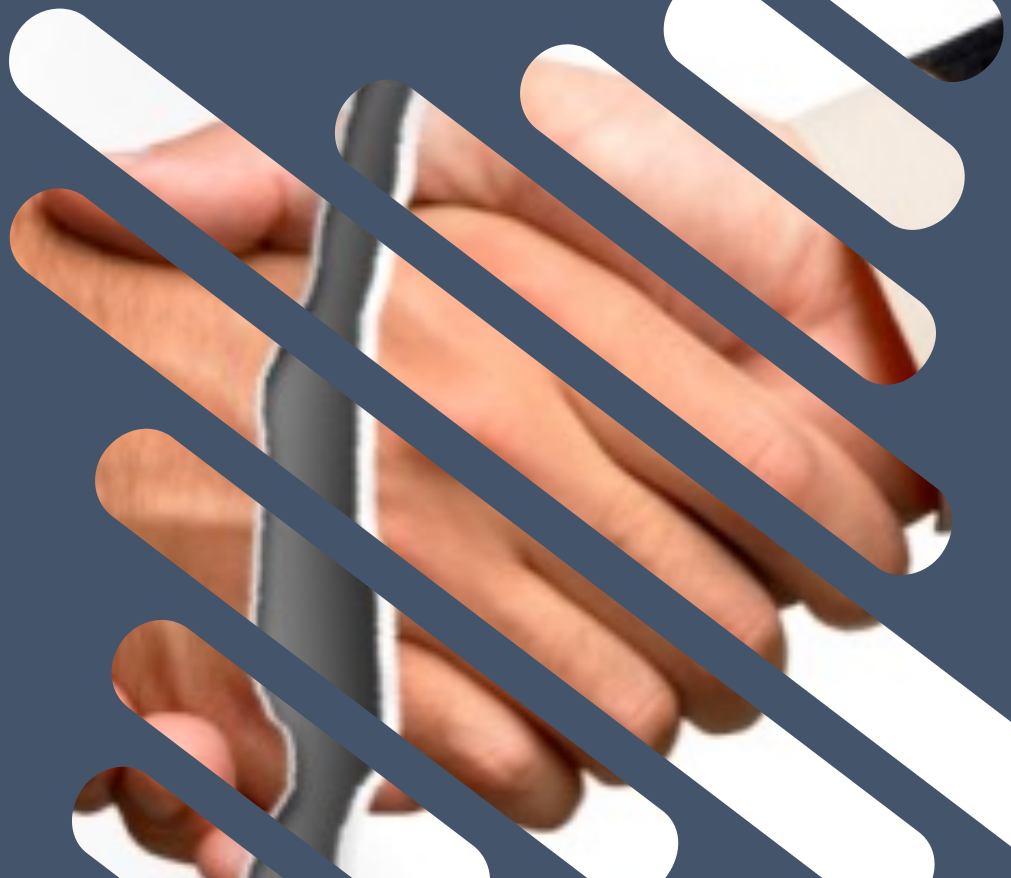
SYRIA TELECOM

Customer Retention

Brian Matsiko and George Ferre



- Business Problem
- Methodology
- Project Limitations
- Conclusion

Business Problem

- Syria Tel is a telecom company that provides service in United States
- Churn rate of ~15%
- Need to identify customer likely to leave
- Opportunity for proactive engagement and business retention

Data

Over 3,000 data points with features varying from location, cost and churn used for this project

