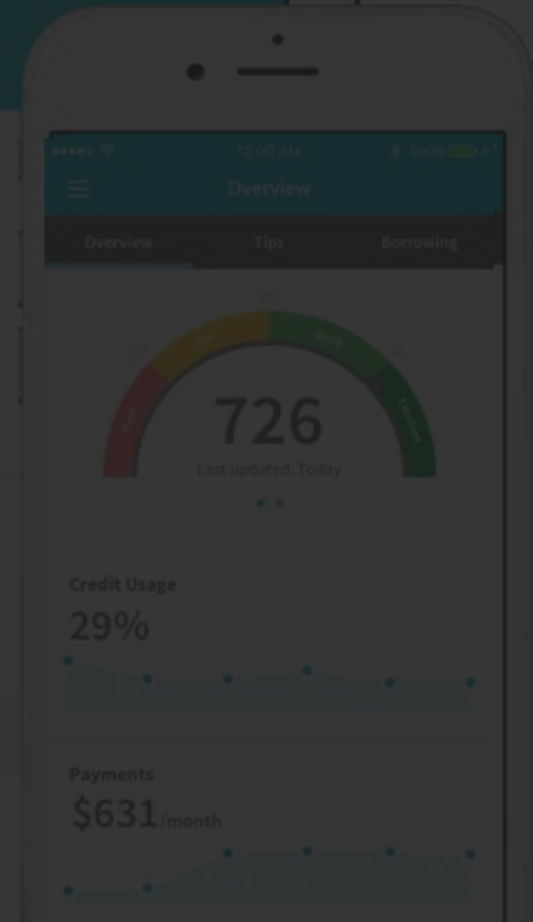


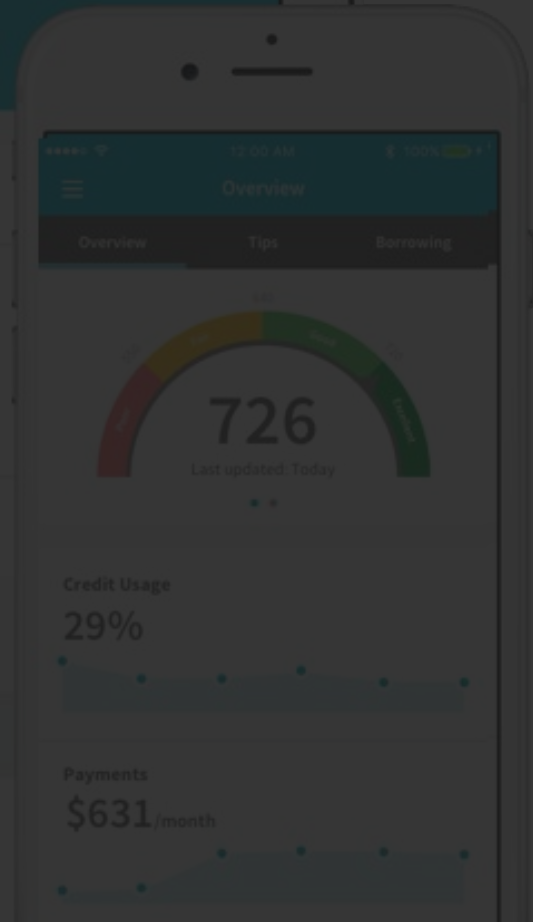
Identifying Valuable Credit Sesame Customers



What does it mean for a user to be valuable?

Credit Sesame offers free services, so they generate revenue from **targeted advertising**.

