Lyber - Westeros

Churn Prediction Case Study

The problem:

We are losing too many customers to Ser Davos's Ferry service. By our calculations, 62% of our users will end up churning (have not used our service for > 30 days).

We need to develop a model to identify users at risk for churning so we can target them with promotions to entice them into staying.

The Data

- Ratings given by user
- Ratings given to user
- User location
- User platform
- Average ride distance
- Surge usage
- Trips taken in first 30 days
- Signup Date

Our Model

AdaBoost Classifier

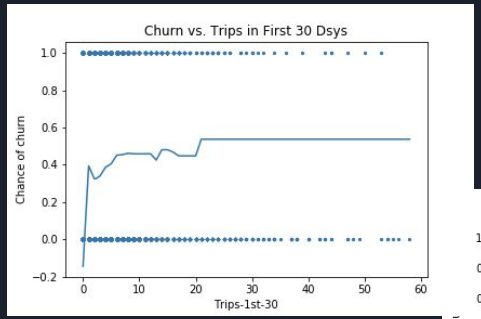
(Learning Rate - 0.1, Max_features - 3, n_estimators - 200, max_depth- 6)

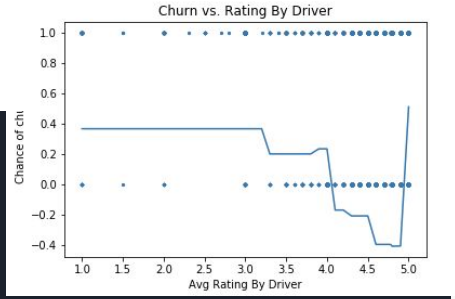
We were able to accurately predict churn outcomes for 78% of users in our test dataset.

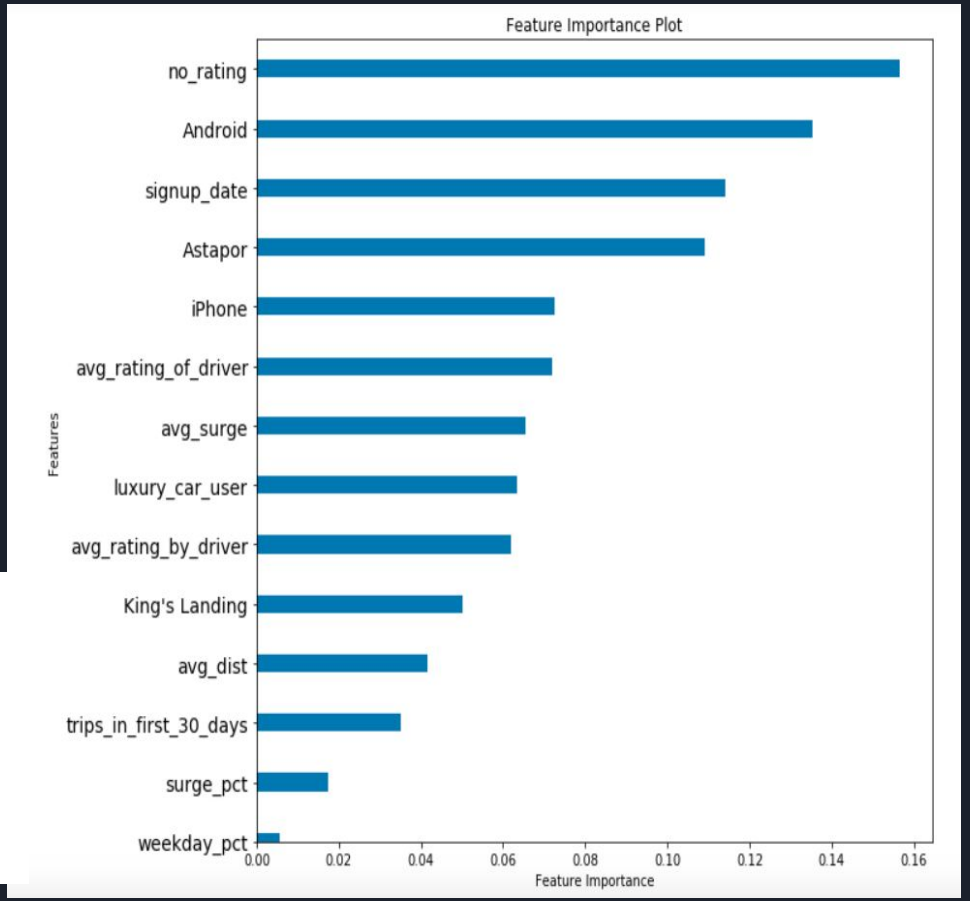
Important Features for Predicting Churn

Best indicators of churn:

- Users not giving a driver rating
- Android users
- Signup Date
- Users in Astapor
- Average rating given to drivers



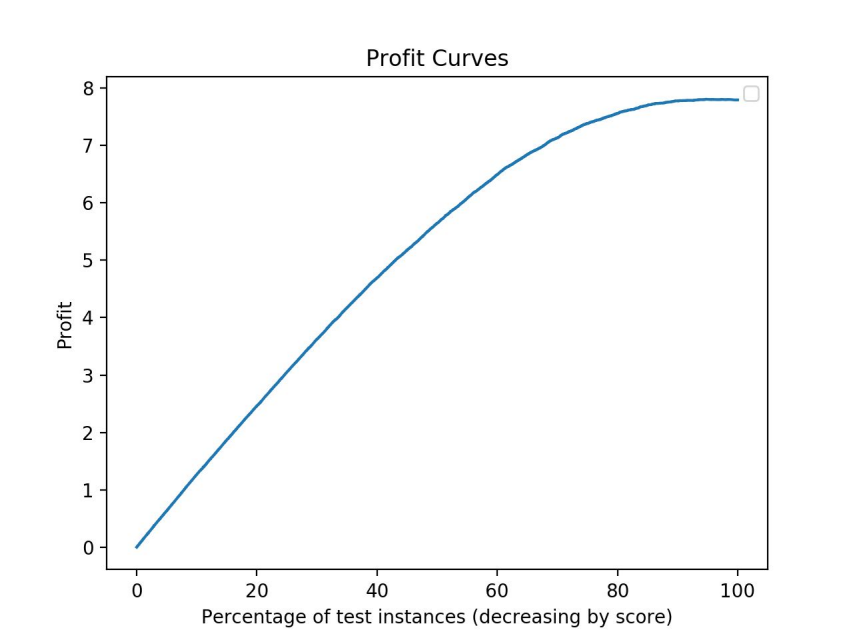




Confusion Matrix and Profit Curve

Confusion Matrix	Churning Customer	Loyal Customer
Take Action	5339	1318
Do Nothing	889	2454

Cost Benefit Matrix:	Churning Customer	Loyal Customer
Take Action	13	-1
Do Nothing	0	0



Future Steps

- Feature refinement
- Larger grid search
- Further model optimization
- Attempting more modeling techniques
- Get better data to work with

THANK YOU!