# SyriaTel

Customer Analysis

Project Overview

- Leverage SyriaTel customer data to identify underlying trends / patterns in data.
- Understand breakdown of SyriaTel customer base today

- Uncover relationships between existing customer data and churn / customer retention
- Targeted list of at-risk customers to be targeted
- List of customers least-likely to churn may be prime candidates for price raises, etc.

The Data
Overview of Customer Base

Boxplots of Numeric Columns
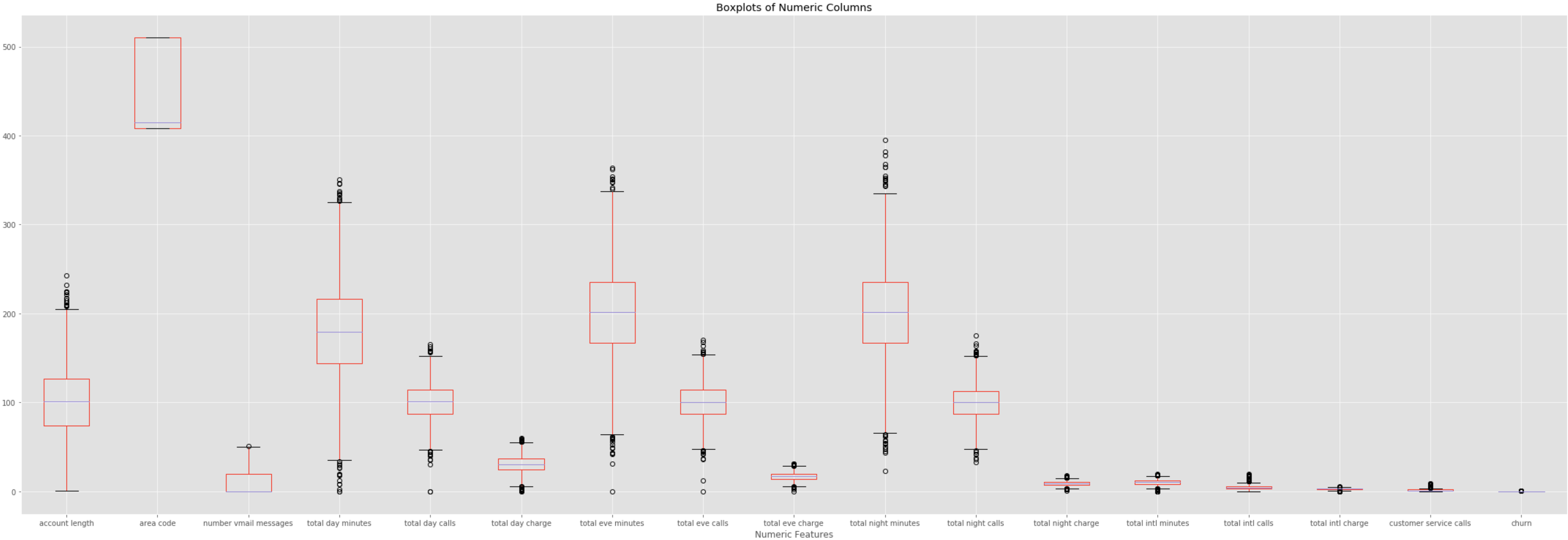
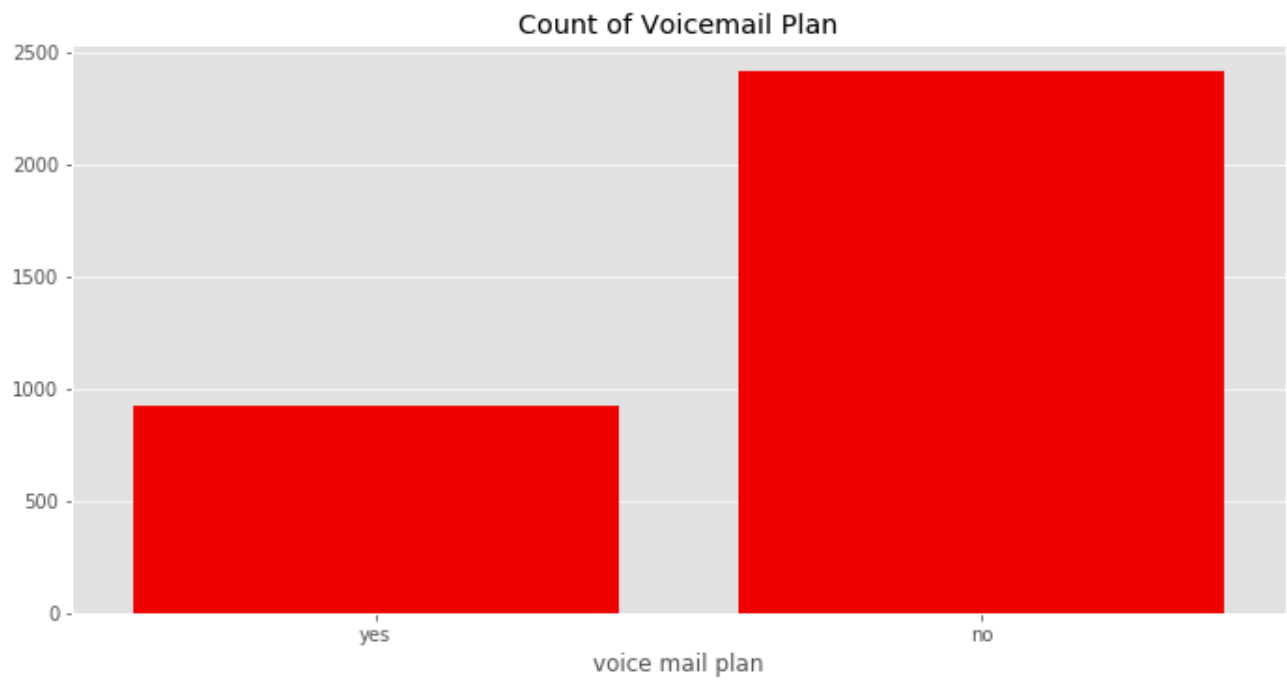| Total Customer Records: 3,333 | Median Account Length: 101 | Median Total Day Minutes: 179.4 | Median Total Evening Minutes: 201.4 | Median Total Night Minutes: 201.2 |

