

Project Background:

Starbucks is a coffee company which provides rewards to certain customers to their mobile app. Once every few days, Starbucks sends out an offer to users of the mobile app. An offer can be merely an advertisement for a drink or an actual offer such as a discount or BOGO (buy one get one free).

Problem Statement:

The aim of this project is to identify whether an offer provided by Starbucks is reaching the target audience and classify offers to complete the transaction.

Datasets and Inputs:

The Dataset was provided by starbucks and below is the information about datasets

The data is contained in three files:

- portfolio.json - containing offer ids and meta data about each offer (duration, type, etc.)
- profile.json - demographic data for each customer
- transcript.json - records for transactions, offers received, offers viewed, and offers completed

Here is the schema and explanation of each variable in the files:

portfolio.json

- id (string) - offer id
- offer_type (string) - type of offer ie BOGO, discount, informational
- difficulty (int) - minimum required spend to complete an offer
- reward (int) - reward given for completing an offer
- duration (int) - time for offer to be open, in days
- channels (list of strings)

profile.json

- age (int) - age of the customer
- became_member_on (int) - date when customer created an app account
- gender (str) - gender of the customer (note some entries contain 'O' for other rather than M or F)
- id (str) - customer id
- income (float) - customer's income

transcript.json

- event (str) - record description (ie transaction, offer received, offer viewed, etc.)
- person (str) - customer id
- time (int) - time in hours since start of test. The data begins at time t=0
- value - (dict of strings) - either an offer id or transaction amount depending on the record

Solution Statement

The solution for this project is to classify whether the offers are reaching to targeted audiences.

Solution Model

Different Classification models can be used to identify the problem we are trying to solve.

Evaluation Metrics

Accuracy can be measured from F1 score from the classification model. True positives and True Negatives will also help us to find metrics of the model.

Project Solution.

The categorical values need to be encoded. Identify which gender category is responding more to the offer provided by Starbucks.

Conclusion

The project will be able to find offer among different genders

Rate of customers responding to the offers.

Can be identified whether offers are helping customers for more transactions.

Whether Starbucks needs to increase offers for more customer response.