

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 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={},{&r  
adius={}&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 neighborhoods with the similar features to open a new Vegetarian / Vegan Restaurant)

Results:

New York does not have many Vegetarian / Vegan Restaurant.

Discussion :

Conclusion :