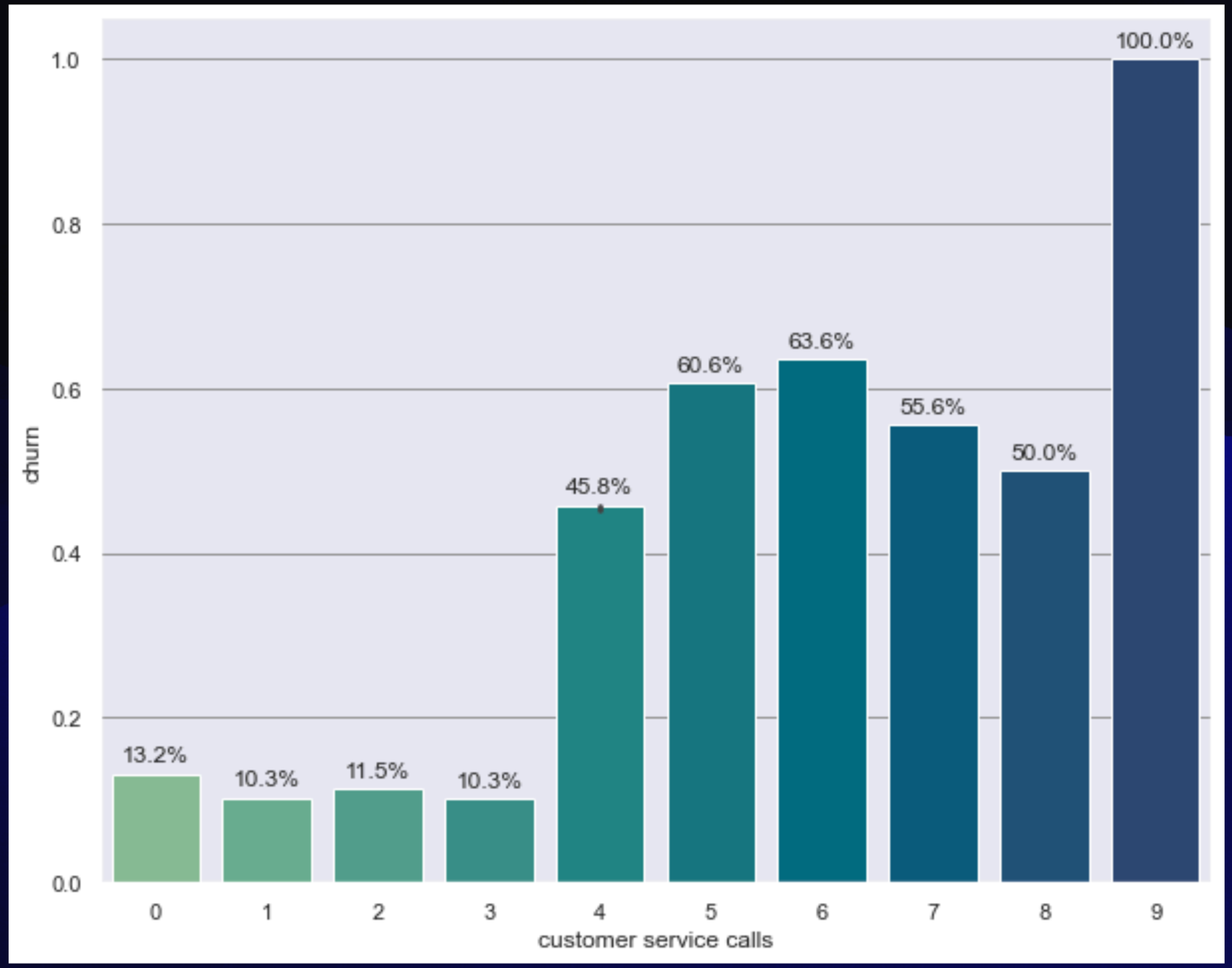
4.