The Data
Overview of Customer Base (Cont'd)

Count of Voicemail Plan

Voice Mail Plan Counts:

churn	False	True
voice mail plan		
no	2008	403
yes	842	80

Voice Mail Plan %:

churn	False	True
voice mail plan		
no	0.832849	0.167151
yes	0.913232	0.086768

Count of International Plan
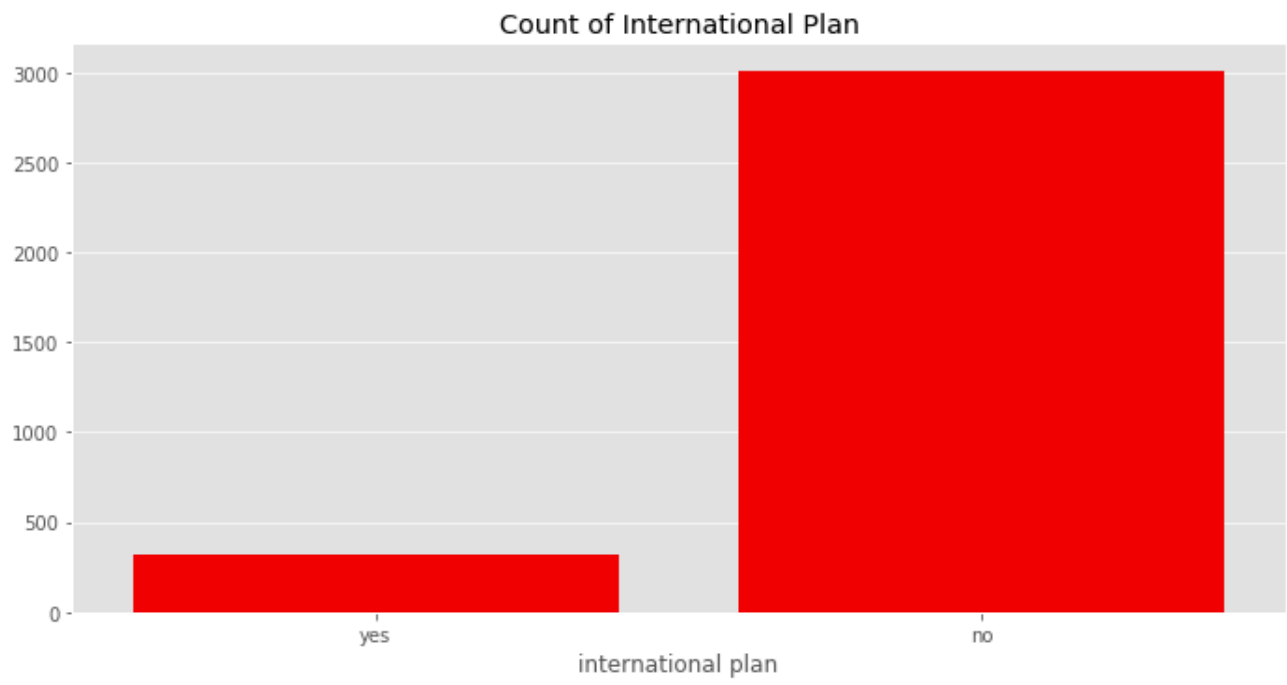
International Plan Counts:

