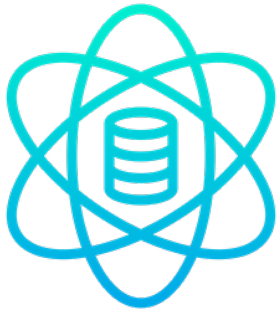
Deloitte.



AI Academy Apprenticeship Capstone Presentation

Predicting Banking Customer Churn

Seerat K. Mutneja

MAKING AN IMPACT THAT MATTERS since 1845

Contents

Introduction: Business Problem

Root Problem

- Financial institutions and businesses such as banks that provide banking services have to worry about the problem of ‘Churn’ i.e., customers leaving and joining an alternate service provider. The cost of acquiring new customers often costs more than retaining existing ones.

Business Impact

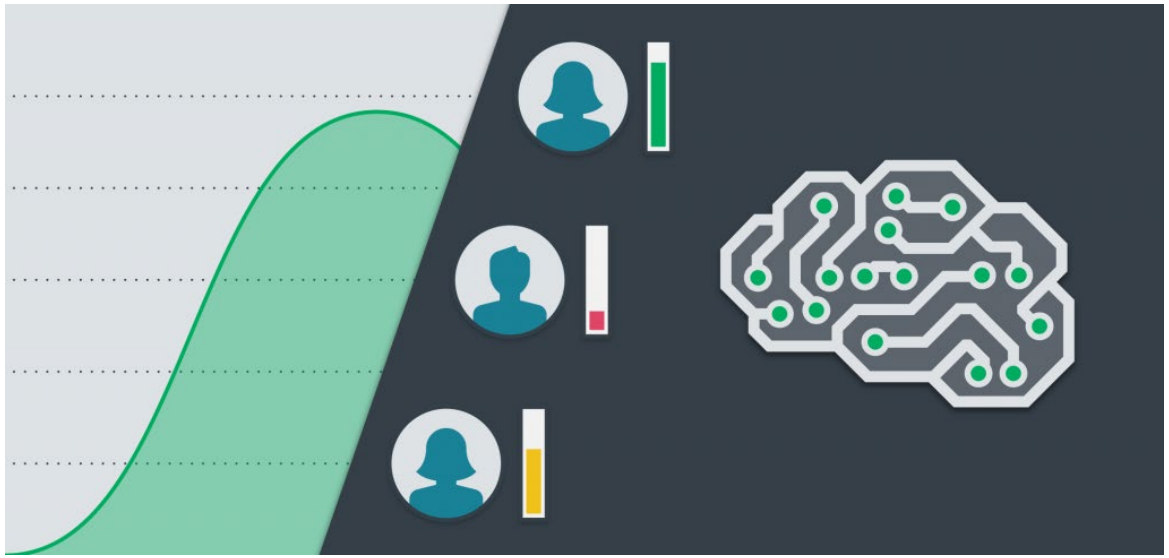
- A company with a high churn rate loses many customers, resulting in lower growth rates and a greater impact on sales and profits. Companies with low churn rates can retain customers and reduce their customer acquisition costs.

Churn Rate:

The rate at which customers stop purchasing products or services measured across a specific time period

Proposed Solution

Churn Predictive Modeling



Churn analysis in order to reduce churn and increase profits

The Data

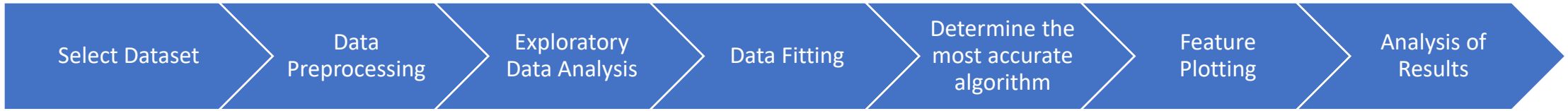
The Data

'Bank Customer Churn Prediction.csv'

