SYRIATEL CUSTOMER CHURN

Project_Phase 3

Presentation

Date: Jun 23rd, 2023
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BUSINESS PROBLEM

Telecom industry is a highly competitive market

>850

Telecom operators

>21%

industry average
churn rate

>$300

acquire 1 new customer

What are the alert factors to be aware before customers leave?

CLASSIFICATION MODEL

tune_XGBoost_SMOTE.best_params_

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 'XGBoostmodel__gamma': 5,
 'XGBoostmodel__learning_rate': 0.16000000000000003,
 'XGBoostmodel__max_depth': 7,
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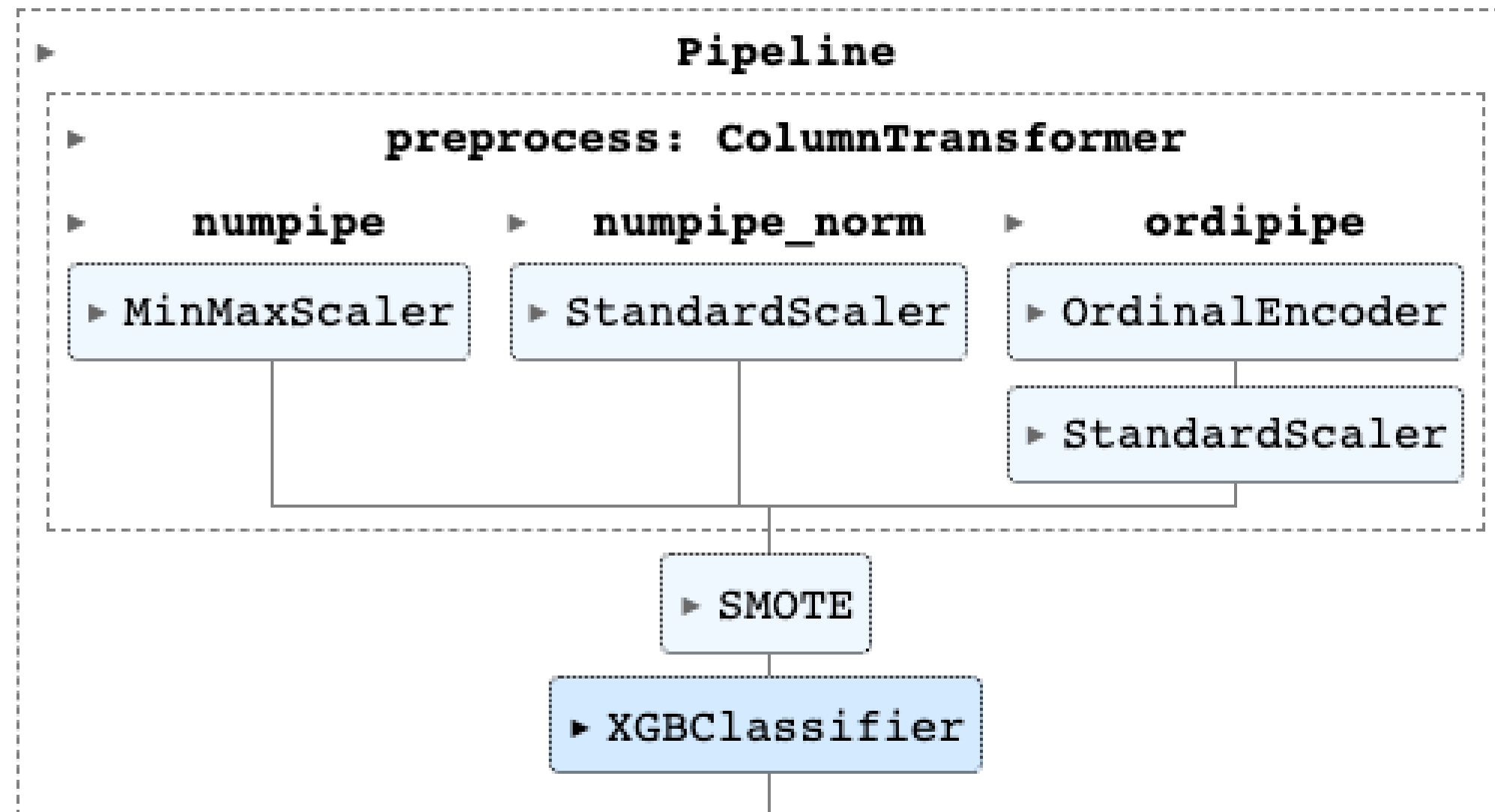 'smote__sampling_strategy': 0.23000000000000004}
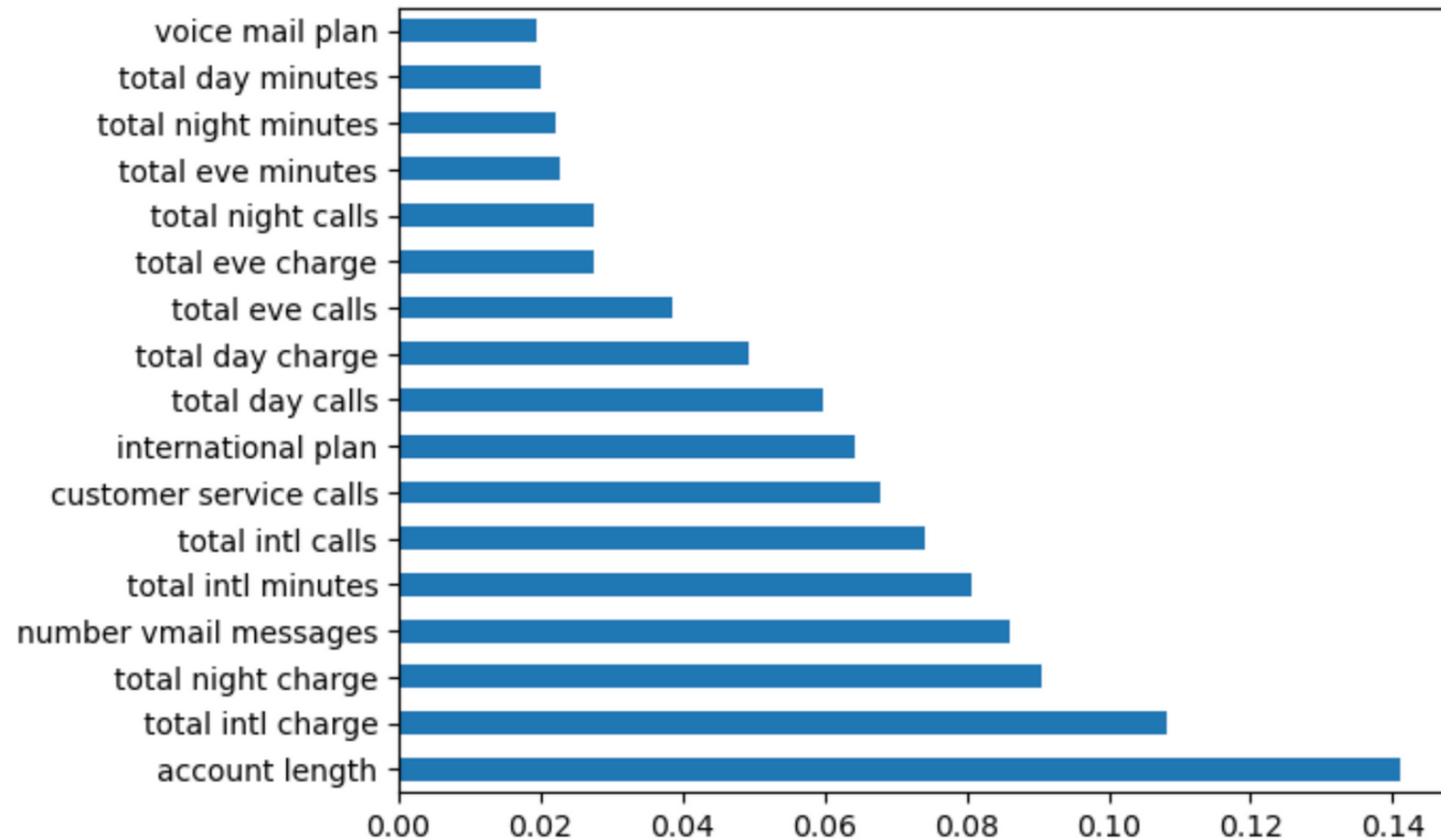
ACCURACY
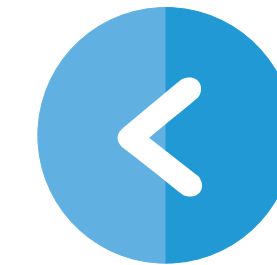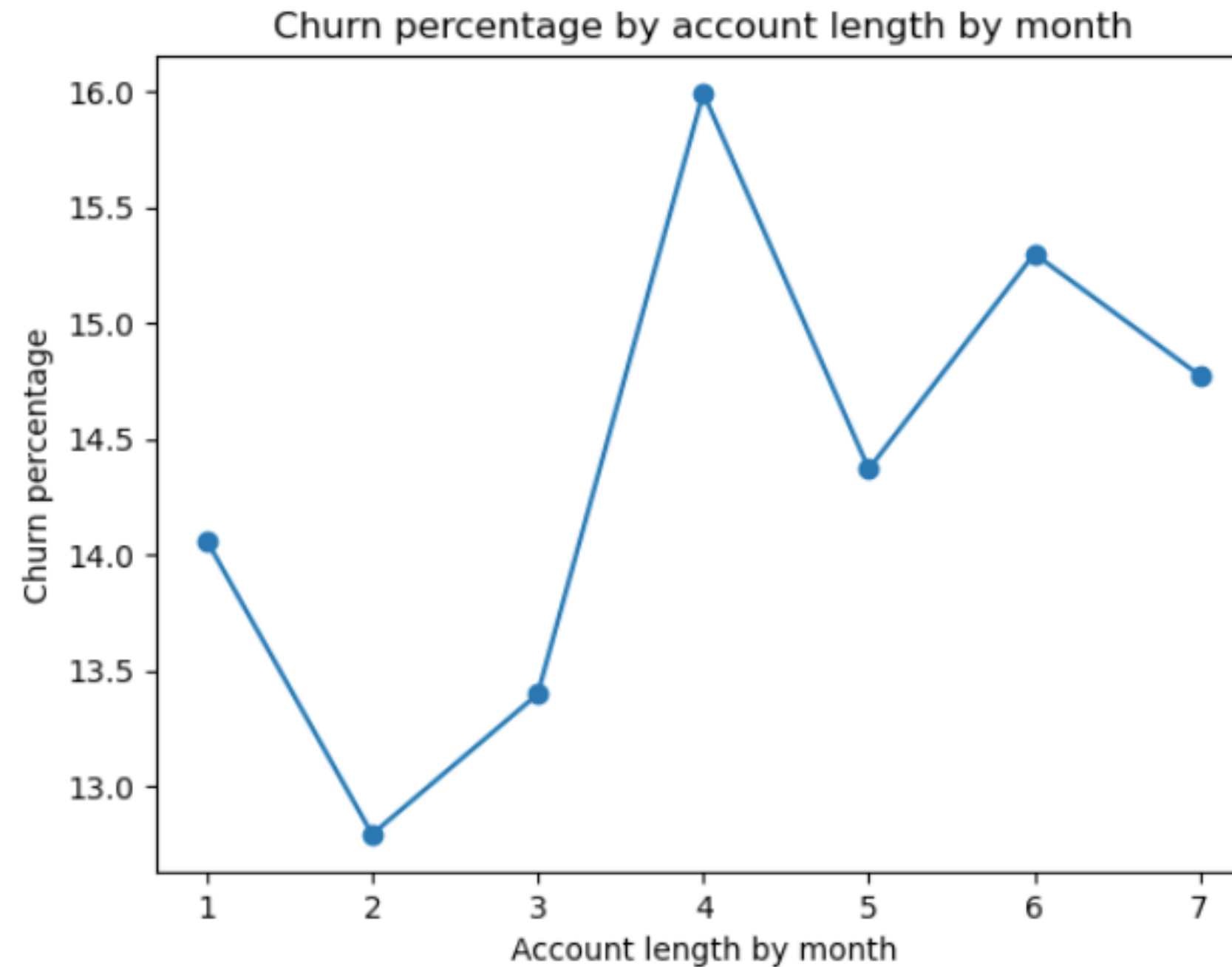
95%