churn	False	True
international plan		
no	2664	346
yes	186	137

International Plan %:

churn	False	True
international plan		
no	0.885050	0.114950
yes	0.575851	0.424149

State Counts

Sorted Churn Rate by State
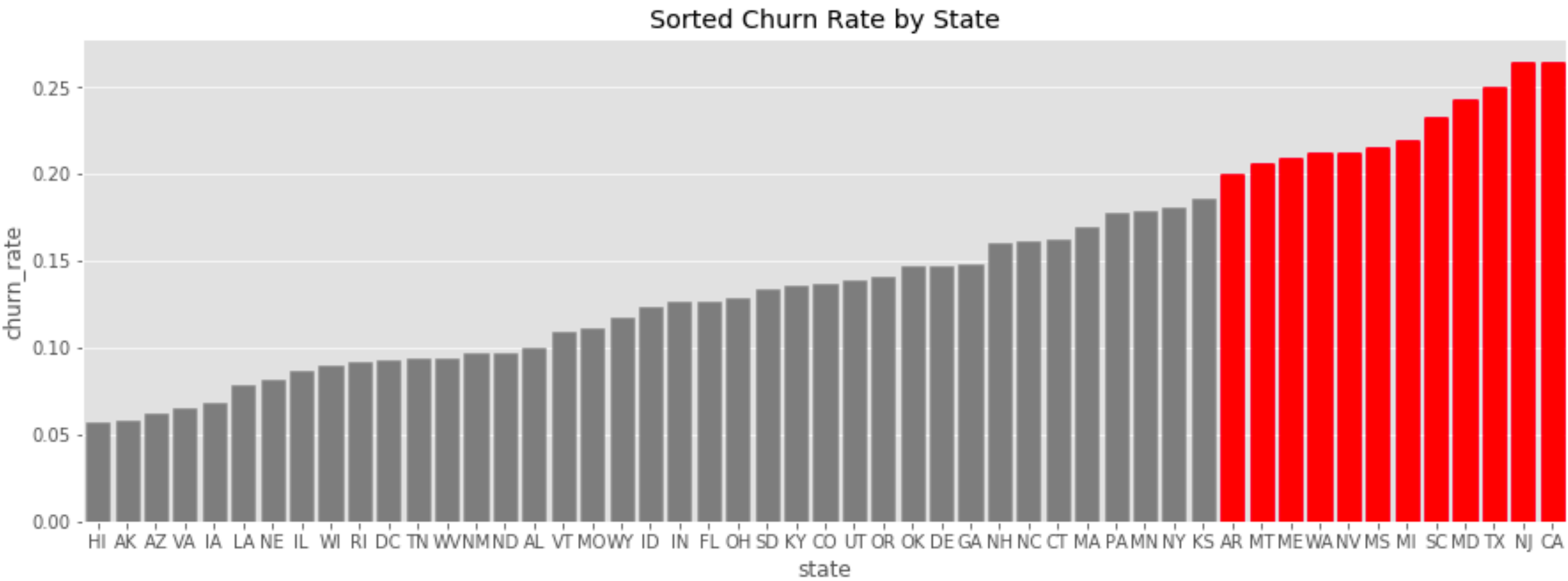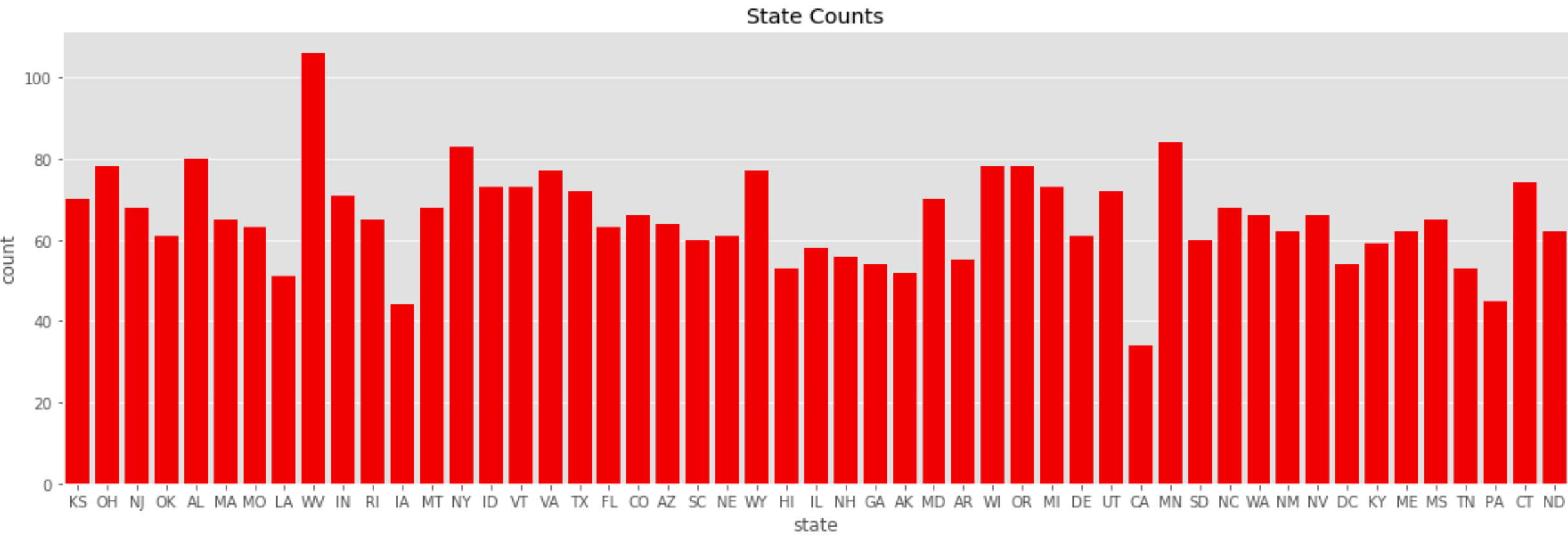
Data
Trends and Relationships
