# Coursera Battle of the neighbourhoods

## Opening a new Jazz Club in Manhattan

Author: Mark Chinnock
Date: June 2020

**Content**

# 1. Introduction

I am a successful Jazz musician wanting to move to New York City. I have limited knowledge of the area but I would like to open a new venue of my own in Manhattan. I want to locate my venue away from other clubs but in a similar neighborhood

## 1.1 Background situation

Where is the best location to open a new Jazz Club in Manhattan? Determine similar neighborhoods to where existing Jazz venues are.

## 1.2 Business Understanding

The business understanding is to identify which neighborhood(s) are a best location, based on:

- Finding where existing Jazz Clubs are currently located
- Discovering what type of neighborhood category they are in
- Find a similar neighborhood that doesn't currently have a Jazz Venue

## 1.3 Audience

The target audience for this would be anyone considering moving to Manhattan without detailed knowledge of the area. This report is a specific study on Jazz Club categories but this approach and the search criteria could easily be amended to repeat the exercise for a different category of venue.

# 2. Data

To investigate this problem we will need the following datasets of information:

- List of neighborhoods in Manhattan
- Location of existing Jazz Clubs and other venues

Using the neighborhood data from the dataset previously provided on this course (https://cocl.us/new_york_dataset) we can obtain the geo coordinates of the Manhattan neighborhoods and store the following information:

```
Borough      Neighborhood      Latitude      Longitude
```

We can explore the foursquare database using the API call with Manhattan coordinates and retrieve all the existing venues in the area, including Jazz clubs

`address = 'Manhattan, NY'

geolocator = Nominatim(user_agent="foursquare_agent") location = geolocator.geocode(address) latitude = location.latitude longitude = location.longitude print(latitude, longitude)`

`search_query = 'Jazz Club'

print(search_query + ' .... OK!')

url = 'https://api.foursquare.com/v2/venues/search?client_id={}&client_secret={}&ll={}, {}&v={}&query={}'.format( CLIENT_ID, CLIENT_SECRET, latitude, longitude, VERSION, search_query, LIMIT )

results = requests.get(url).json()`

```
 Borough        Neighborhood      Latitude       Longitude        Cluster Labels      1st
Most Common Venue      2nd Most Common Venue      3rd Most Common Venue      4th
Most Common Venue      5th Most Common Venue      6th Most Common Venue      7th
Most Common Venue      8th Most Common Venue      9th Most Common Venue      10th
Most Common Venue
```

105 Manhattan Central Harlem 40.815976 -73.943211 0 African Restaurant Bar Seafood Restaurant American Restaurant Gym / Fitness Center French Restaurant Chinese Restaurant Cosmetics Shop Caribbean Restaurant Dessert Shop 107 Manhattan Upper East Side 40.775639 -73.960508 0 Italian Restaurant Coffee Shop Bakery Gym / Fitness Center French Restaurant Yoga Studio Juice Bar Spa Hotel Mexican Restaurant 117 Manhattan Greenwich Village 40.726933 -73.999914 0 Italian Restaurant Sushi Restaurant Café Gym Chinese Restaurant Burger Joint Pizza Place Coffee Shop Indie Movie Theater Ice Cream Shop 118 Manhattan East Village 40.727847 -73.982226 0 Bar Mexican Restaurant Cocktail Bar Coffee Shop Speakeasy Wine Bar Juice Bar Ice Cream Shop Pizza Place Ramen Restaurant 123 Manhattan West Village 40.734434 -74.006180 0 Italian Restaurant Wine Bar New American Restaurant American Restaurant Bakery Cocktail Bar Park Pizza Place Jazz Club Coffee Shop

The neighborhood data will be compared using the venue data within to produce clusters of similar neighborhoods. The Jazz Club venues will then be placed in those clusters to see whether there is a pattern of cluster for a venue such as a jazz Club to help form a recommendation.