**Capstone Project - The Battle of Neighbourhoods (Week 1)**

**Introduction/Business Problem:**

### As the New York population becomes more health conscious, there is an increased demand for restaurants that sell healthy food, specifically Vegetarian / Vegan Restaurant.

### If you ever tried to find a Vegetarian / Vegan Restaurant

### around your neighbourhood, you would know that there aren’t to many of them yet.

### Thus, making this a great opportunity for entrepreneurs (target audience) looking to open a Vegetarian / Vegan Restaurant.

### In this case we will be looking at where to open a Vegetarian / Vegan Restaurant in New York.

### Data:

### We will be leveraging the already rich Foursquare location data, in combination with New York neighbourhood’s data(<https://ibm.box.com/shared/static/fbpwbovar7lf8p5sgddm06cgipa2rxpe.json>

### & <https://geo.nyu.edu/catalog/nyu_2451_34572>), by making an api call (

### *# create the API request URL*

### *url = 'https://api.foursquare.com/v2/venues/explore?&client\_id={}&client\_secret={}&v={}&ll={},{}&radius={}&limit={}'.format(*

### *CLIENT\_ID,*

### *CLIENT\_SECRET,*

### *VERSION,*

### *lat,*

### *lng,*

### *radius,*

### *LIMIT)*

### 

### *# make the GET request*

### *results = requests.get(url).json()["response"]['groups'][0]['items']*) to the Foursquare database to give us all restaurants in New York with a category Vegetarian / Vegan Restaurant.

### Methodology:

### We will be using the k-means clustering algorithm to group neighbourhoods with similar characteristics (i.e. look at neighbourhoods that already have successful Vegetarian / Vegan Restaurant and see what features do they have, then look for neighborships with the similar features to open a new Vegetarian / Vegan Restaurant)

### Results:

### New York does not have many Vegetarian / Vegan Restaurant.