Model Tuning

Looked through multiple model types and parameters within models

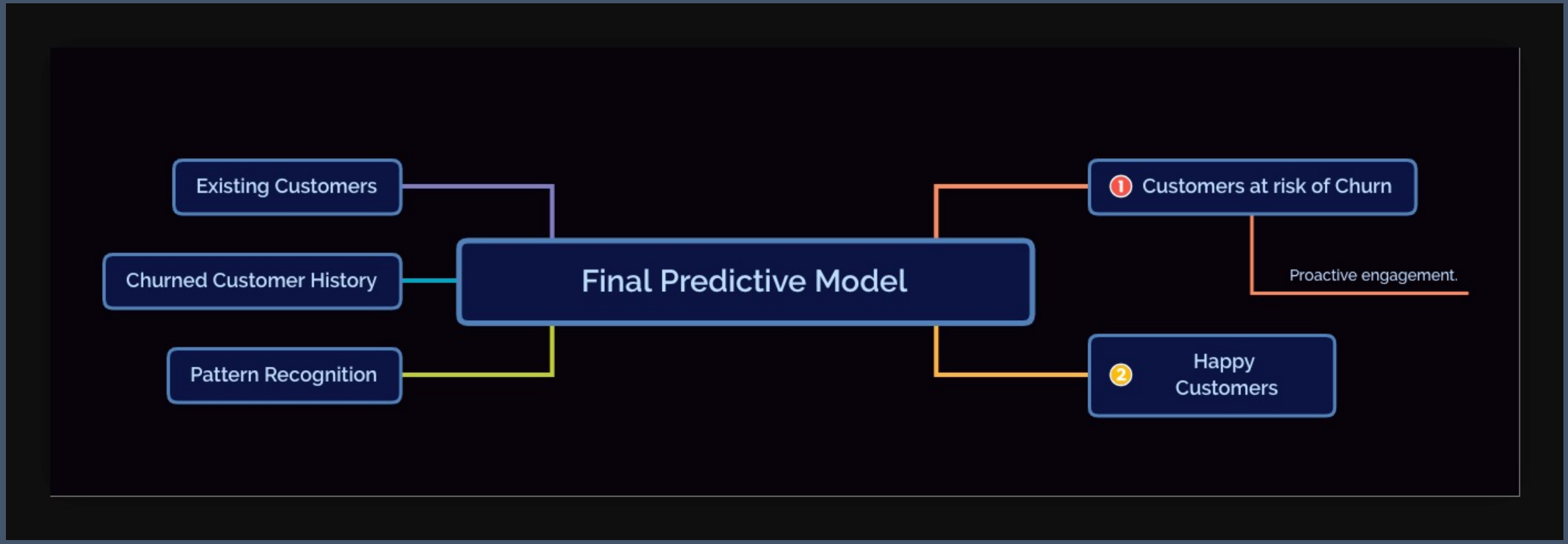
Final Model