Stakeholder: ABC Multistate Bank

The Approach

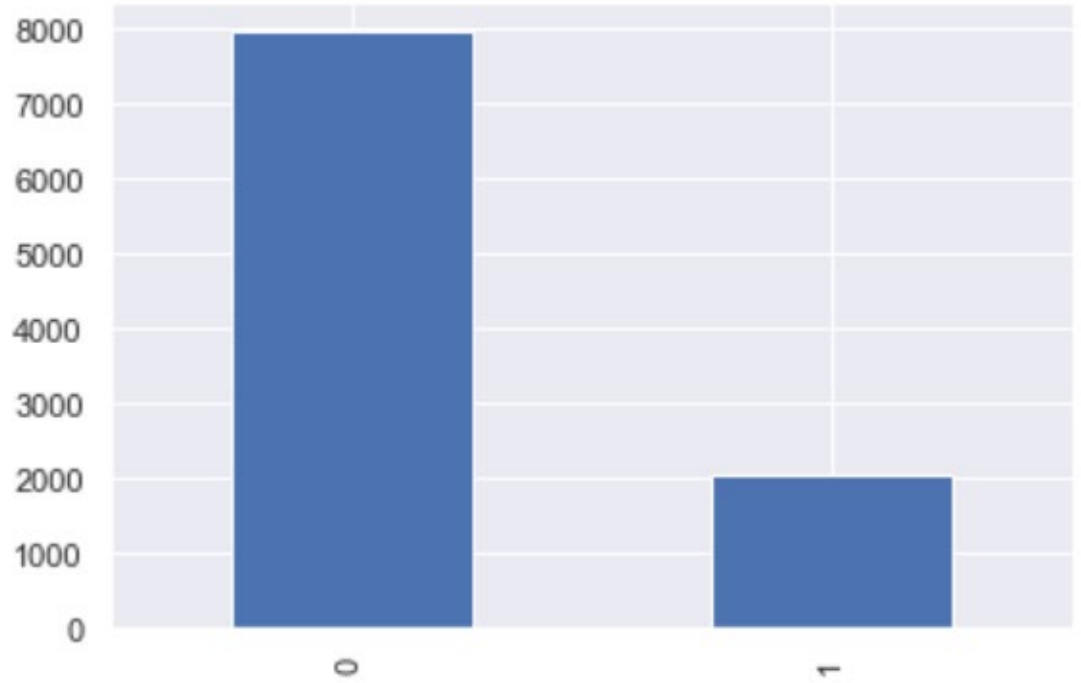
The Approach

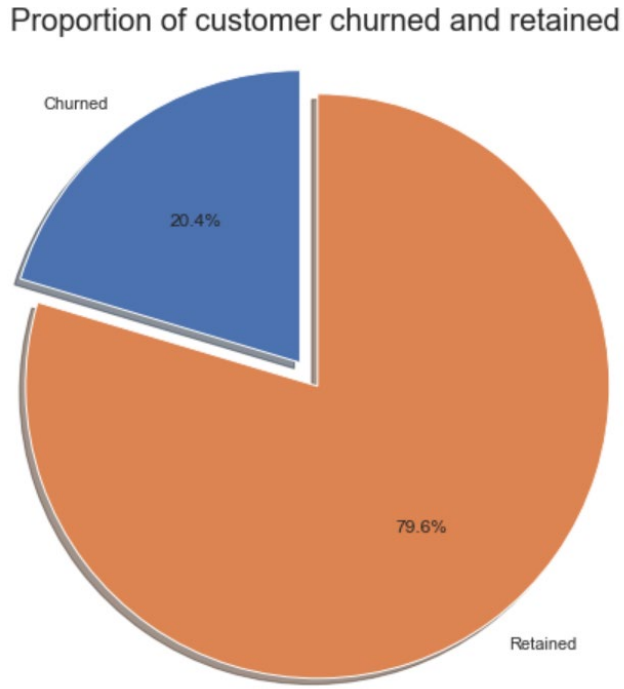


