***Udacity Data Science Nanodegree project by Vanessa Ezeoke***

**Starbucks Offers: Customer Classification with Python**

Driving customers sales behavior in the retail space via digital channels (such as email, mobile and social media, etc.) has been shown to be effective and has become an important tool in creating longevity of a brand, increasing profits and engagements, as well as building long lasting relationships with customers. Customer satisfaction drives business success and data analytics can provide insight into what customers think. Personalization is the process of using data to provide tailored experiences to shoppers hence improving the customer’s experience. The phrase “[360-degree customer view](https://searchsalesforce.techtarget.com/definition/360-degree-customer-view)” refers to aggregating data describing a customer’s purchases and customer service interactions. To fully give customers a personalized and special experience having data that provides a 360-degree view is paramount.

The Starbucks [Udacity Data Scientist Nanodegree](https://www.udacity.com/course/data-scientist-nanodegree--nd025) Capstone challenge data set is a simulation of customer behavior on the Starbucks rewards mobile application. Periodically, Starbucks sends offers to users that may be an advertisement, discount, or buy one get one free (BOGO). An important characteristic regarding this dataset is that not all users receive the same offer.

This data set contains three files.

* Offer Portfolio: describes offer characteristics including its duration, the amount a customer must spend to complete it (difficulty) and the channels where the promotional messages I sent through.
* Customer Profile: contains customer demographic data including their age, gender, income, and when they created an account on the Starbucks rewards mobile application.
* Customer transactions: describes customer purchases and when they received, viewed, and completed an offer. An offer can be showed to be completed in this data if a customer has met the difficulty requirements during the necessary duration. However, an offer will only be considered successful when a customer views an offer and meets or exceeds its difficulty within the offer’s duration.

The Packages used for this project:

* Seaborn
* Matplotlib
* Catboost
* SKLearn
* Scipy
* Imblearn
* XGboost
* Math
* Json
* Pandas
* Numpy
* Preprocess package (specifically created for this project)