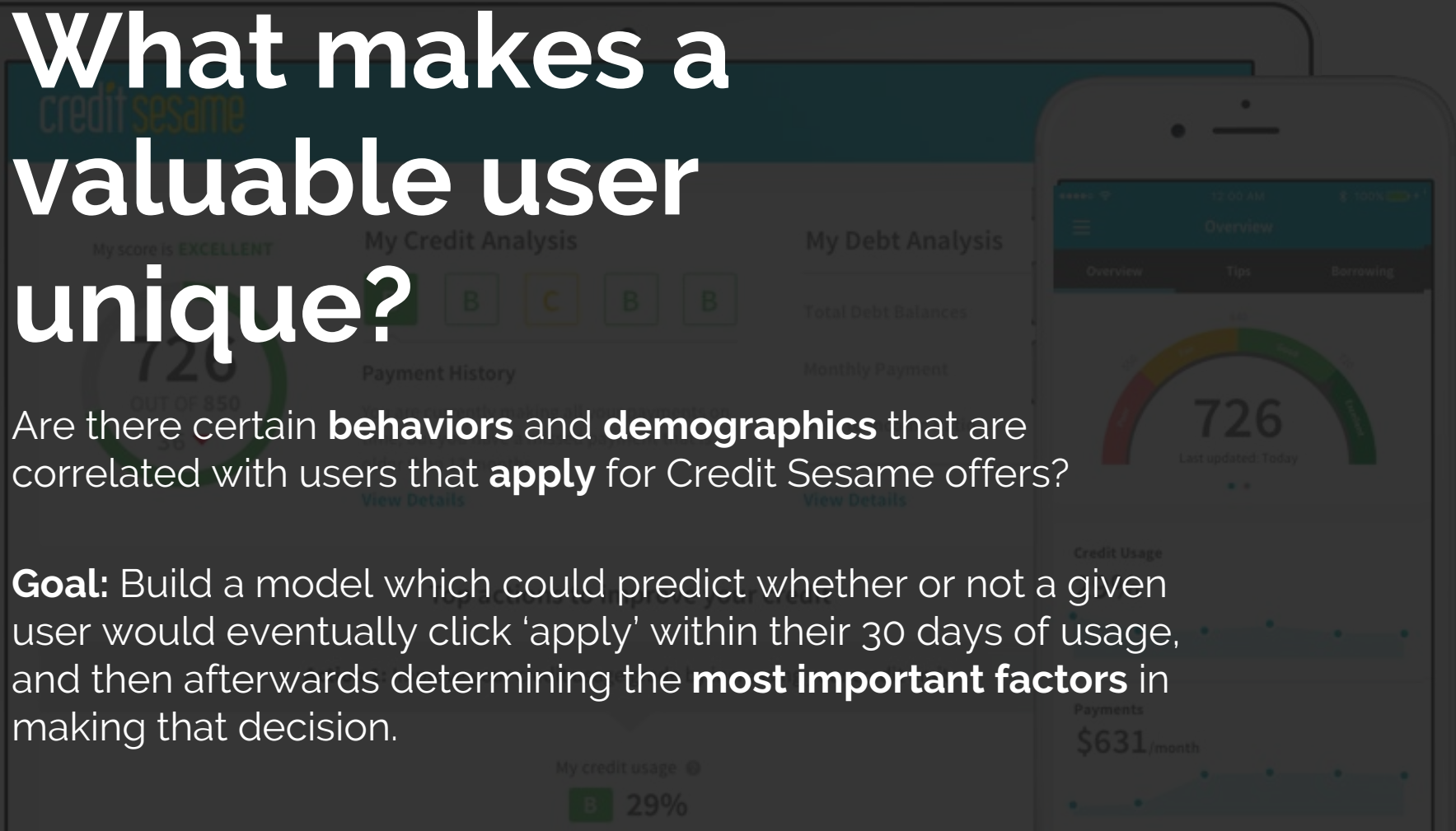
When users click “apply” on a Credit Sesame page for one of these targeted offers, Credit Sesame profits.



What makes a valuable user unique?

Are there certain **behaviors** and **demographics** that are correlated with users that **apply** for Credit Sesame offers?

Goal: Build a model which could predict whether or not a given user would eventually click 'apply' within their 30 days of usage, and then afterwards determining the **most important factors** in making that decision.



Methods

Random Forest Classifier

- Accurate predictions while controlling for overfitting
- Return a measure of the relative importances of the features that we gave as inputs.
- Relatively easy interpretability, which lends itself to extracting and analyzing feature importance



Implementation

Random Forest Classifier

- *sklearn* library of Python
- split the data to hold out 20% for testing
- with the remaining 80% of non-testing data, we trained our model using 3-fold cross-validation with a 150-tree hyperparameter, then used the model to predict data on our testing set, and compare the predicted test values to the true test values.



Findings

The five most important features for determining classification are

1. Total Session Length
2. Average Session Length
3. Total Tradelines Open Balance
4. Total Page Views
5. Total Click Count

Our model retained

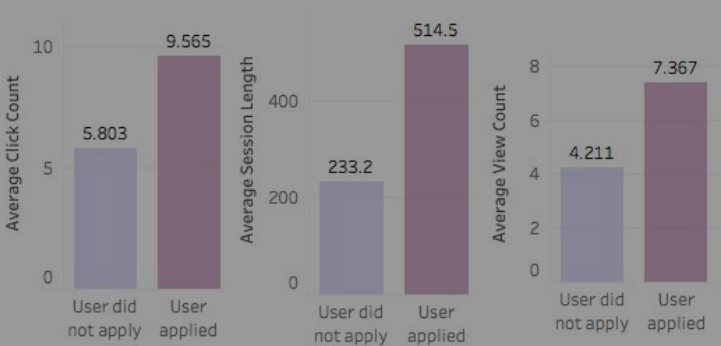
71%

test accuracy in determining whether a given user would turn into a valuable customer.

Predicting Prospective Credit Sesame Users

Credit Sesame is a free personal finance tool that allows users to access financial information and assists in services such as credit score monitoring, home loans, and identity theft protection. When users visit the Credit Sesame website or use the mobile application, they are able to apply for certain services.