F1-SCORE

83%

AUC

87%

```
Pipeline
    preprocess: ColumnTransformer
      numpipe          numpipe_norm          ordipipe
  ▸ MinMaxScaler    ▸ StandardScaler     ▸ OrdinalEncoder

                                         ▸ StandardScaler

                  ▸ SMOTE

                  ▸ XGBClassifier
```

FEATURES IMPORTANCE

ALERT FACTOR-RECOMMENDATION 1

ACCOUNT LENGTH

Churn percentage by account length by month

21%

industry average
churn rate

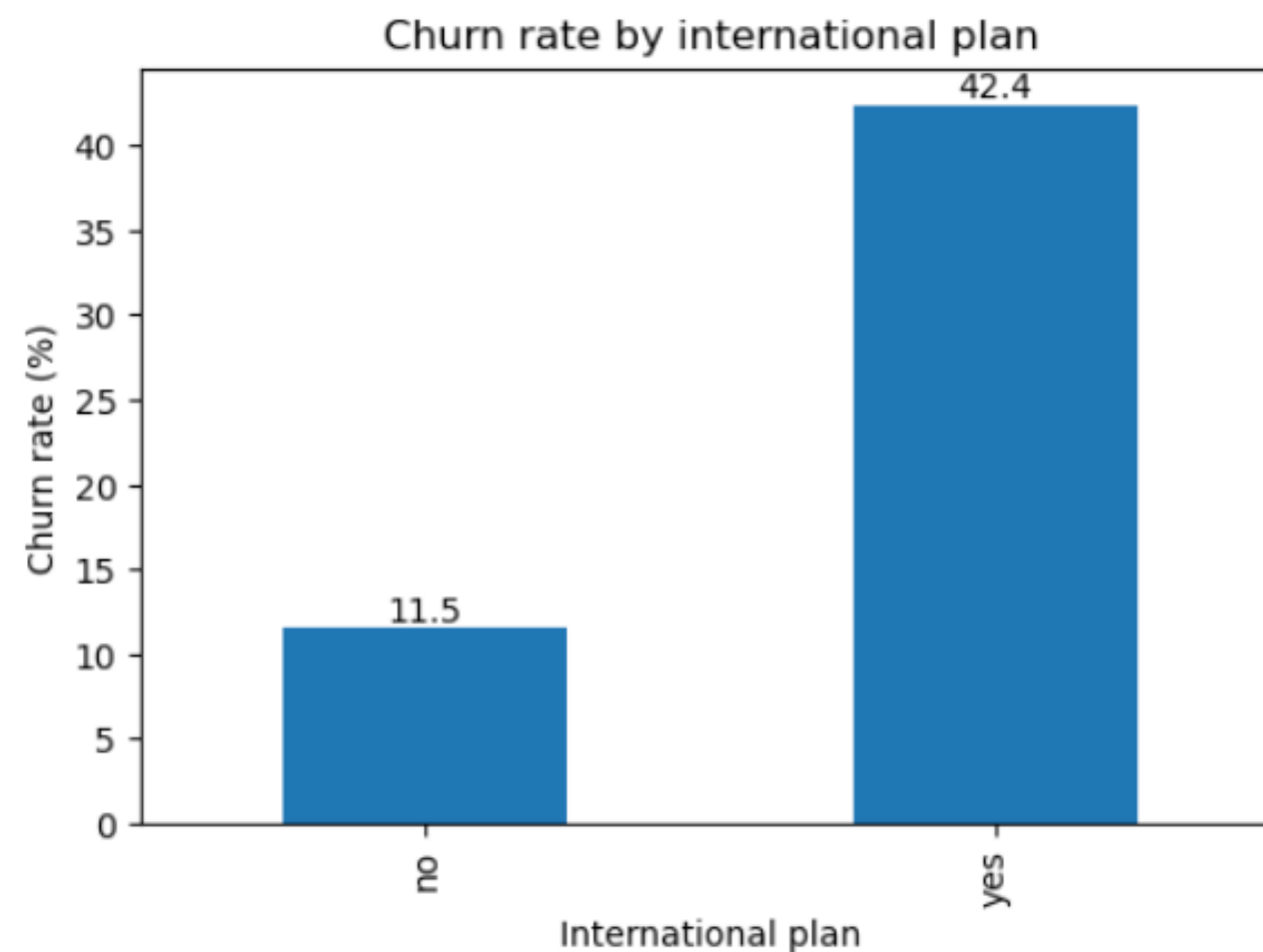- Churn rate ~13%-~16%, less than industry average rate