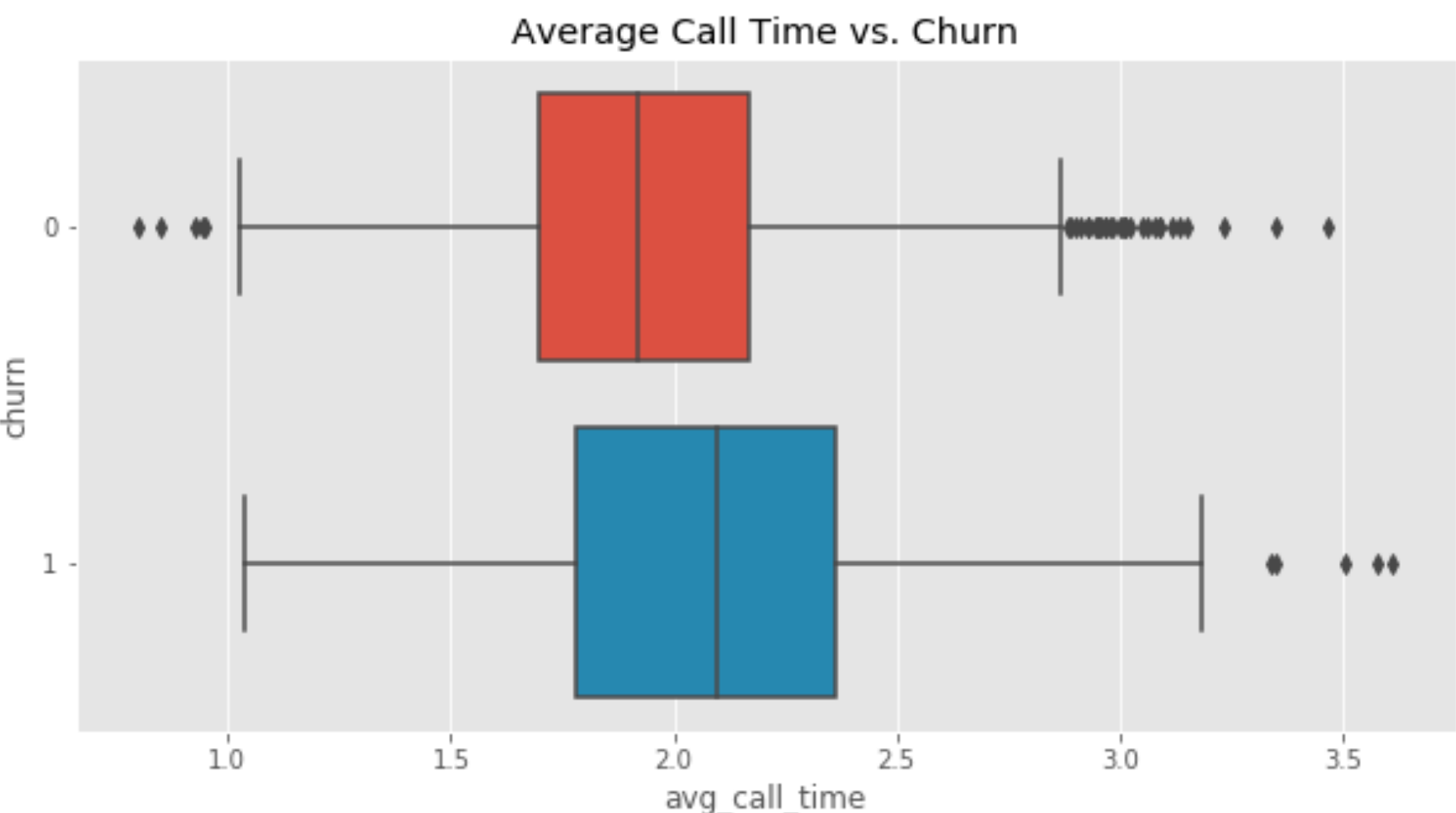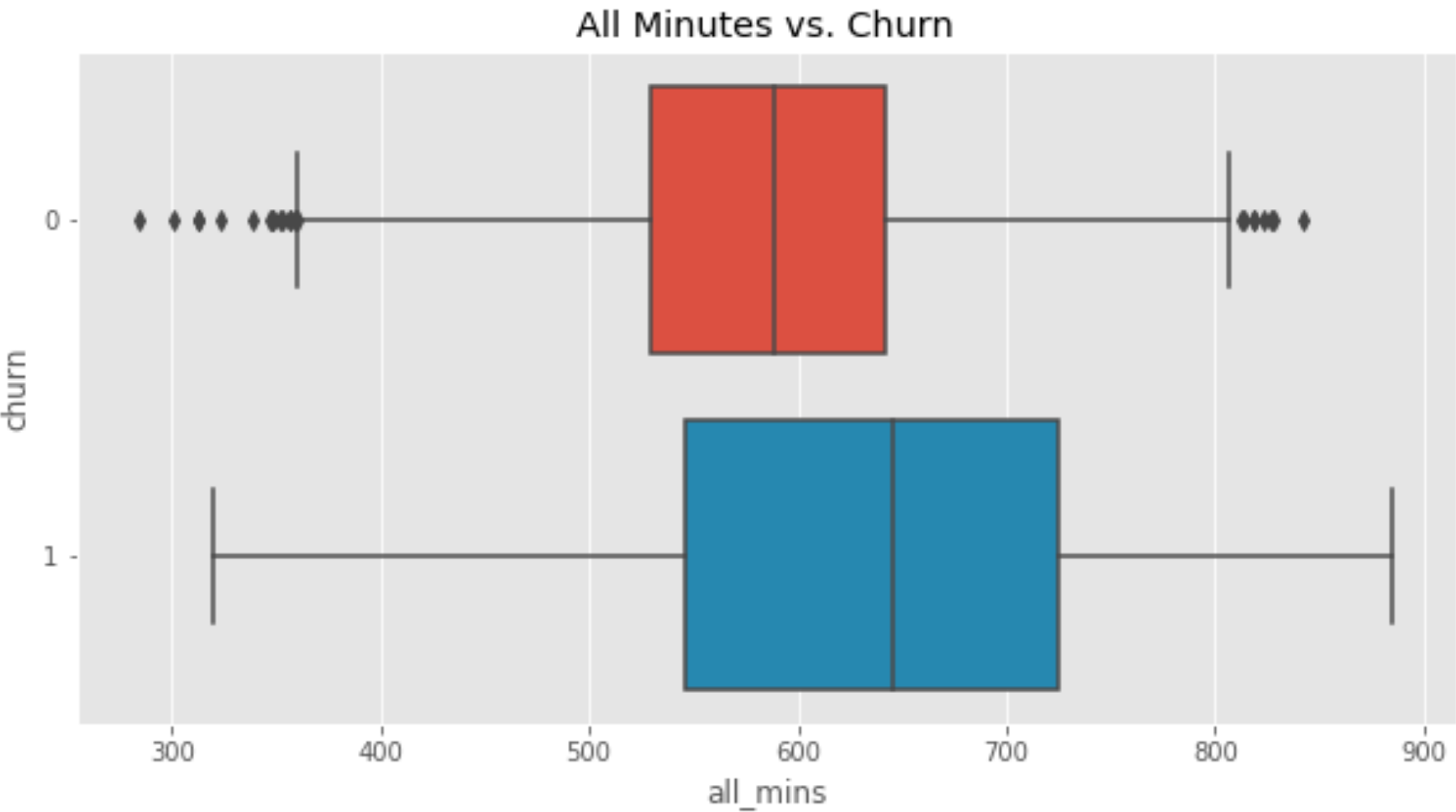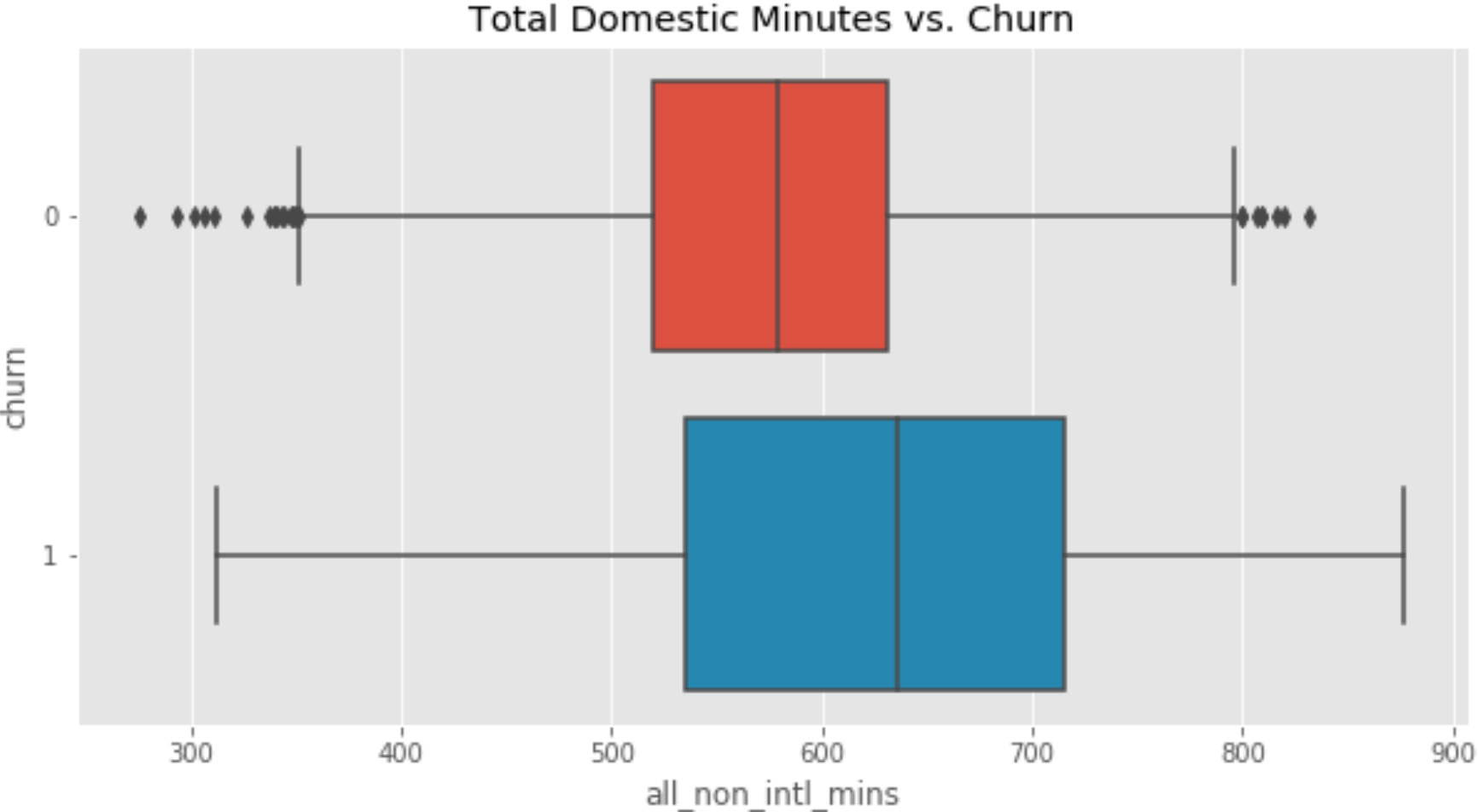