**Battle of the Neighbourhoods**

**Introduction/Business Problem:**

The problem that I am solving lies in the fact that we travel all the time throughout the world in different cities and different countries. In doing that we usually book hotels in advance. Over the years this business has expanded in its influence, but what about the adventure seeking **solo travellers** or the **group of backpackers**who travel without online reservations. There is no instant solution for those. Some hotels can be frustrating, and this could put you off them, sometimes hotels or you can also cut your reservation. All these problems can be solved by this solution**. It tracks your current location and gives you a list of available hotels in close proximity and gives you the direction.** What if we could leave the responsibility to a machine and algorithm? This would save us a lot of time. The hospitality industry is multi-billion-dollar industry and one of the biggest in the world, by implementing this platform, the industry could expand their influence furthermore and appeal to a wider array of consumers

## Data:

There are two primary data sets we will be using for this program.

1. The New York location data in JSON format (As provided previously). The dataset contains all the information about the boroughs and the neighbourhoods present in New York. Apart from the names, the co-ordinates of the neighbourhoods are the primary data that we can use from this dataset.
2. The other part of the data comes from the foursquare API. We use two types of queries for fetching the data from the foursquare API.
   * First type of query is ‘explore’ that is used to fetch the venues present in a 1.5 km radius of the neighbourhood of our target.
   * Second type of query that I am using is “venues”. This query is used to check the details about the venues that are hotels and get those details about them since we are interested in only those venues that are hotels. We check those venues by using their venue id.

#### Machine Learning:

To use most of this data, machine learning will be required to find relevant data clusters. This can be found using trends in ratings, likes and tips. By organising these into neighbourhoods we could identify similar clusters and their hotels.