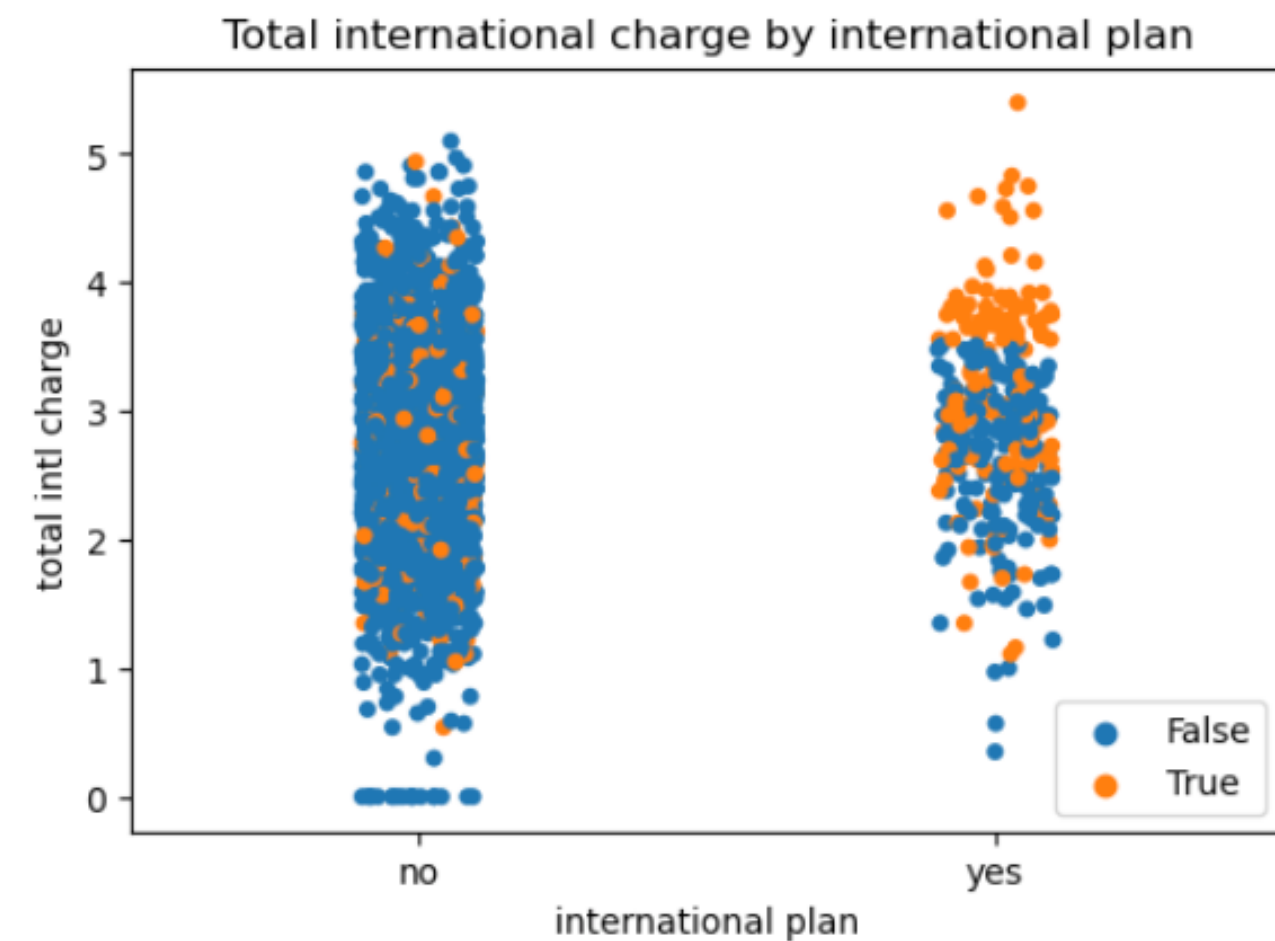- Churn rate increases after 3rd month

Start retention plan after 3rd month instead of 6th month to maintain good churn rate.