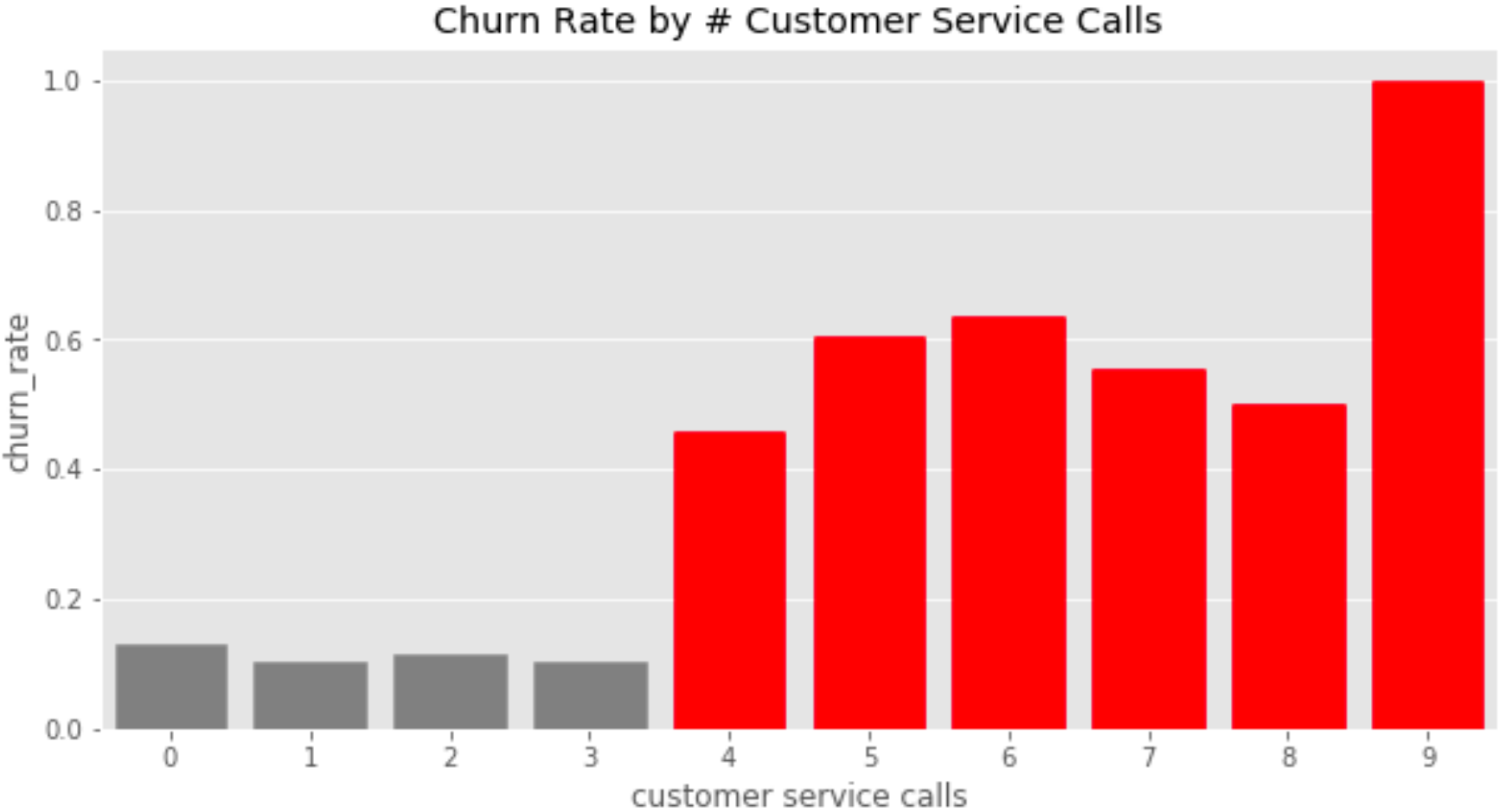
Evaluation
Final Model Performance & Feature Importance