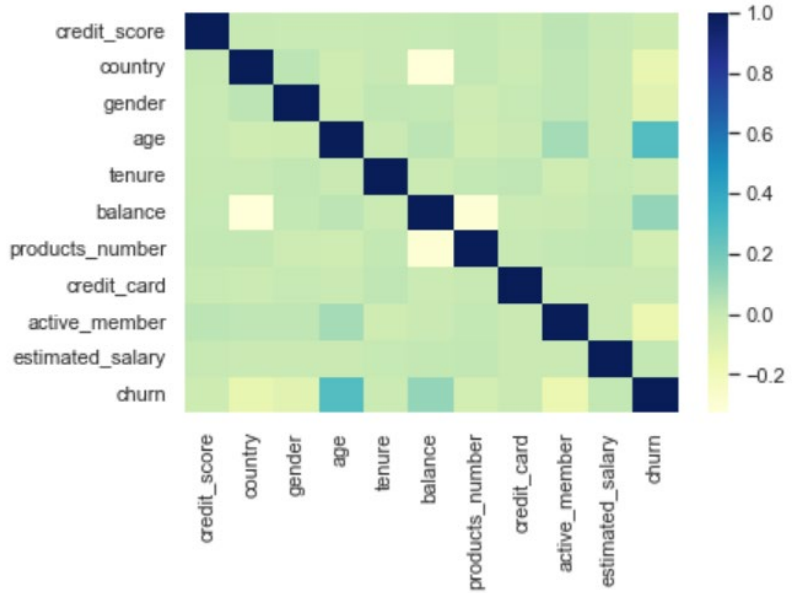
Graphical Modeling

Graphical Models

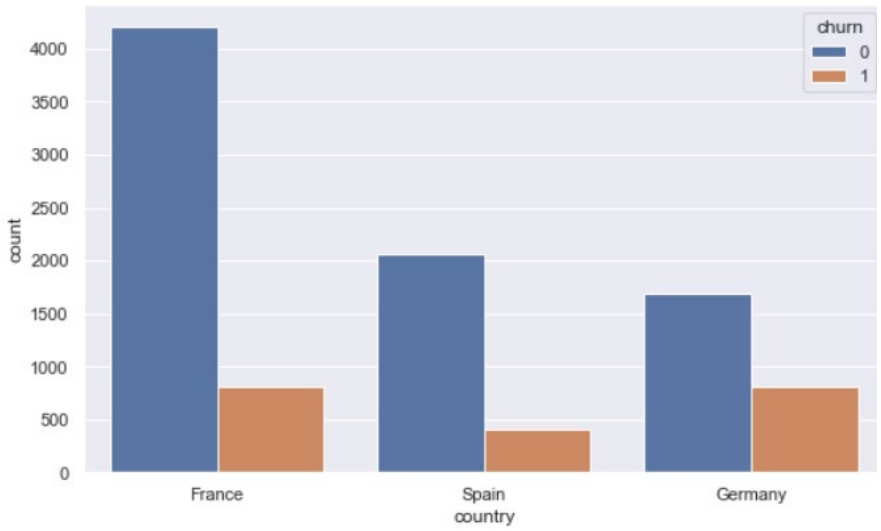
```
0    7963
1    2037
Name: churn, dtype: int64
```