Prediction Model

Confusion Matrix and Performance

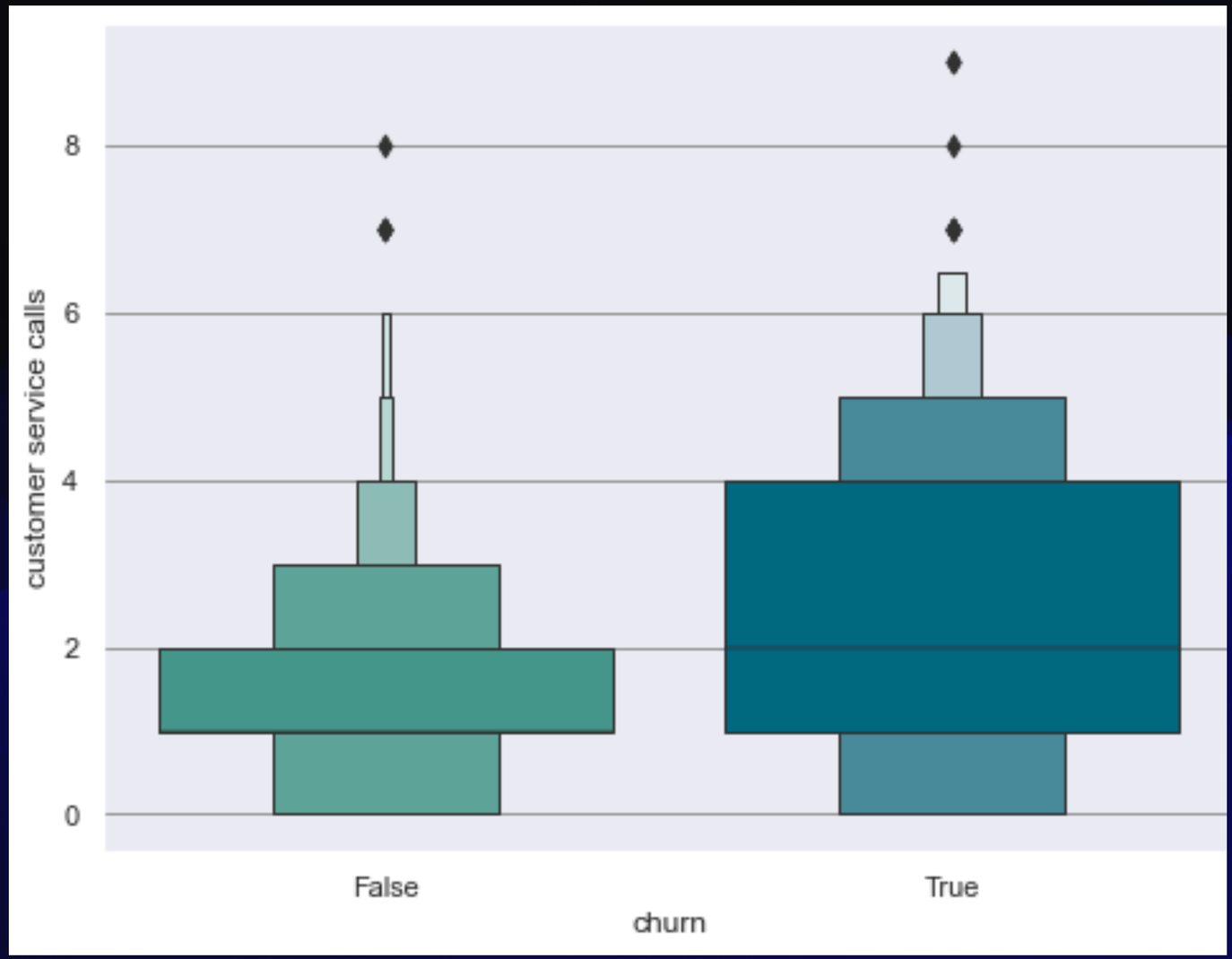
Customer Service Calls

- Rate of churn increases significantly after 3 calls.
