Capstone Project - The Battle of Neighborhoods

Minority-owned small business relief

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Introduction

My final project focuses on choosing a minority-owned or minority-serving small businesses for relief from COVID-19 shutdowns and looting of communities that continue to tear down black communities in New York City. With over 200,000 COVID-19 cases in New York according to [Wikipedia (https://en.wikipedia.org/wiki/COVID-19_pandemic_in_New_York_(state))](https://en.wikipedia.org/wiki/COVID-19_pandemic_in_New_York_(state)), the most at-risk residents also live in areas prone to being food deserts and are increasingly relying on neighborhood institutions with established presence in the community for not only sustenance, but as a necessary resource for community economic vitality. Providing opportunities for others to step outside their comfort zone and explore new communities and cultures often involves sharing appealing cuisines at thriving neighborhood restaurants. This exploration will identify which neighborhoods and boroughs have the most opportunity for leveraging the unifying cultural relevance of soul food.

Specifically, this analysis will identify:

1. Which specific restaurants would produce the most impact with a community grant?
2. Where do I go in New York if I want a culturally-relevant immersive experience while patronizing a minority-owned or minority-serving establishment?

Data

To answer these questions, we will need geolocation data about New York boroughs and neighborhoods as well as crowd-sourced data about restaurant engagement with specific communities.

To access crowd-sourced data about restaurants, their addresses will need to be converted into latitude and longitude geolocation information. To classify this data, we will also need geolocation data that defines boundaries of boroughs and neighborhoods. This data is available freely online at: [https://cocl.us/new_york_dataset (https://cocl.us/new_york_dataset)](https://cocl.us/new_york_dataset)

With the geolocation data paired to the restaurants in specific boroughs and neighborhoods, the Foursquare API will allow us to explore each locality and the prevalence of soul food restaurants in the community as well as crowd-sourced ratings and reviews. The Python Request library will be

used to explore the API for the boroughs and neighborhoods with the most and best soul food restaurants. Information about the data from the Foursquare API can be found at: https://developer.foursquare.com/ (https://developer.foursquare.com/)

Methodology

Overview

1. Freely available geolocation data for boroughs and neighborhoods is transformed into a Pandas dataframe.
2. Requests are submitted to Foursquare API for Soul Food restaurants in New York.
3. Requests are submitted to Foursquare API to gather details (ratings, likes, and tips).
4. Foursquare API data merged with freely available geolocation data to create a Pandas dataframe for analysis by borough or neighborhood.
5. Simple statitistical analysis is performed and visualzied with Matplotlib for insights, as well as geospatial visualization with Folium.
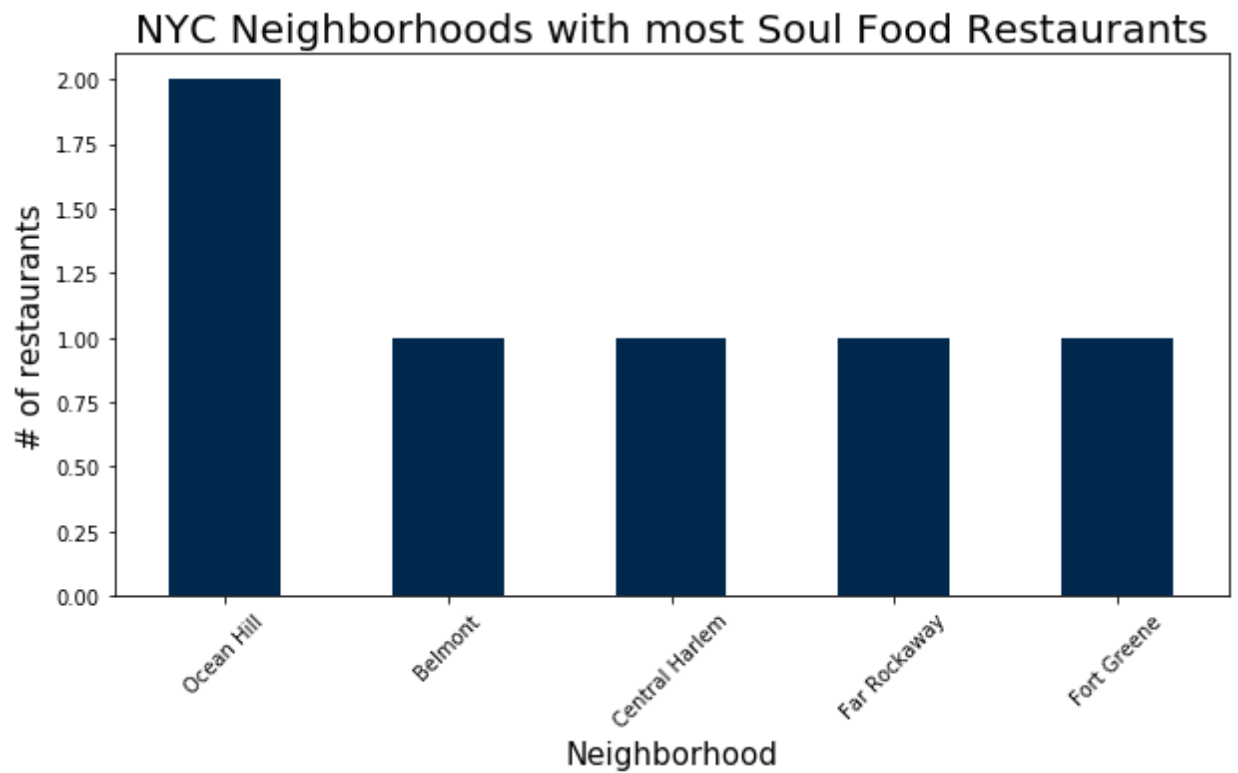
Results