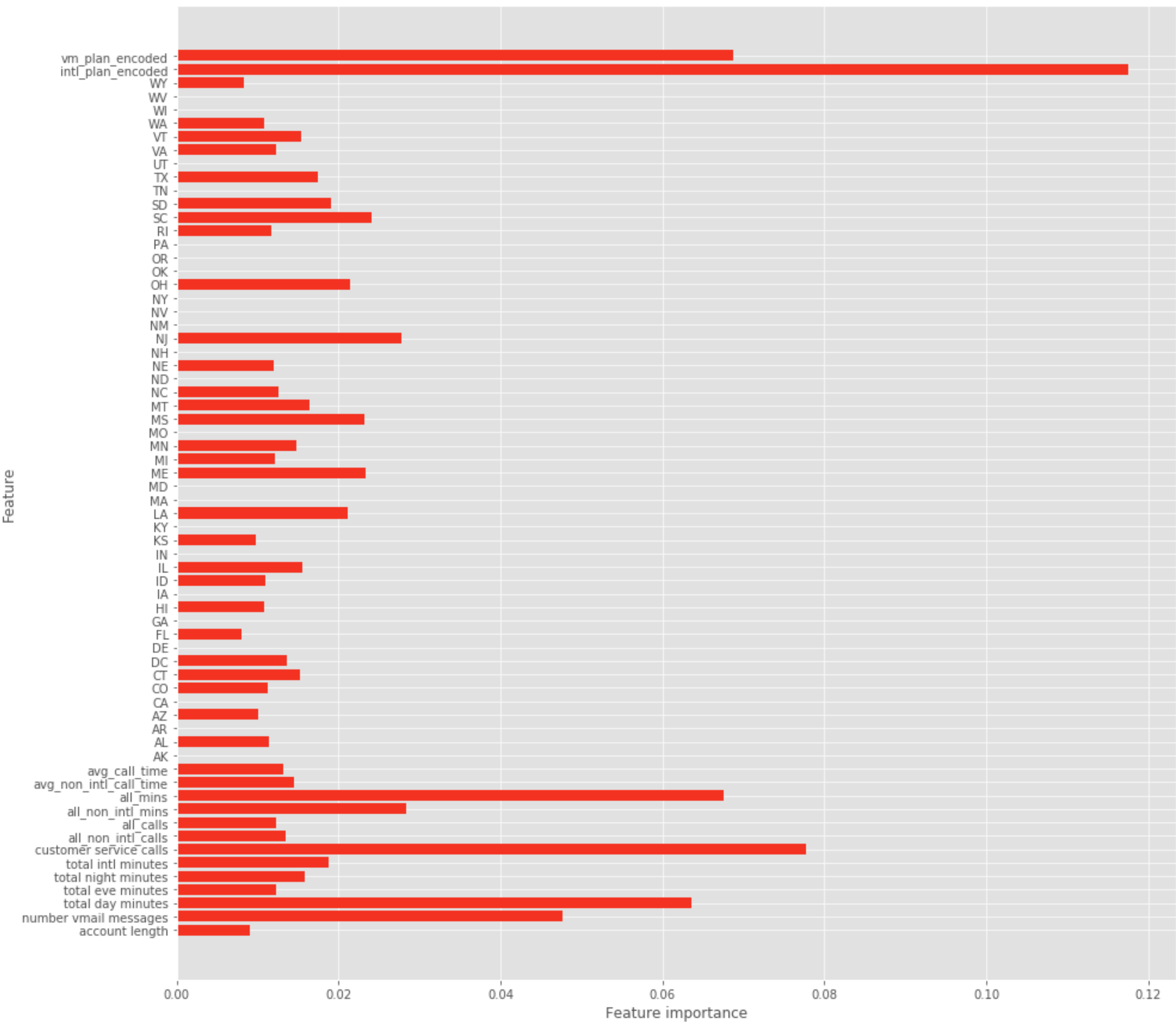|	
Recall:	**76%**
Precision:	**81%**
Accuracy:	**94%**

Recommendations

- Use generated target list for at-risk customer outreach and targeted promotions
- Consider raising prices / implementing additional programs to increase revenue and rev per user on these customers
- Closely monitor customers with more than 2 customer service calls

Additional Areas for Future Work

- Add time element to data to understand when customers will churn
- Collect additional data fields from customers to improve predictive performance (reasons for churn if available, etc.)
- Compare cellular signal strength with churn data / investigate competitive options in similar regions

Thanks!