- 10.3% to 45.8%



Customer Service Calls

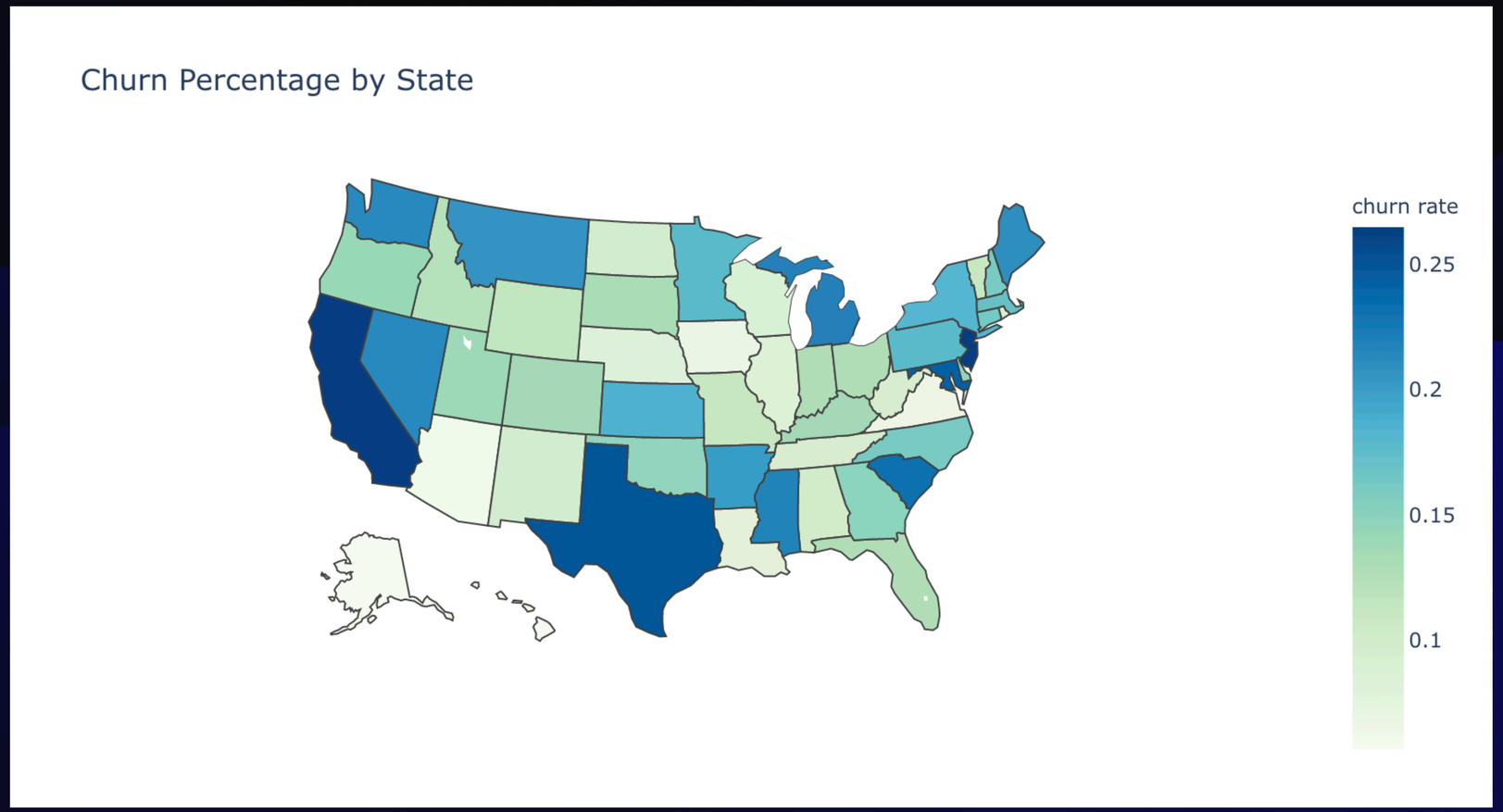
- Customers that churn have more calls to customer service.