The boroughs with the most Soul Food restaurants are Brooklyn and Queens.

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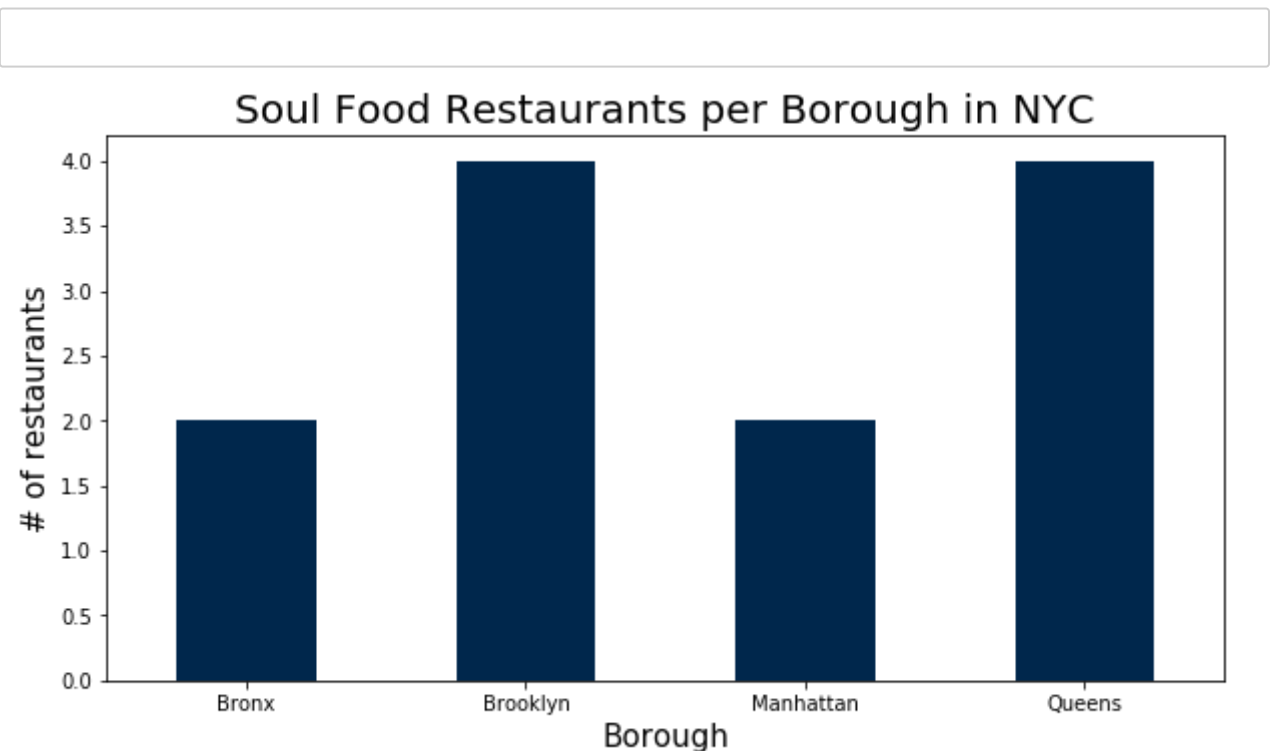
The Ocean Hill neighborhood has 2 Soul Food restaurants, while all other NYC neighborhoods have 1 or less.