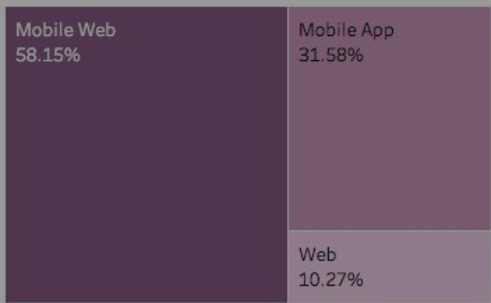
What characteristics define users that apply for services on Credit Sesame?



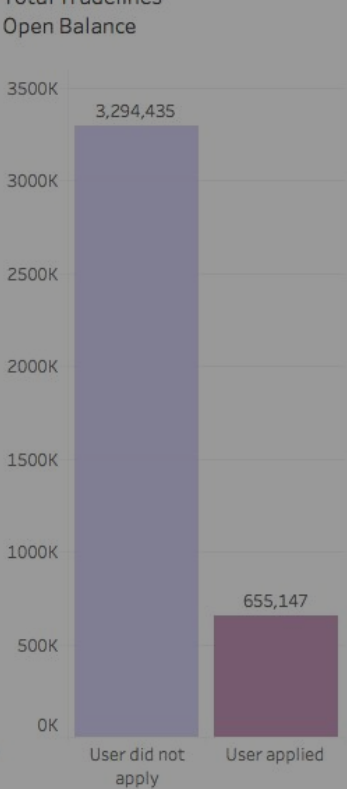
On average, users who apply for a service on Credit Sesame tend to have higher click counts, view more pages, and spend more time on the CreditSesame application than users who do not apply for a service.



Platform Choice of Users who Did Not Apply for a Service



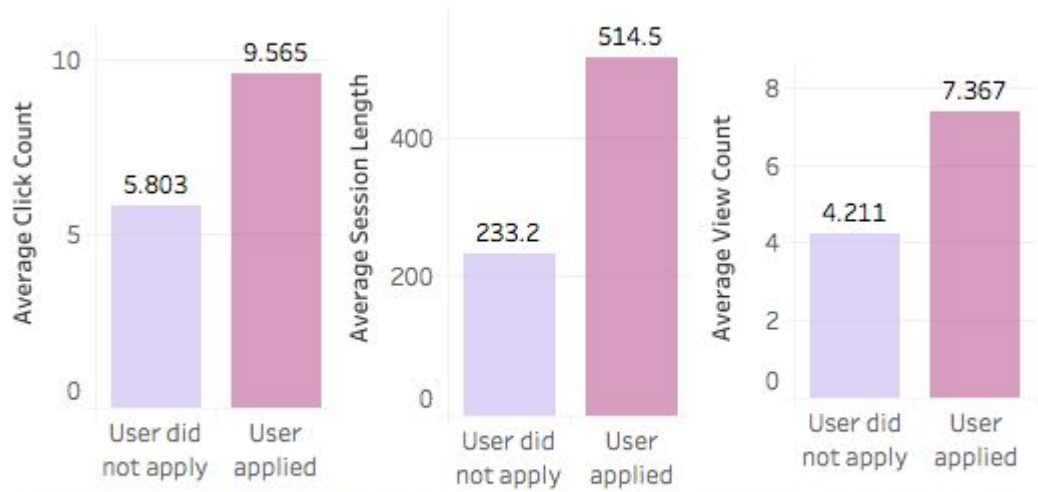
All users generally access CreditSesame from the Mobile Web platform. Users who apply for a service on Credit Sesame are even more likely to prefer the Mobile Web application over the Mobile App and Website.



Cumulatively, users that apply for services under Credit Sesame have less total debt than users that choose not to apply.

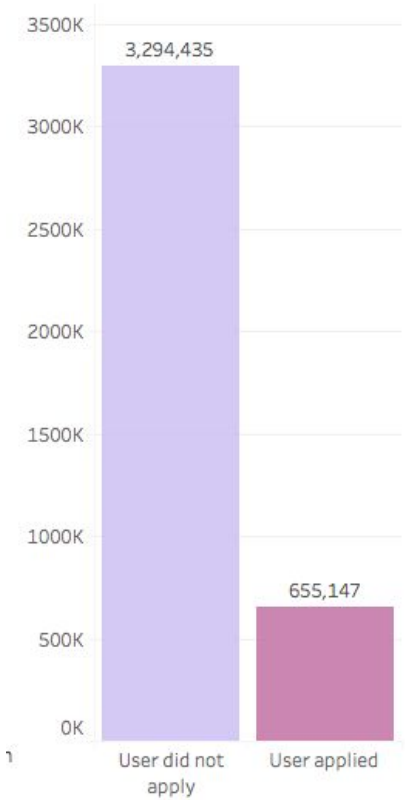
Visualizing Results

What characteristics define users that apply for services on Credit Sesame?



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Total Tradelines
Open Balance



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Visualizing Results