

A hand in a blue suit points towards a central hexagonal icon of a shopping cart. The background is a blue-tinted image of a person in a suit, overlaid with a white hexagonal grid. Other icons in the grid include a magnifying glass, a laptop, a smartphone and tablet, a globe with orbits, and a desktop monitor.

Online Shoppers Intent

Introduction

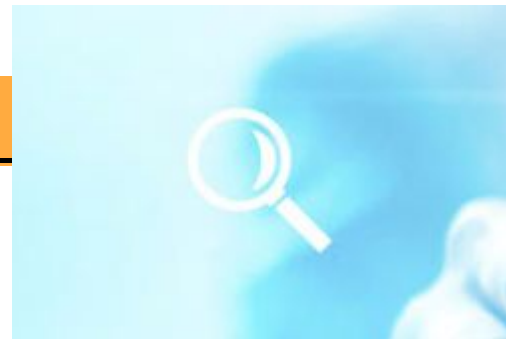
We are Data Scientists with the team behind
datascience-courses.com



We have used Machine Learning to predict which shoppers have an intent to buy from our store.

We can use this information to aid our shoppers with 1:1 personal shopping assistance using the new chat box feature for the site.

Methodology



- A decision tree was used as baseline model
- We explored more models
 1. Logistic Regression and
 2. Random Forest.
- Two routes were taken for hyperparameter optimisation:
 1. Grid Search CV
 2. Random Search CV

Results

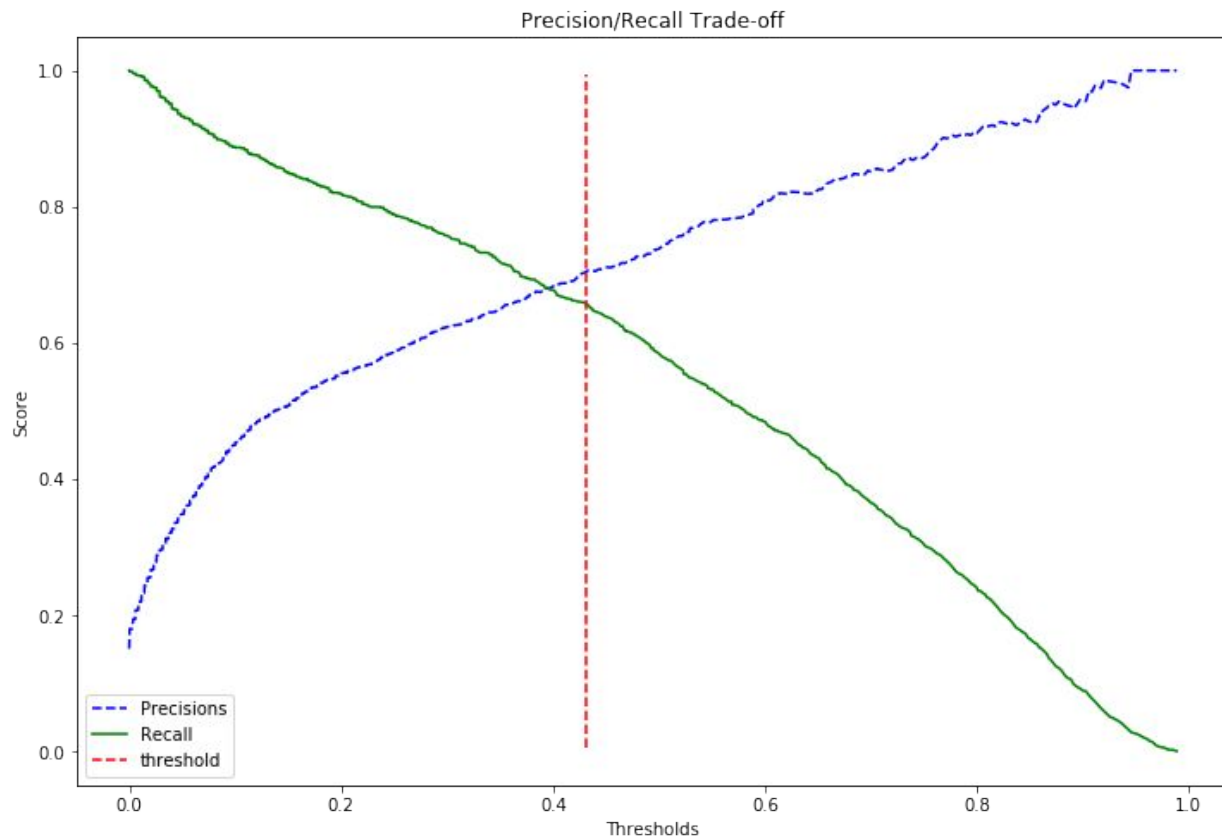
Logistic Regression AUC: 0.92

Random Forest AUC: 0.93

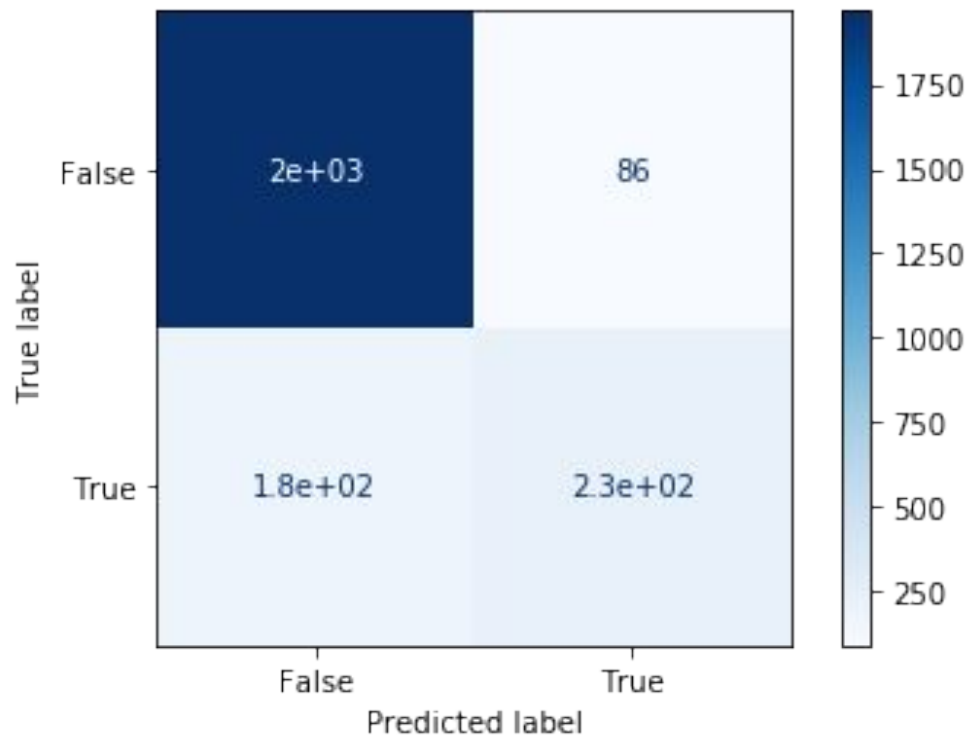
Threshold Selection: 0.43



Visual of Precision-Recall Curve



Visual of Confusion Matrix



Conclusion



We found that a random forest model learned our data best.

The model has 0.93 Area Under Curve, a 93% chance to rank a random positive value more highly than a negative value. Taking into account costs of error we predicted:

Our business model was able to learn from the user data and can accurately say whether a visitor is likely to **produce revenue**.

We can now take measures to provide assistance to potential customers we deem can benefit from our 1:1 chat service.



Thank You // Questions