Telcom Churn Prediction

Presented by Todd Strain

The Flatiron School

agenda

Introduction

Business Understanding

Data Understanding

Modeling

Evaluation

The Next Steps

Q&A

overview

A top phone service provider has asked us to predict which of it's customers will leave the company's service.

We used the company's data to train machine learning models for predictions.

We can predict with 74% accuracy which customers will drop service.

Business Understanding

Customer Churn is Expensive
Winning new customers is expensive. It's much cheaper to keep existing customers.

Identifying Churn
If the company knew which customers might leave the business they could make efforts to retain that customer.

Data Science

The company has asked us to use data science to predict which customers will churn. Priority should be given to identifying all churners.

Data Understanding

Data Provided By Company

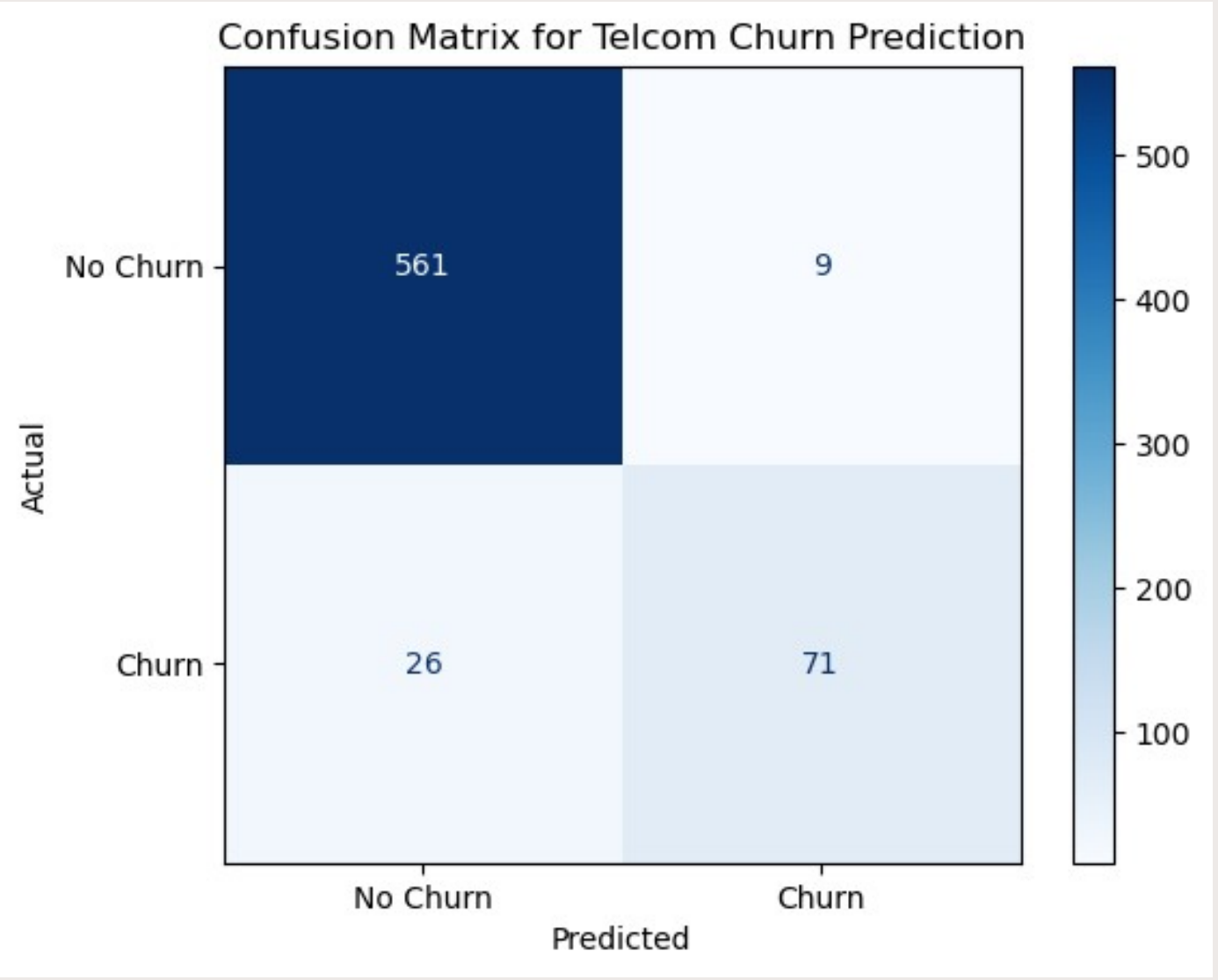
The dataset contains information about customers of the company, including their call history, other account information, and whether they have churned.

The data set has 3333 records with 21 attributes. Our feature engineering will add 2 additional attributes.

Machine Learning Models

Model	Prediction of Churners	Score
Decision Tree	62 of 97	63%
XGBoost	70 of 97	72%
MLPClassifier	16 of 97	17%
Tuned XGBoost	72 of 97	74%

Evaluation



Tuned XGBoost Model on Churners
The Tunes XGBost model provd to be the most effective with a correct prediction rate of 74%

Model on non Churners
The prediction rate for non churners was 561 out of 570 for 94%

Next Steps

Get more data
All but one attribute was related to call data. More information could be helpful.

Create more features
We only created two features. More features possibly from more data can help.

Q & A

Pleas ask us questions.