

Opening a wine bar around Manhattan

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1. Data

1.1 New York map

In order to find the best location around Manhattan to invest in a wine bar, we firstly need a json file of New York city.

The json file of New York city can be freely downloaded from:

https://cocl.us/new_york_dataset/newyork_data.json

Once we have a list of all the areas of New York, we can identify the neighborhoods of Manhattan and show them on a map using the Python geopy library.

1.2 Collect Venues informations

The next step is to collect information about each venue in the neighborhoods. This is accomplished creating a developer account on Foursquare <https://developer.foursquare.com/places>.

In order to collect information on the venues in each neighborhood, we have to send an API request like:

```
LIMIT = 100 # limit of number of venues returned by Foursquare API
```

```
radius = 500 # define radius
```

```
# create URL
```

```
url =
```

```
'https://api.foursquare.com/v2/venues/explore?&client_id={}&client_secret={}&v={}&ll={},{}&radius={}&limit={}'.format(
```

```
    CLIENT_ID,
```

```
    CLIENT_SECRET,
```

```
    VERSION,
```

```
    neighborhood_latitude,
```

```
    neighborhood_longitude,
```

```
    radius,
```

```
    LIMIT)
```

Where we ask for information on venues in a certain location providing latitude and longitude, a certain radius of interest and a limit number of returned venues.

Once we have performed this operation for each neighborhood, we can create a dataframe which contains geographical information on the neighborhood, and the venues located there.

We can then select the 5 most visited venues in each neighborhood, and use this information to analyse the data and find the most suitable location to open our Wine Bar.