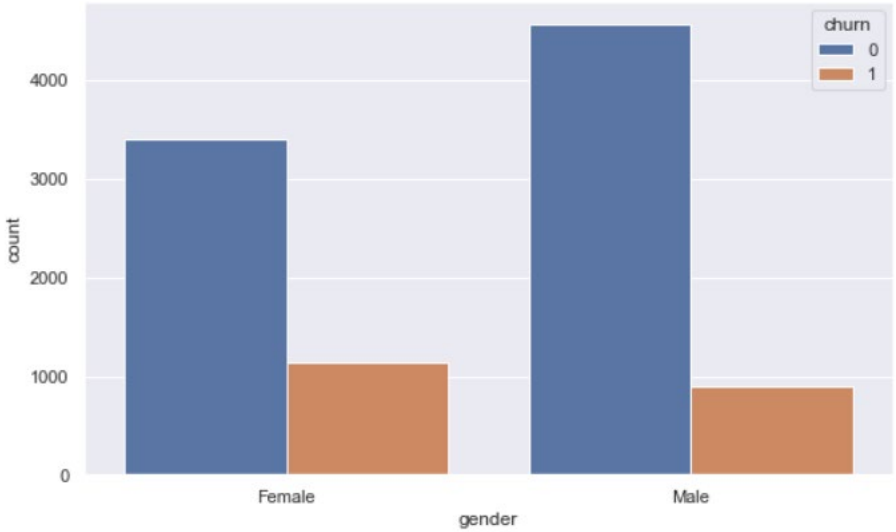


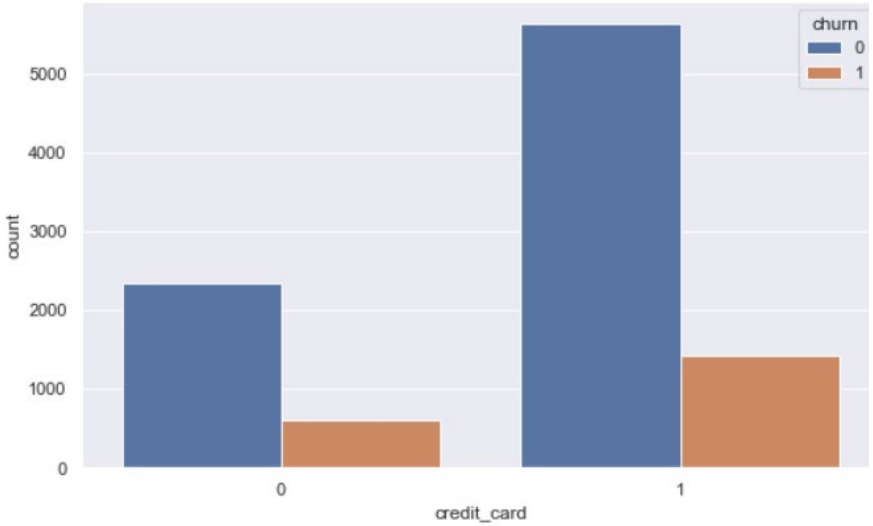


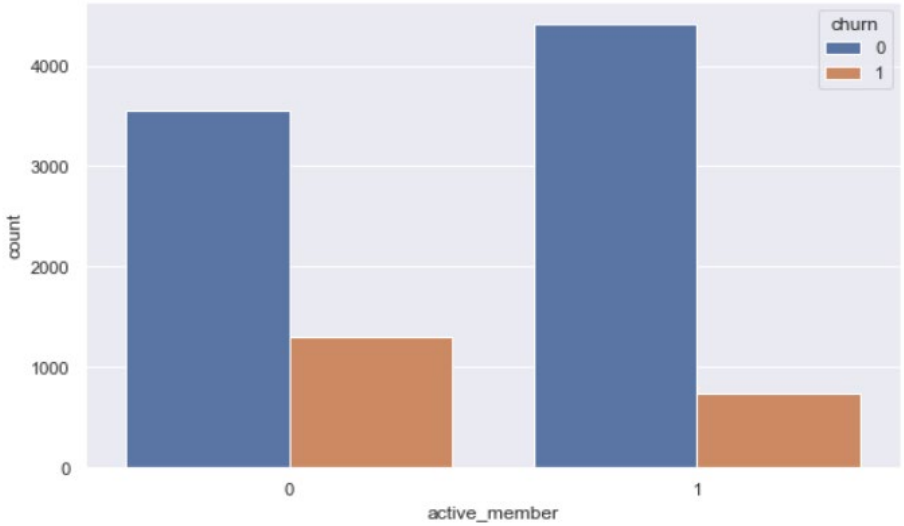


Graphical Models Cont.