Ensured we were identifying customers likely to leave

Important Feature Analysis

Identified what was most significant in model

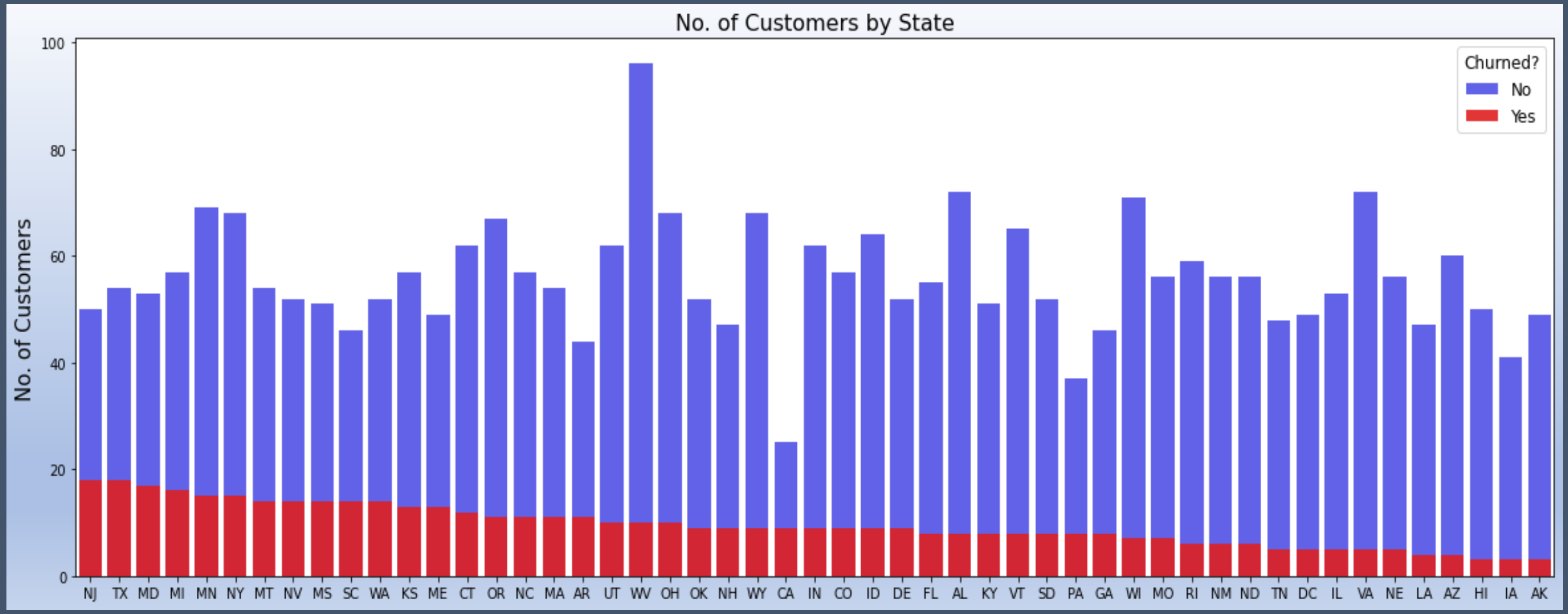