NYC Neighborhoods with most Soul Food Restaurants

These are the 2 Soul Food restaurants in the Ocean Hill neighborhood:

	Borough	Neighborhood	ID	Name
3	Brooklyn	Ocean Hill	4d55d7e5ba5b224b3a5d1314	Magic Soul Food
4	Brooklyn	Ocean Hill	4baa3e43f964a52006573ae3	Country Kitchen Soul Food Resturant

Discussion

Though the Ocean Hill neighborhood of Brooklyn has 2 Soul Food restaurants, the Upper West Side neighborhood of Manhattan has the Soul Food restaurant with the most likes, best ratings, and a lot of neighborhood buzz with people giving tips (Jacob's Pickles):

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Out[20]: Unnamed: 0                             7
         Borough                        Manhattan
         Neighborhood             Upper West Side
         ID              4edfd5865c5cced979ab7dd1
         Name                     Jacob's Pickles
         Likes                               1976
         Rating                               9.1
         Tips                                 653
         Name: 7, dtype: object
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When looking at neighborhoods, we expect the Upper West Side to shine with average ratings with popular Jacob's Pickle, and it looks like even though Ocean Hill in Brooklyn has 2 Soul Food restaurants, they aren't embraced by the community nearly as well with the Ocean Hill neighborhood coming in 6th for average Soul Food restaurant ratings:

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Out[21]:
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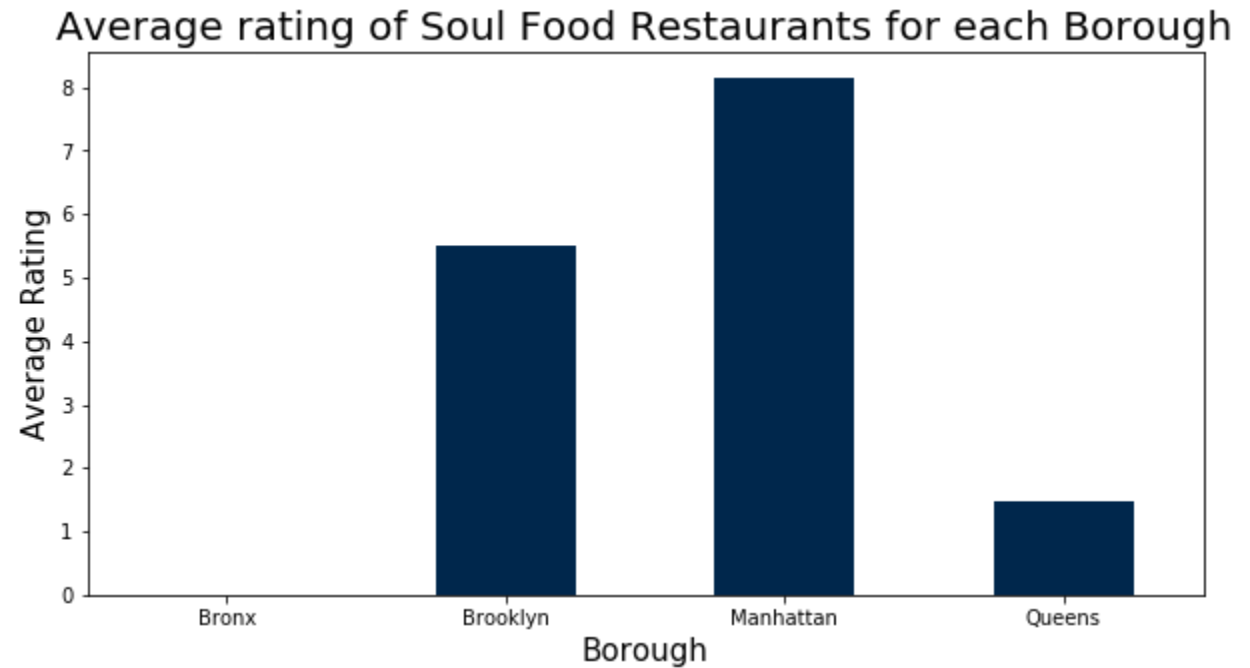|	Neighborhood	Average Rating
10	Upper West Side	9.10
3	Fort Greene	8.20
1	Central Harlem	7.20
7	Prospect Park South	6.70
4	Jamaica Hills	5.90
5	Ocean Hill	3.55
0	Belmont	0.00
2	Far Rockaway	0.00
6	Parkchester	0.00
8	Rochdale	0.00

But, Ocean Hill isn't the only neighborhood in Brooklyn and the Upper West Side isn't the only neighborhood in Manhattan: Are the other Soul Food restaurants in these neighborhoods contributing to one of the boroughs edging out the strong community support for Jacob's Pickle in Manhattan's Upper West Side? No, looks like Jacob's Pickle is putting Manhattan's Upper West Side on the Soul Food map both literally and figuratively:

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Out[22]:

	Borough	Average Rating
2	Manhattan	8.150
1	Brooklyn	5.500
3	Queens	1.475
0	Bronx	0.000