Machine Learning Modeling

Machine Learning Models

Decision Trees

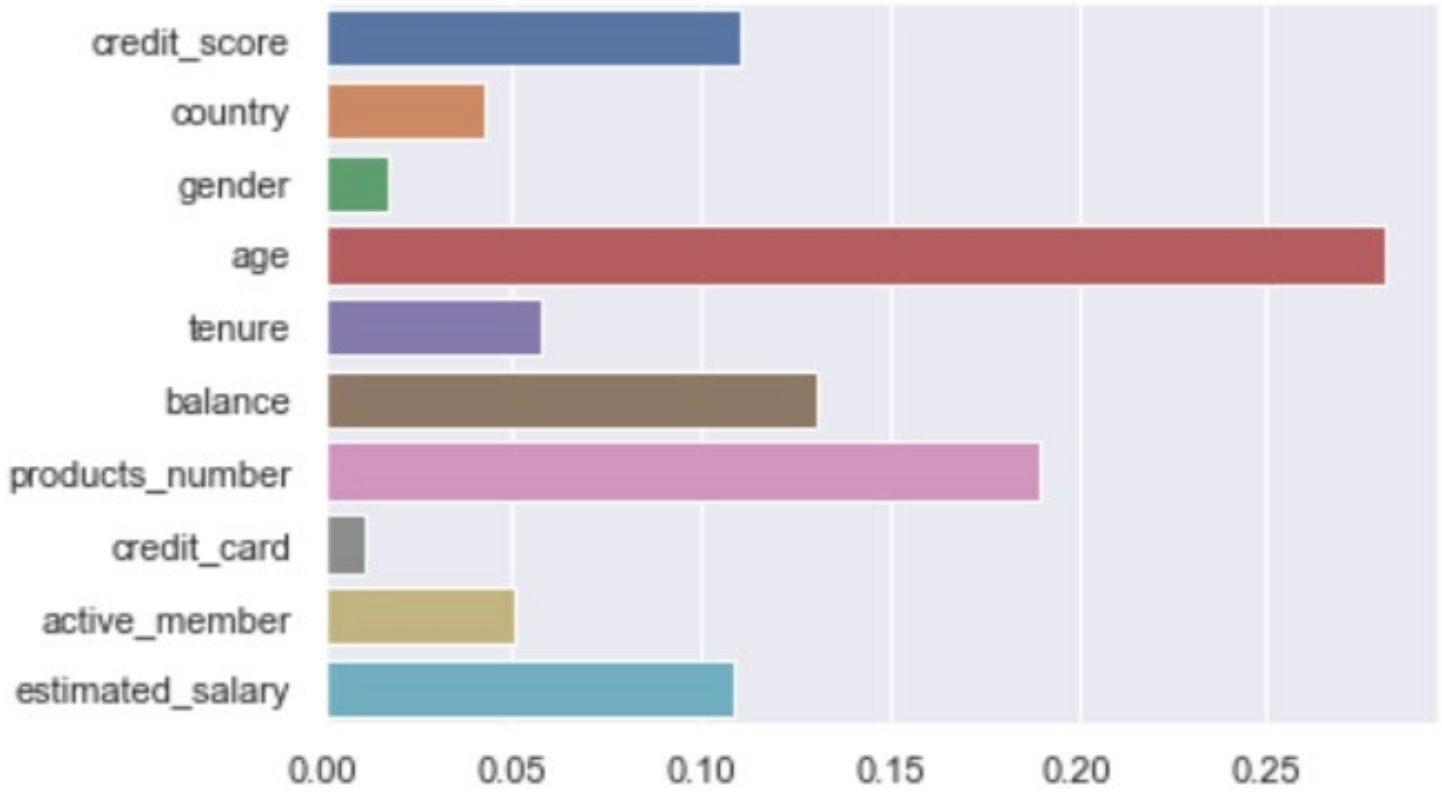
- **Accuracy Score: 78.5 %**

Random Forest