Project Goal



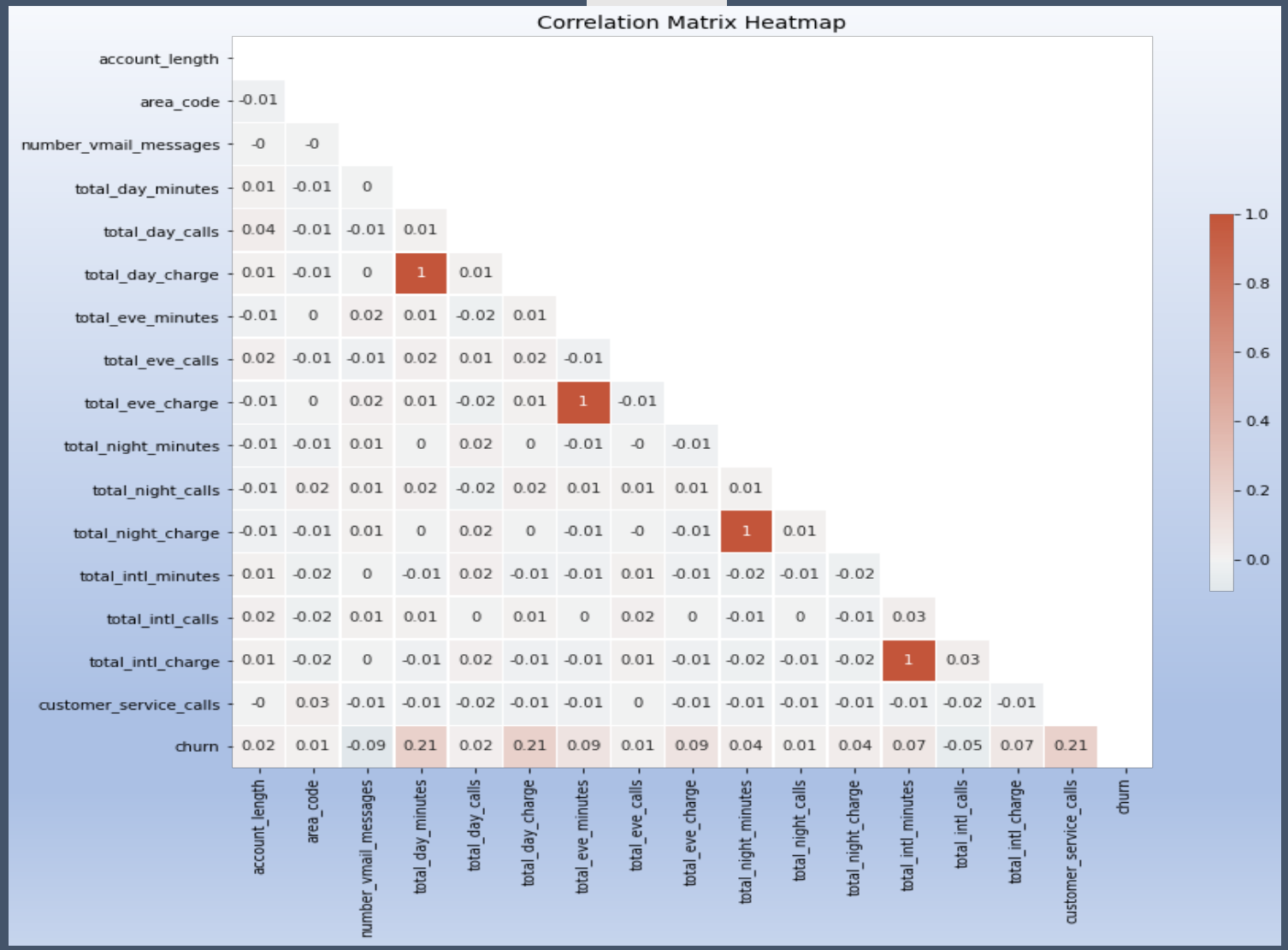
v

Data Overview

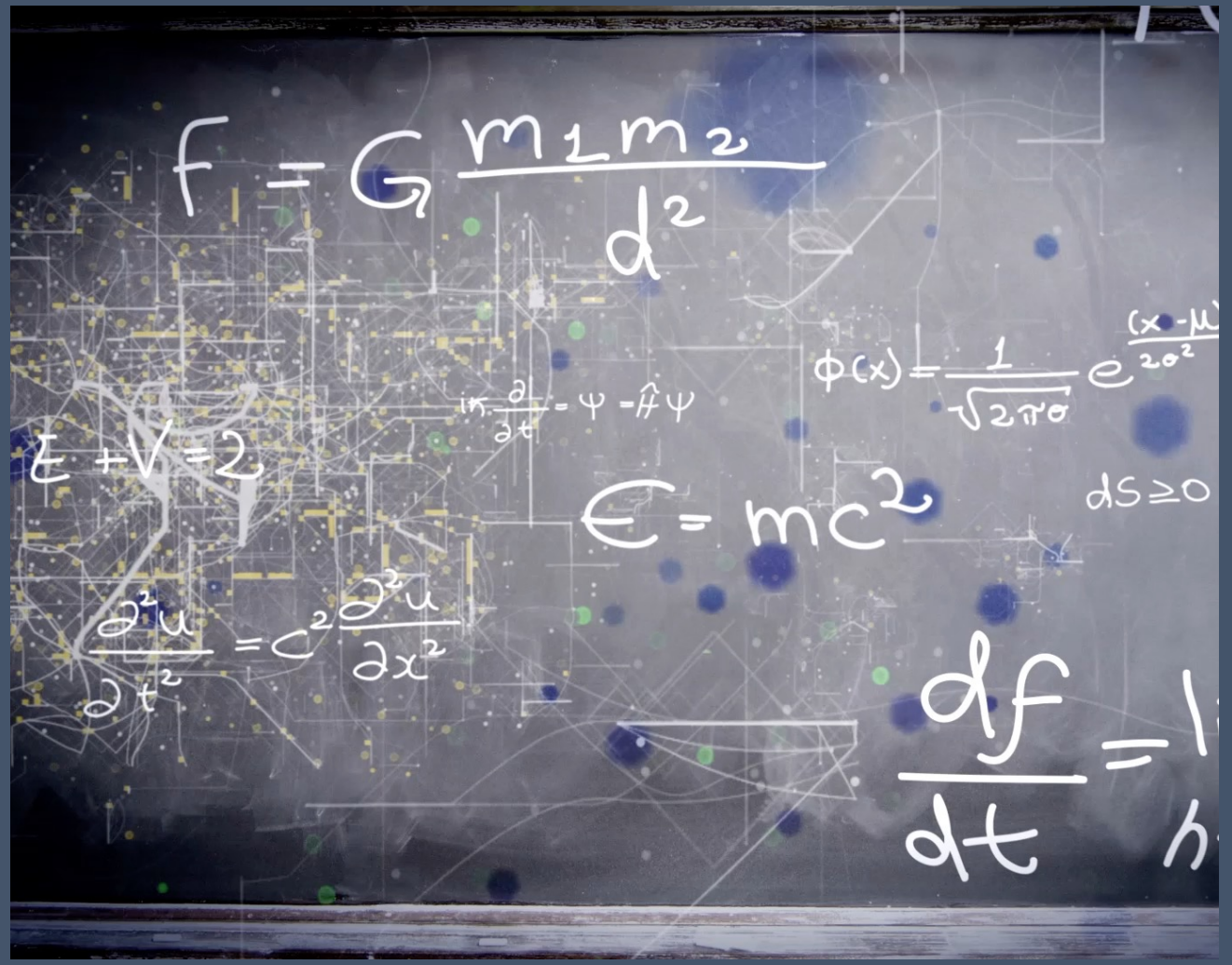
Churned Vs unchurned Custtomers by state