Recommendation

1. Reassess Customer service experience

2. Survey Clients to understand their problem

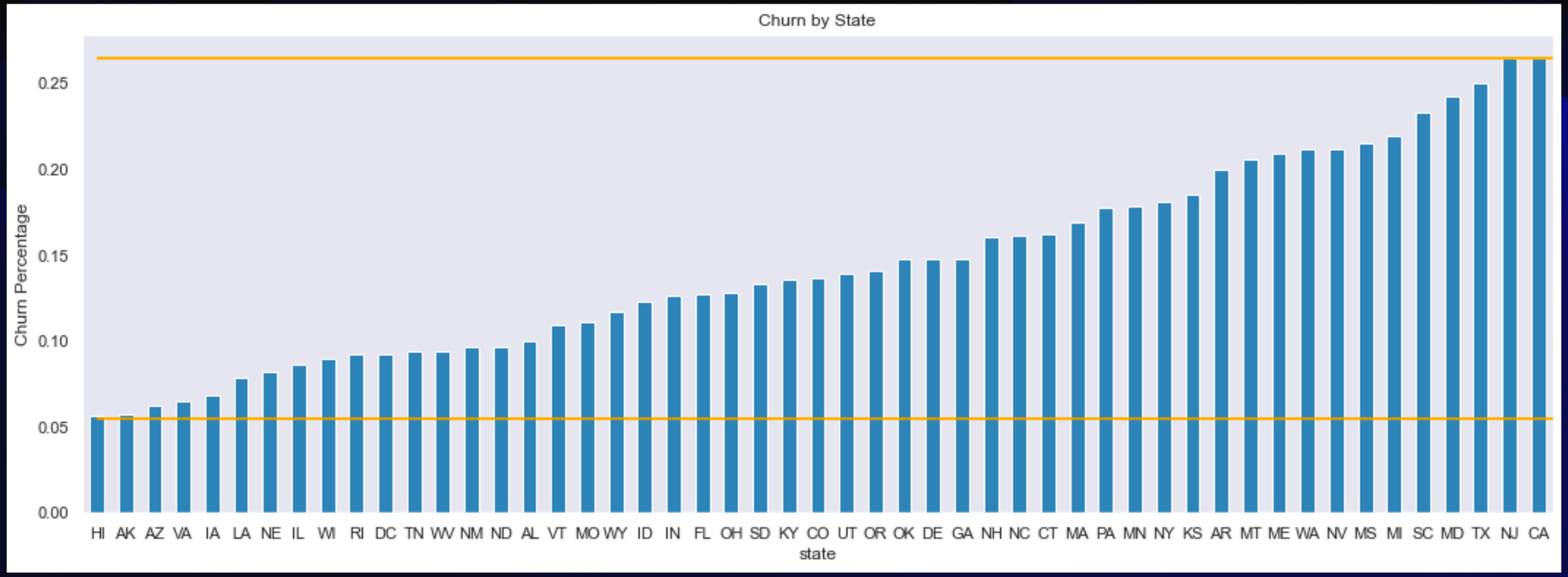


Churn by State

- **California has highest churn.**

Churn by State

- Difference between Highest and Lowest is ~20.25%

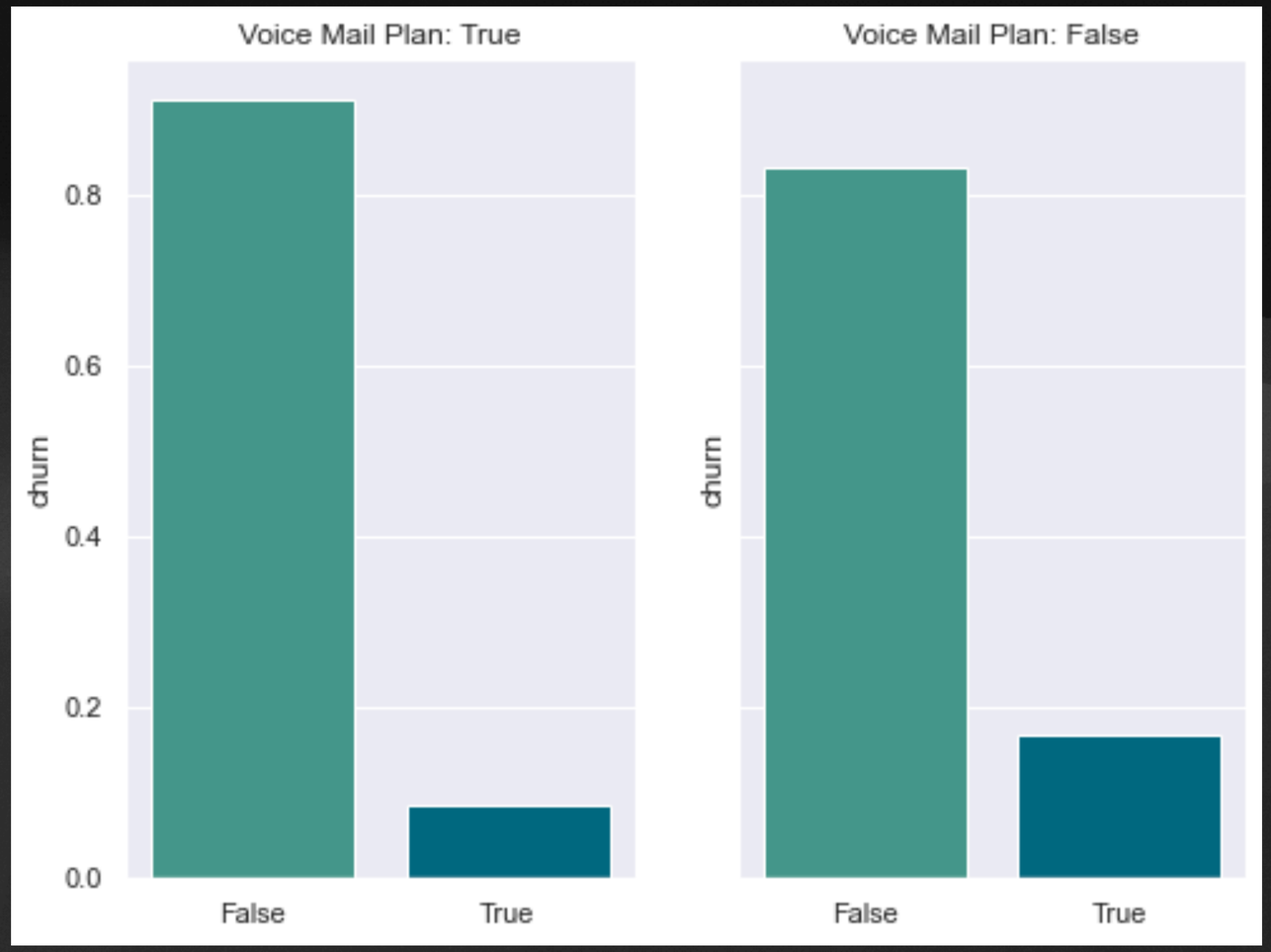


Recommendation

1. Compare with competitors in high churn states
2. Research cell connectivity in all states

Voicemail Plan
against Churn Rate

- Decrease in customer churn.
- Builds stronger relationship



International Plan
against Churn Rate

- Increases Customer Churn
- Why does it increase?