ALERT FACTOR-RECOMMENDATION 2
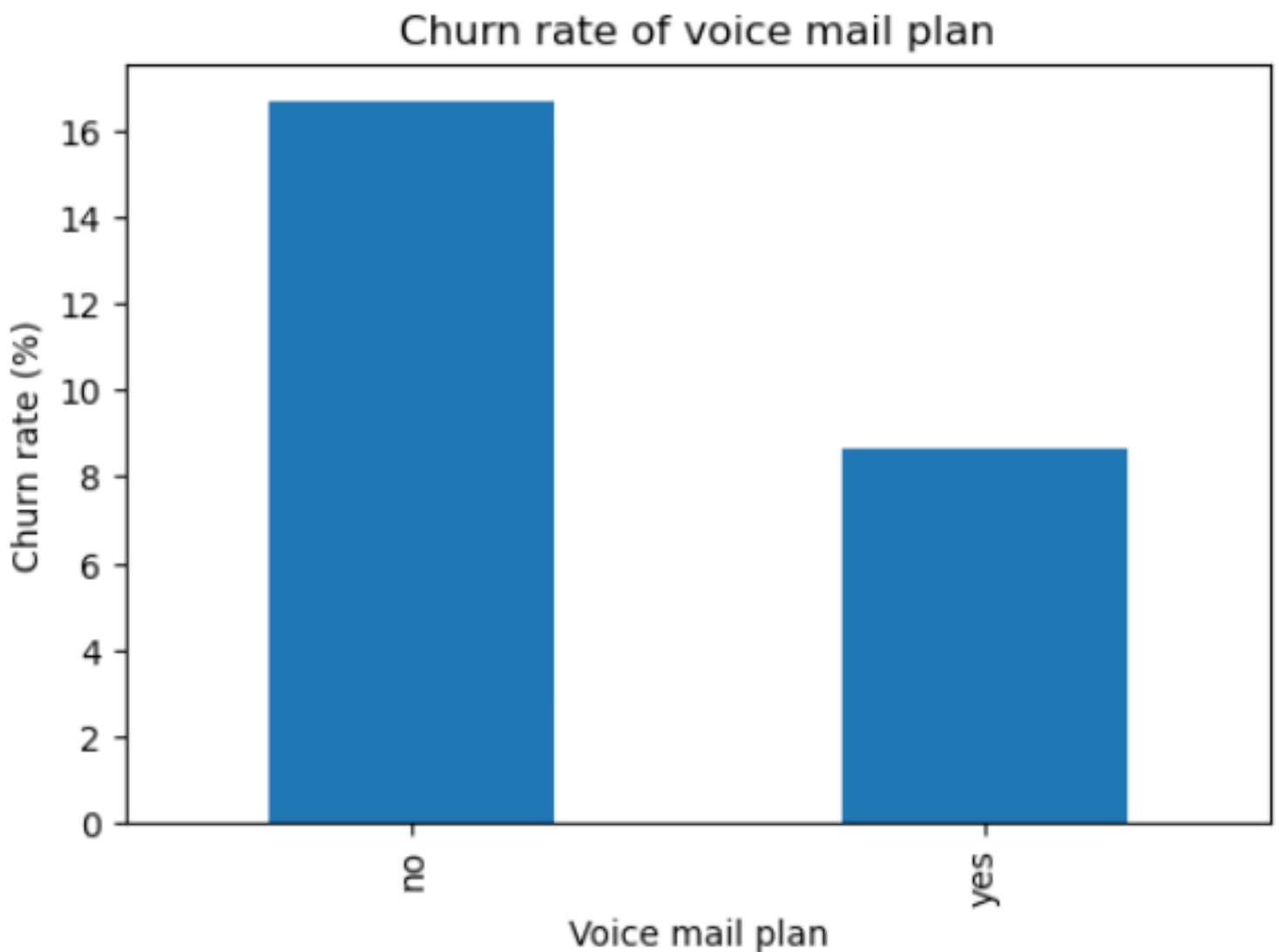
International plan
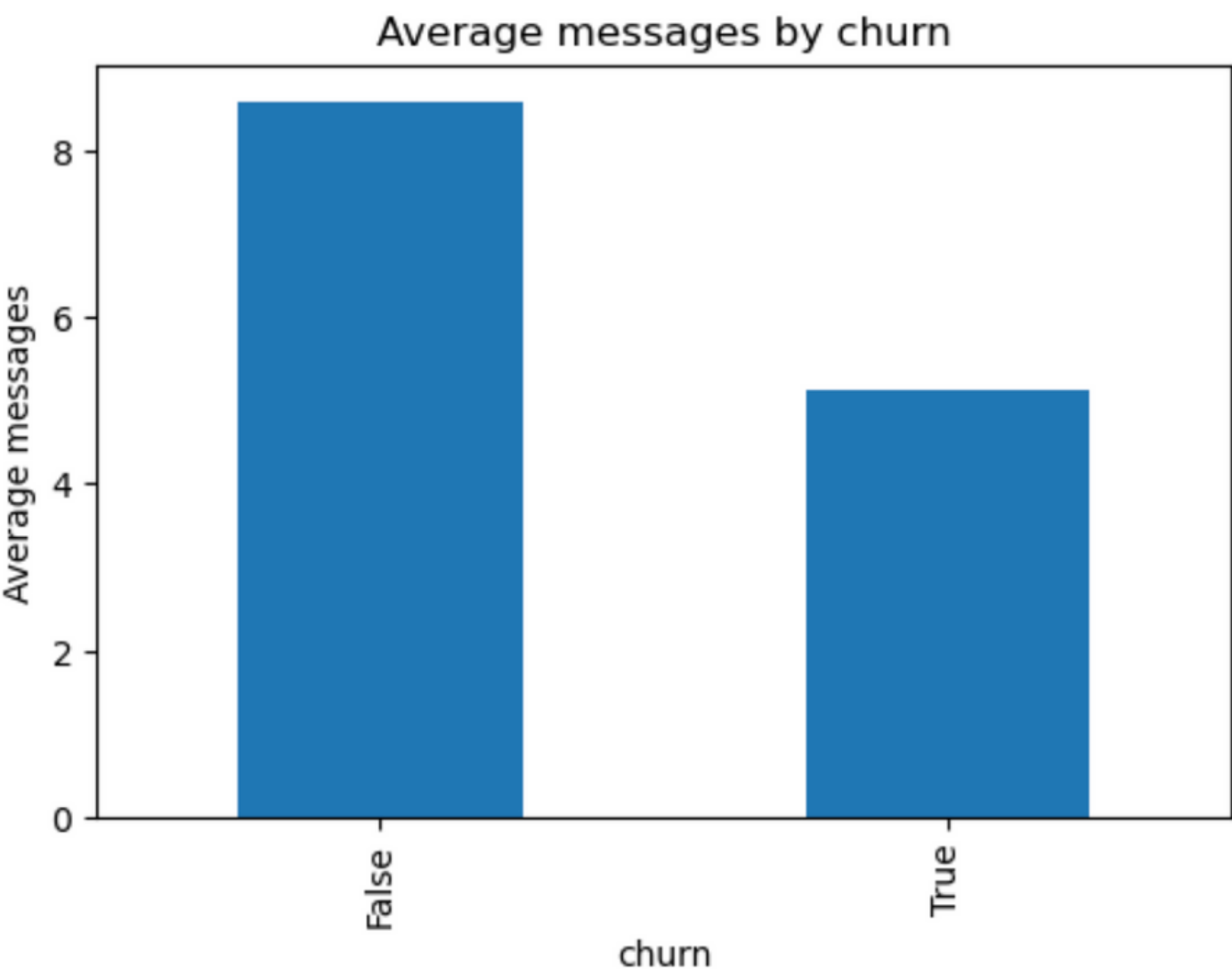

Total international charge

Conduct a market analysis to compare international call pricing with competitors.