Data Features Correlation

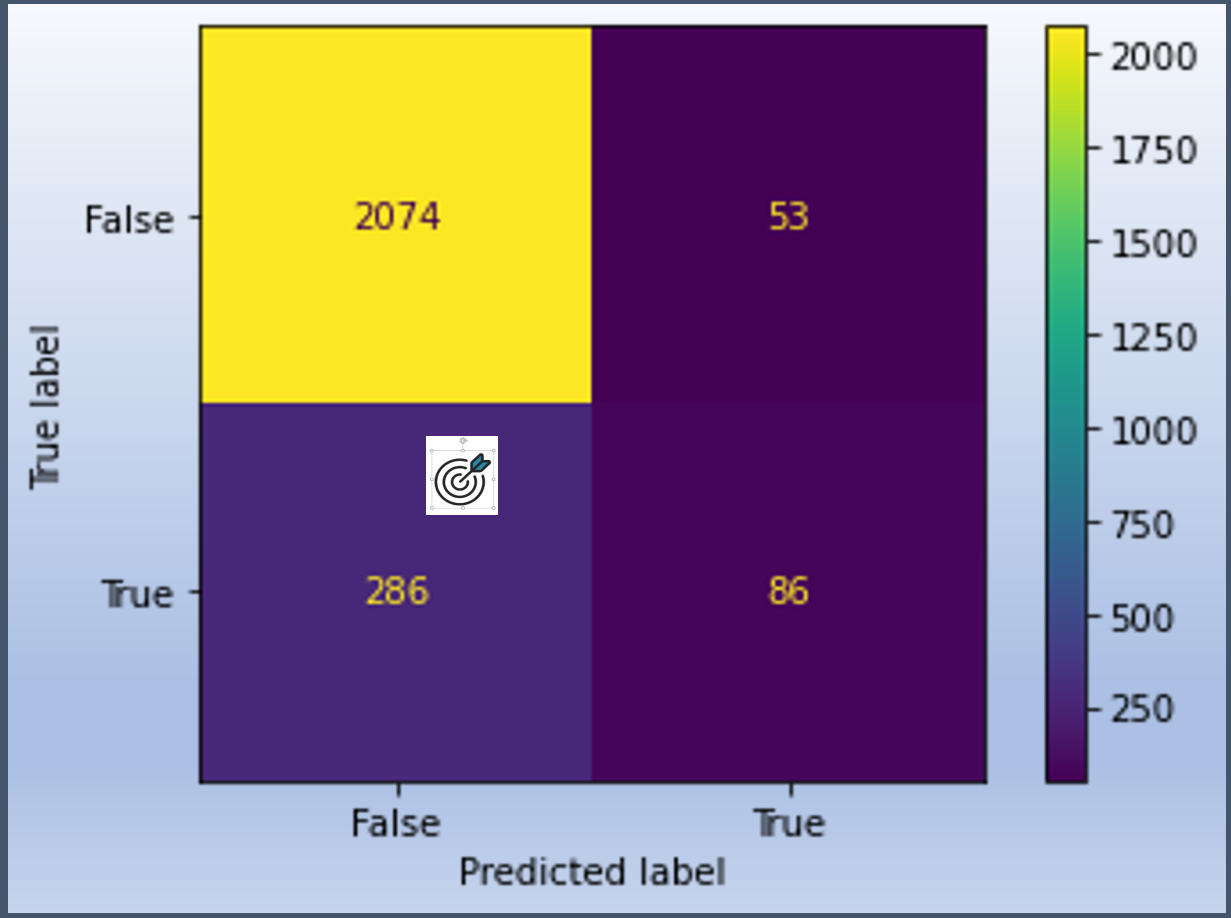


Methodology



Initial Model

- 85% Accurate
  - Mostly due to class imbalance
- 23 % Recall
  - Customers leaving not identified
- SMOTE used to address imbalance