$0.27 / min

With International Plan

$0.27 / min

Without International Plan

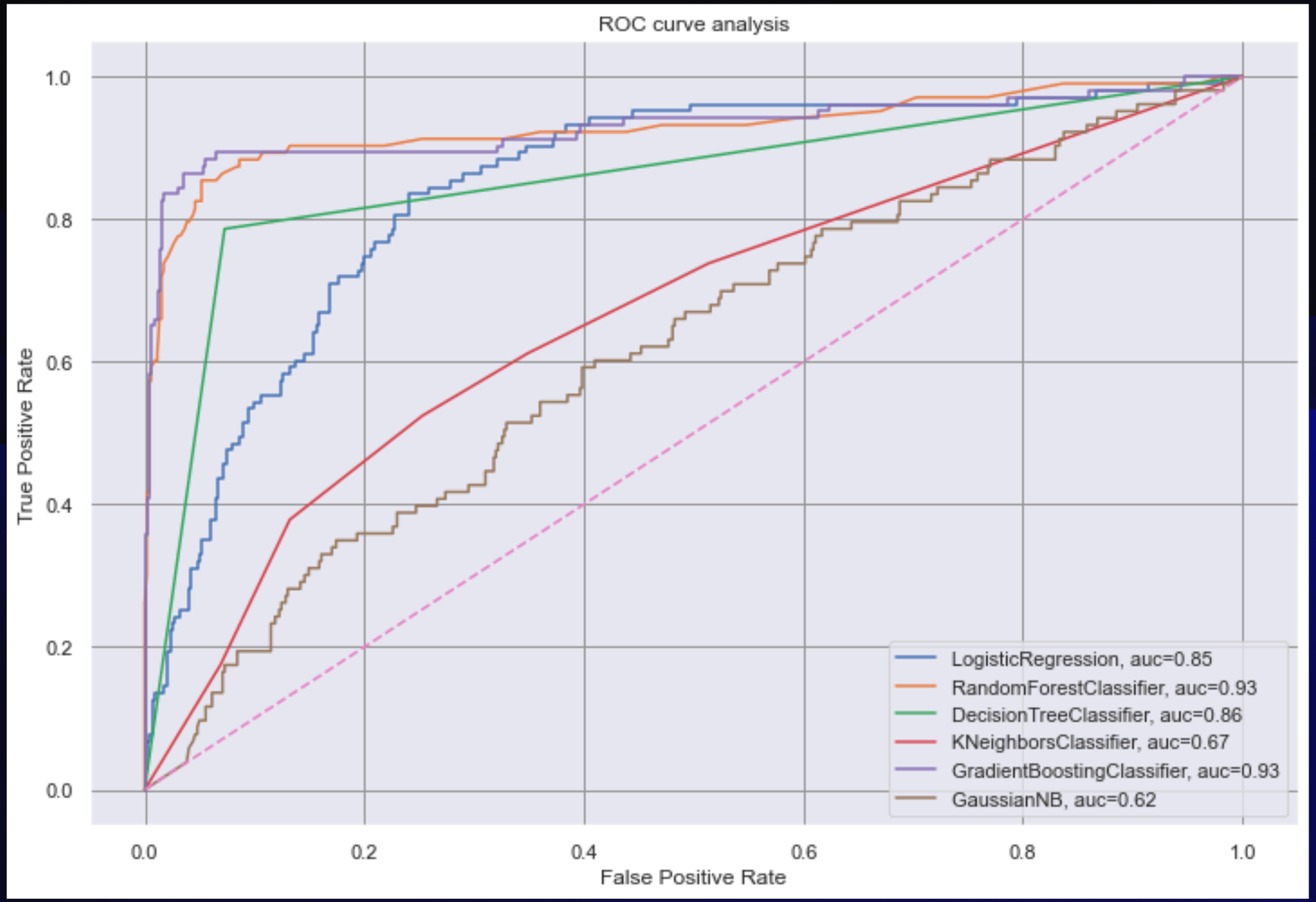
Recommendation

1. Improve International Plan by adjusting rate

2. Research Cost & Benefit of Plan

ROC Curve

Gradient Boosting Classifier



Confusion Matrix

Understanding the Matrix

TN

True Negative

Accurately predicted client does not churn