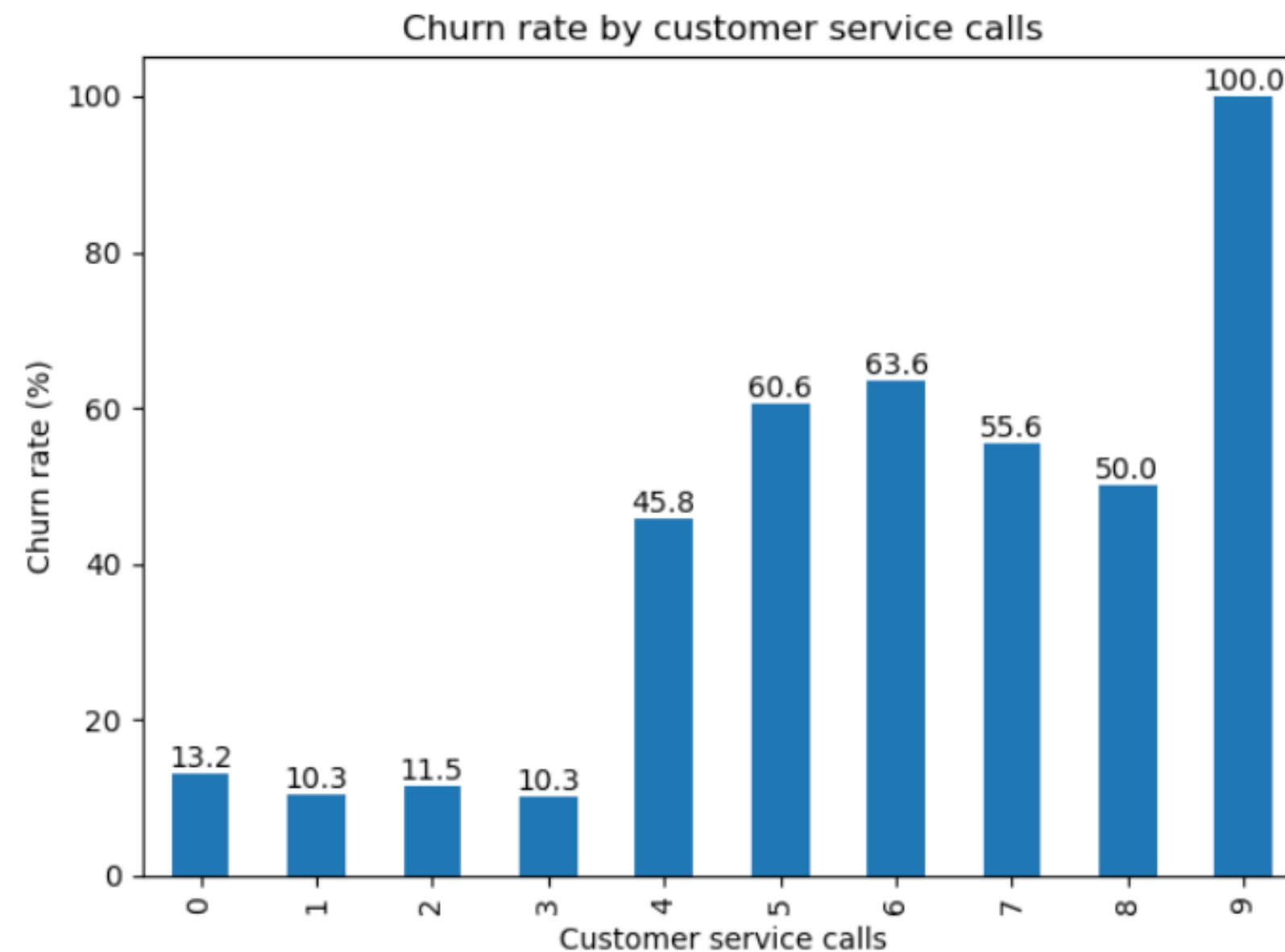# ALERT FACTOR-RECOMMENDATION 3

Voice mail plan

Voice mail messages

Increase voice mail plan subscribers to encourage greater customer engagement with company services.