Models Used

Cross Validation Recall Scores

Logistic Regression

KNN

Random Forrest

XGBoost

XGBoost Selected

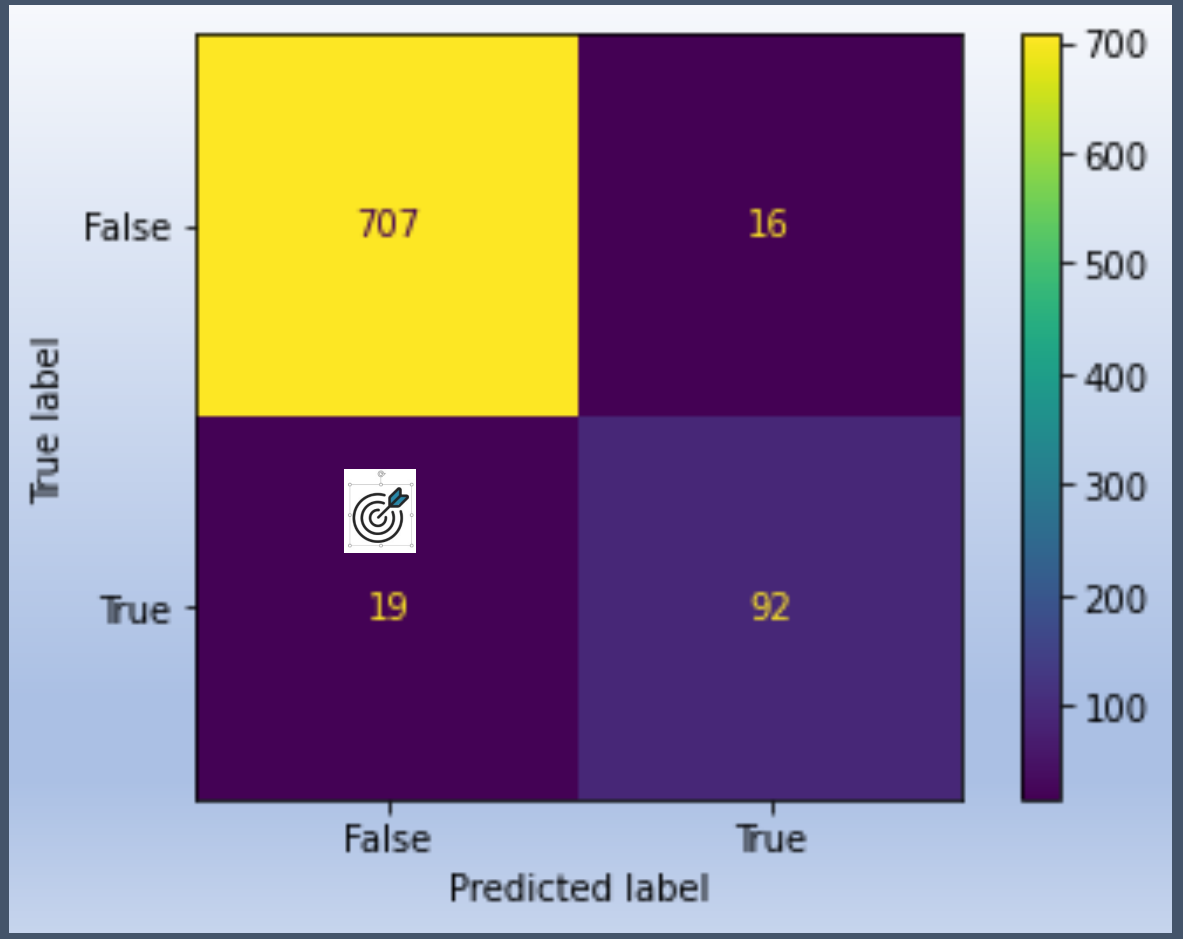
Not the highest recall, but better accuracy (95%)

