



# The Battle of the Neighborhoods

Location Analysis for a new Zimbabwean cuisine restaurant in New York City

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# Introduction

- New York City is a growing cosmopolitan city.
- There are African restaurants in New York City (NYC) but no Zimbabwean cuisine is available.
- Entrepreneur seeks to open a Zimbabwean cuisine restaurant in NYC.
- Location analysis services from a data scientist are employed.
- Client requires a location with African restaurants, proximity to banks and a major road or subway.
- Location information is crucial for any business.



# Data

Data required for location analysis is as follows: expatriate areas already having African restaurants, near a financial district, and a transport hub.

Data was gathered from [https://geo.nyu.edu/catalog/nyu\\_2451\\_34572](https://geo.nyu.edu/catalog/nyu_2451_34572) and <https://www.restohub.org/>

I used the [Foursquare API](#) to explore neighborhoods in New York City,

Generated clusters and using the k-means clustering algorithm to refine the groupings.

Using the Folium library I produced a visualisation of the neighborhoods in New York City and their emerging clusters to come up with the right neighborhood for setting up the restaurant business.



# Methodology and Analysis



1

Download and exploratory analysis

Dataset exists for free on the web through the link:

[https://geo.nyu.edu/catalog/nyu\\_2451\\_34572](https://geo.nyu.edu/catalog/nyu_2451_34572)

2

Using the feature key from the json file create a pandas dataframe for easy data manipulation.

3

Use geopy library to get the latitude and longitude values of New York City and create a map of New York City with neighborhoods superimposed on top

4

Utilize the Foursquare API to explore the neighborhoods in New York City and segment them in order to come up with a short list of possible locations

## Methodology and Analysis (cont...)

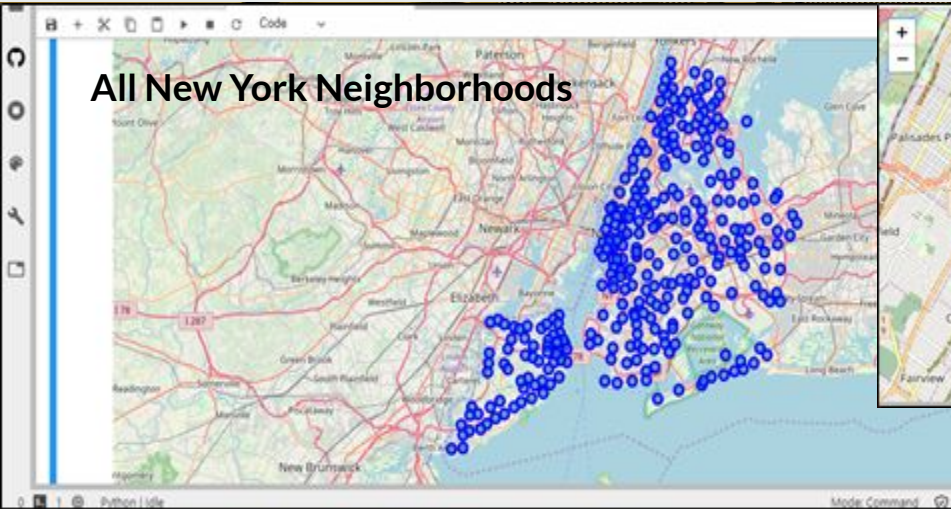
- We use one hot encoding to change categorical values and generate frequency of occurrence of venues returned by the Foursquare API.
- Segment neighborhoods using k-means clustering in such a way that we can locate those that best meet the criteria of our client who wants to locate a Zimbabwean cuisine restaurant.
- Our objective is to find the most suitable location based on proximity to expatriates (African restaurants), financial district (banks) and a transport hub (along a major road or subway)
- University Heights, Fordham and Central Harlem are the venues that at least have African restaurants.



# Results



All New York Neighborhoods



The 3 desired neighborhood venues



Clustered New York Neighborhoods



# Discussion

## Option 1 (Best)

Harlem is a neighborhood in Manhattan.

Population of 200,754.

There are 4 African restaurants in this particular neighborhood and therefore it seems the location is already popular with African expatriates or visitors.

## Option 2

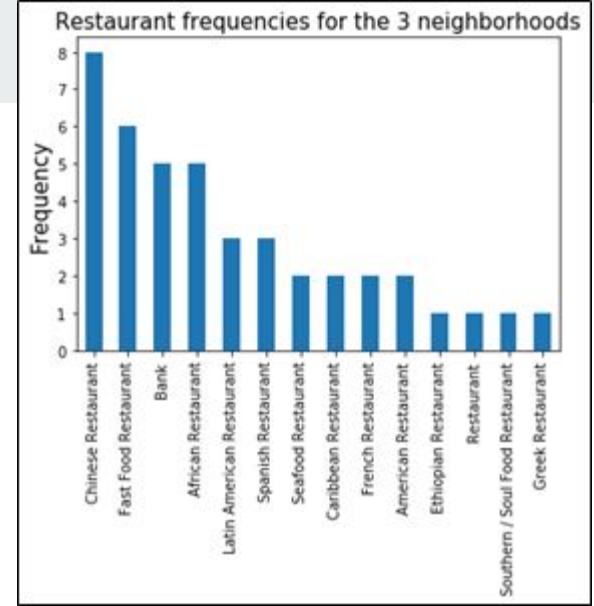
Fordham is in the Bronx.

Population of 77,840 people.

Fordham Road's successful mixture of small independent shops and national and regional chain stores,

The largest and most prominent shopping district in the Bronx.

Fordham is a bustling, vibrant community with a lot of business potential to an aspirational entrepreneur.



## Option 3

University Heights is a low income residential neighborhood in the Bronx.

Population of over 40,000.

One of the poorest communities in America.

The neighborhood is now predominantly Dominican with a significant longstanding Puerto Rican and African American population.

# Conclusion

As the most populated city in the United States, New York City (NYC) is a great place to open a restaurant. Harlem has a huge population of employed people who already have expatriate tastes.

Competition is high among New York City restaurants, but there is great potential for success with creative differentiation like the proposed offer for a Zimbabwean cuisine.

Choosing the right location for a restaurant is extremely important in terms of business viability.

This project performed location analysis for a prospective restaurateur and the same approach can be considered by any entrepreneur looking at starting a business or expanding an existing operation.

Data science is a crucial skill that enables informed decision making.