FP

False Positive

Incorrectly predicted client does churn

FN

False Negative

Incorrectly predicted client does not churn

TP

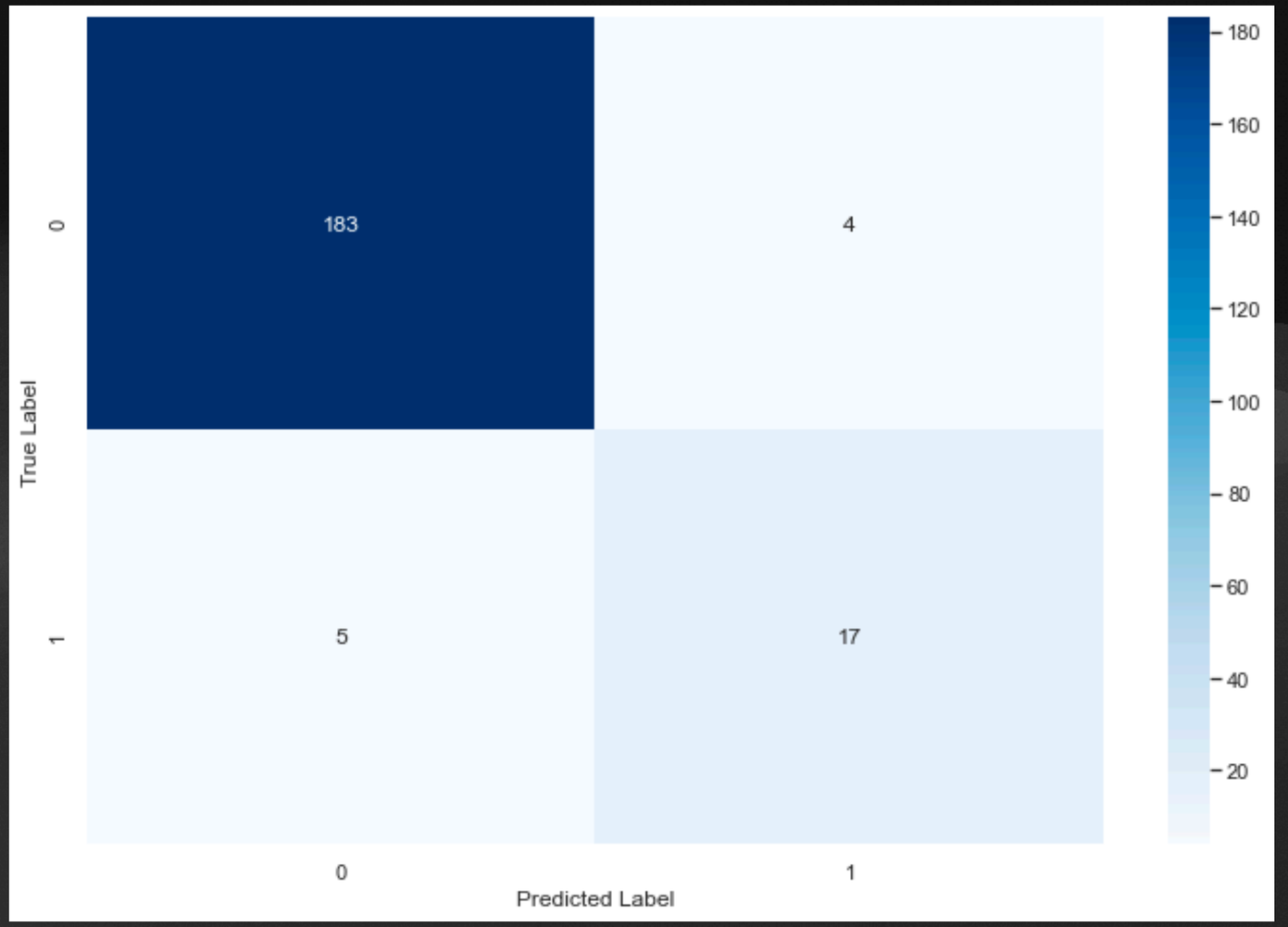
True Positive

Accurately predicted client does churn

Confusion Matrix

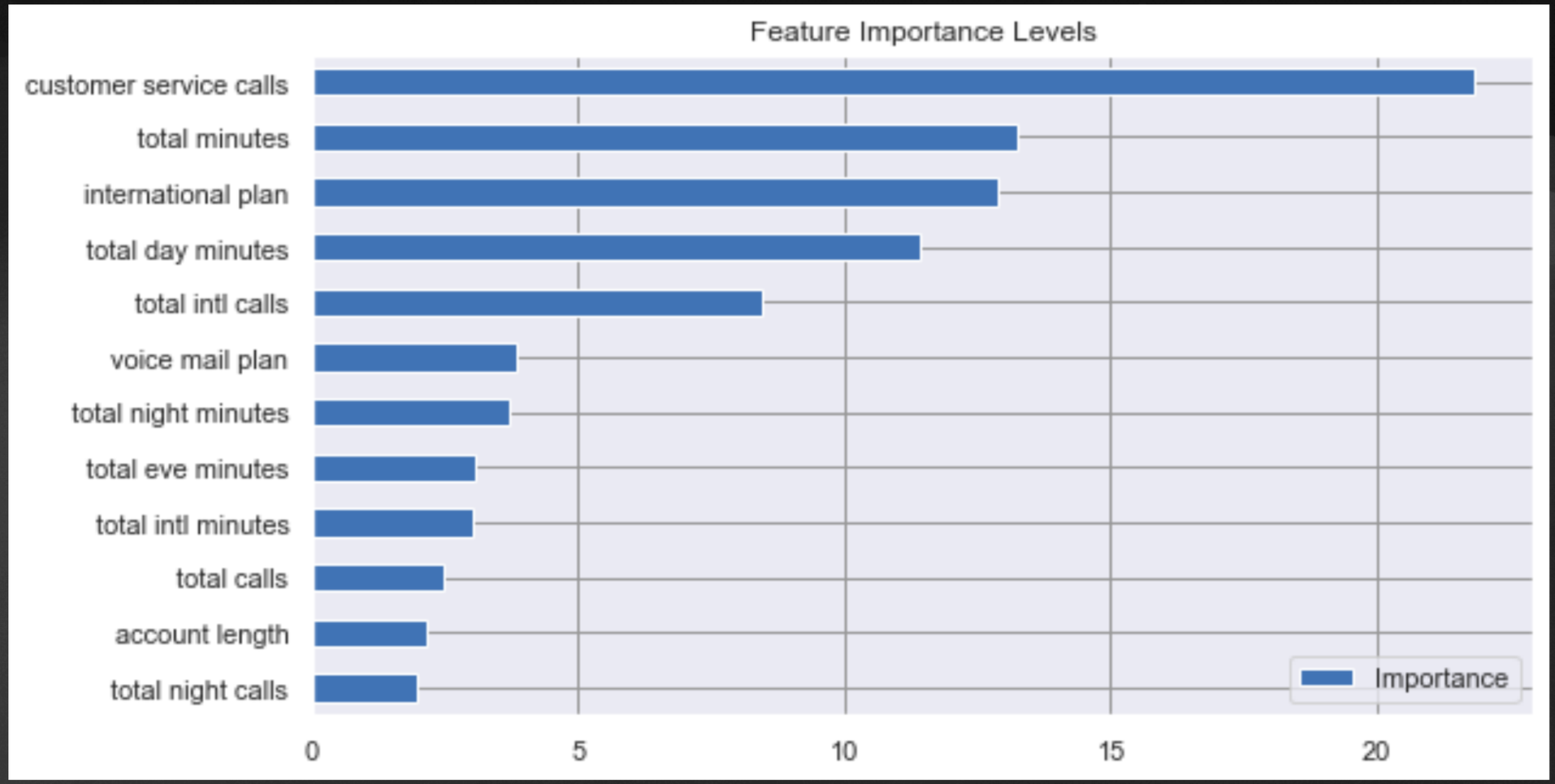
Predictions

- 5 False Negative predictions
- 4 False Positive predictions



Importance

How it predicts.



Conclusion & Next Steps

Customer churn

Focus:

- Customer Service Line
- International Plan
- Competitive Rates

Next Steps:

- Gather information on competitors offerings
- Collect more data to improve model

Thank you.

Kai Cansler

Email

cansler.kai@gmail.com

GitHub

https://github.com/kai-cansler