Logistic Regression Accuracy: 75%

KNN Accuracy: 85%

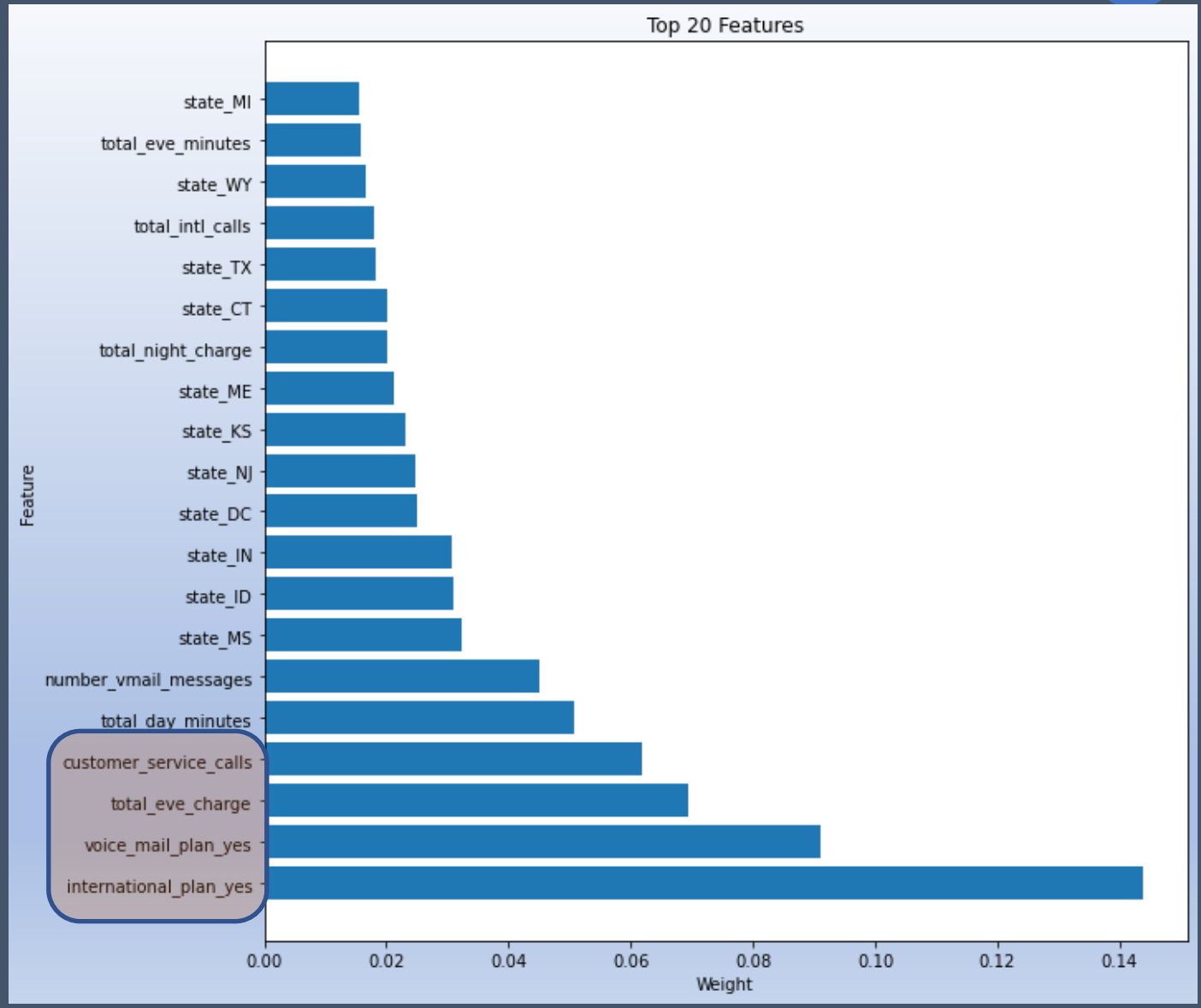
Final Model Total Recall

Test Data: 83%



Conclusions

Final Model Feature Importance



Recommendations

Customer Service Calls

Establish Customer Service Calls audit program for continuous improvement

Market Performance

Perform a market study to help understand how we can more competitive

Data plans

Evaluate effectiveness of data plans specifically for our international customers

Project Limitations

Coverage

Factors responsible for the different state churn rates not covered

Area Codes

Dataset had only three unique area codes

Call Rates

Assumed that rates were charged per time period

Customer Service Calls

Not able to perform in-depth analysis on the details here

Contact Us

George Ferre
Data Science
https://github.com/GeorgeFerre
https://www.linkedin.com/in/georgeferre/

Brian Matsiko
Data Science
https://github.com/makryan77
https://www.linkedin.com/in/brianmat/

THANK YOU

Open to Questions