ALERT FACTOR-RECOMMENDATION 4

Churn rate by customer service calls

Customer service calls

calls >=4

Set a threshold of customer calls = 3 to pay more attention to these customers to reinforce the retention

RECOMMENDATION SUMMARY

ACCOUNT LENGTH

Start retention plan earlier
Implement after 3rd month instead of 6th month

INTL PLAN + TOTAL INTL CHARGE

Conduct a market analysis
Compare international call pricing with competitors.

VOICE MAIL PLAN & VOICE MAIL MESSAGES

Increase voice mail plan subscribers
Encourage greater customer engagement with company services.

CUSTOMER SERVICE CALLS

Set a threshold of customer calls = 3
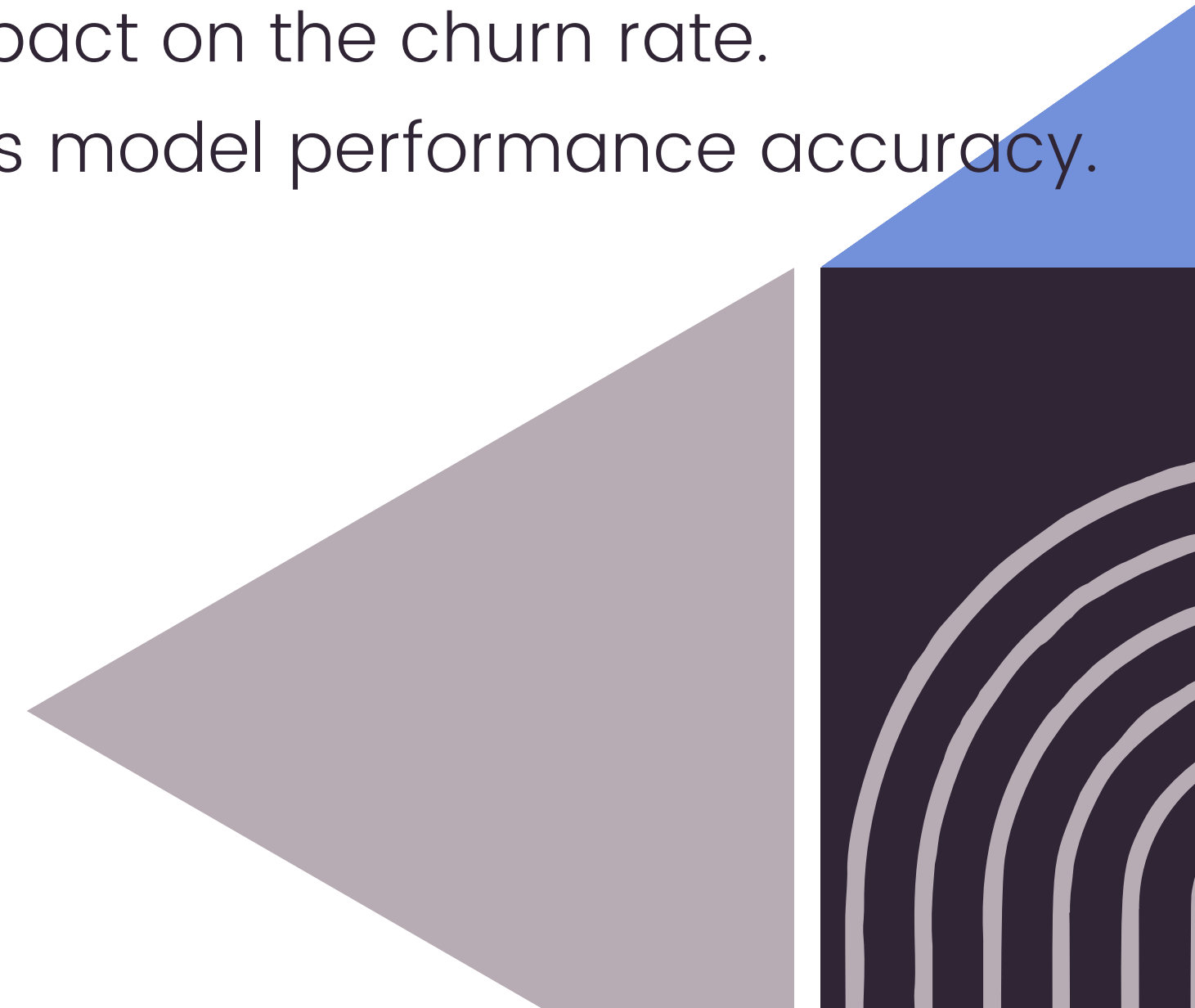Pay more attention to these customers to reinforce the retention

LIMITATIONS & NEXT STEP

Limitation

- Dataset with account length less than 7 months only
- Dataset with limited features to evaluate the impact on the churn rate.
- Dataset with imbalanced classes, which impacts model performance accuracy.

Next step

- Investigate data from month 7

QUESTION?

THANK YOU!

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