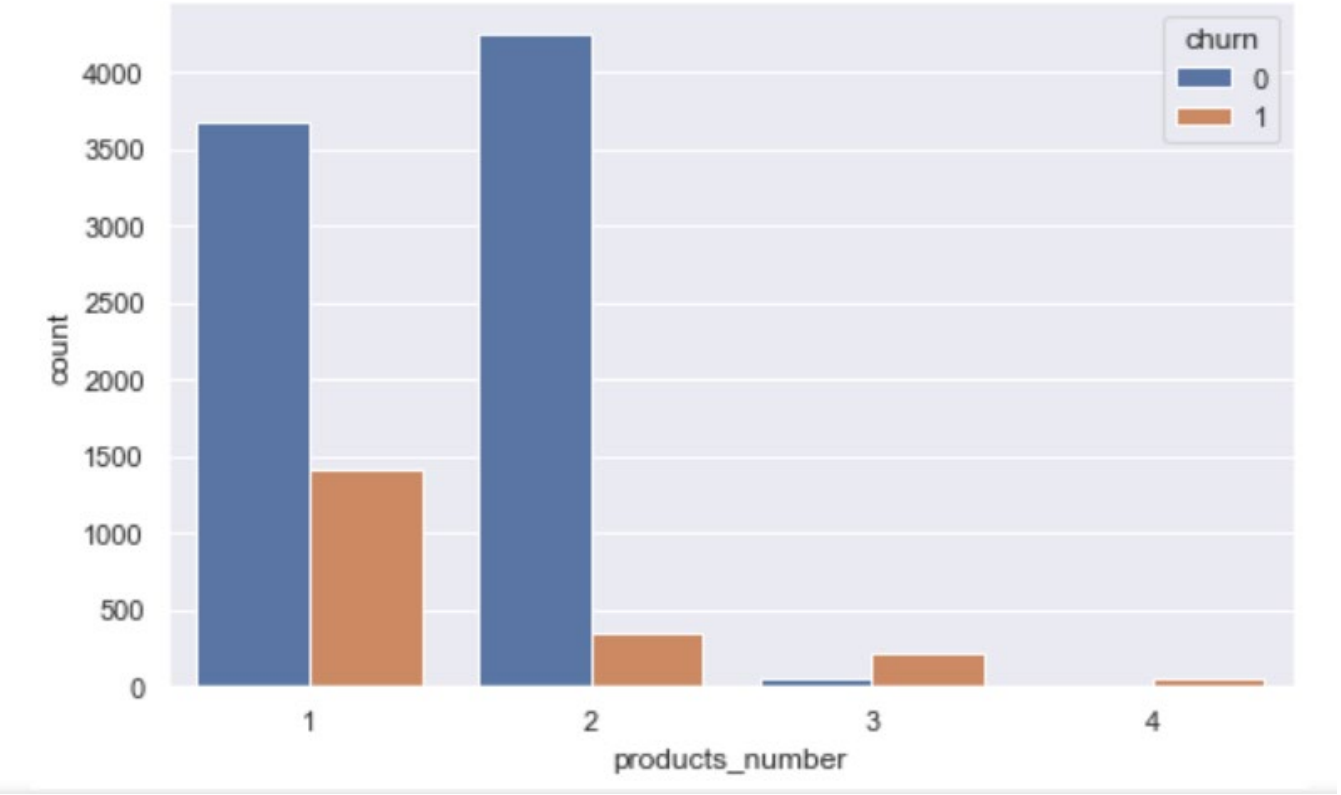
- **Accuracy: 86.3%**

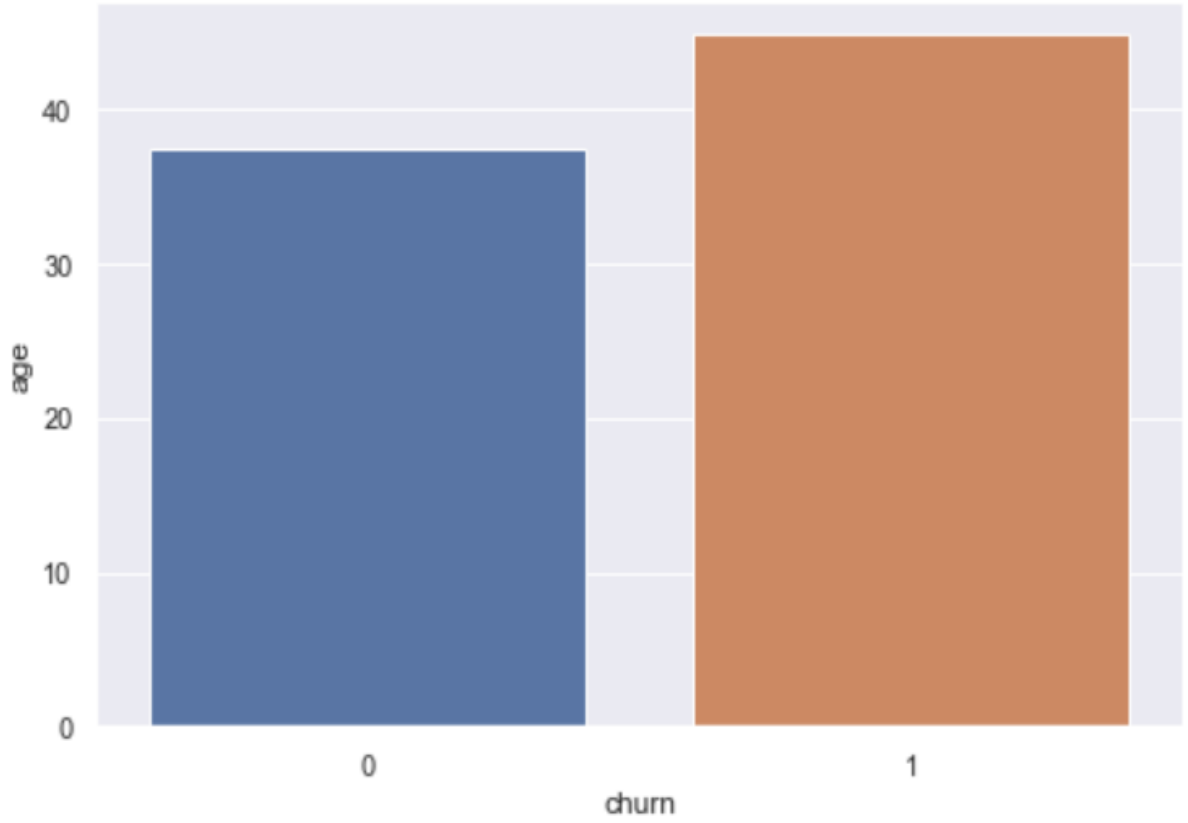
Conclusion

Feature Importance



Feature Evaluation





Questions?