In [23]:

Average rating of Soul Food Restaurants for each Borough

It appears there might be a good Soul Food restaurant in Fort Greene in Brooklyn, though:

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Out[24]:

	Neighborhood	Average Rating
3	Fort Greene	8.2
10	Upper West Side	9.1

It's Peaches Hothouse:

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Out[25]:

	Borough	Neighborhood	ID	Name
2	Brooklyn	Fort Greene	5bd49e5c1c675b002c9836ea	Peaches Hothouse

Peaches Houthouse must be a good Soul Food spot in the Fort Greene neighborhood of Brooklyn,

with 45 likes and a 8.2 rating. Not quite the 9.1 rating of Jacob's Pickle in Manhattan, but it also has less overall likes and engagement. This is likely due to quite a difference in population and overall neighborhood engagement and spending eating out when comparing Manhattan's Upper West Side with somewhere in Brooklyn:

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	Unnamed: 0	Borough	Neighborhood	ID	Name	Likes	Rating	Tips
2	2	Brooklyn	Fort Greene	5bd49e5c1c675b002c9836ea	Peaches Hothouse	45.0	8.2	15.0

In [27]:

Out[27]:

	Borough	Neighborhood	Latitude	Longitude	Average Rating
0	Brooklyn	Fort Greene	40.688527	-73.972906	8.2
1	Manhattan	Upper West Side	40.787658	-73.977059	9.1

Conlusion

Here's how to find good Soul Food: in Manhattan's Upper West Side at Jacob's Pickles or in Brooklyn's Fort Greene at Peaches Hothouse.
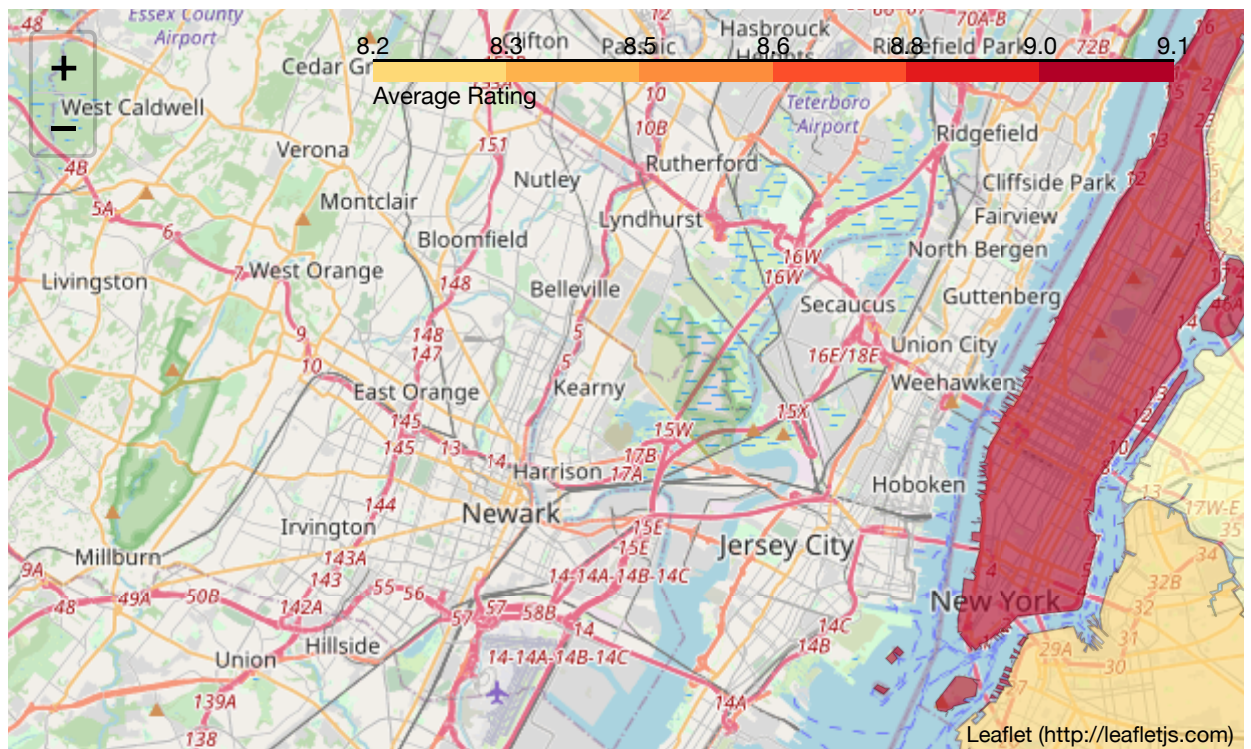
In [29]:

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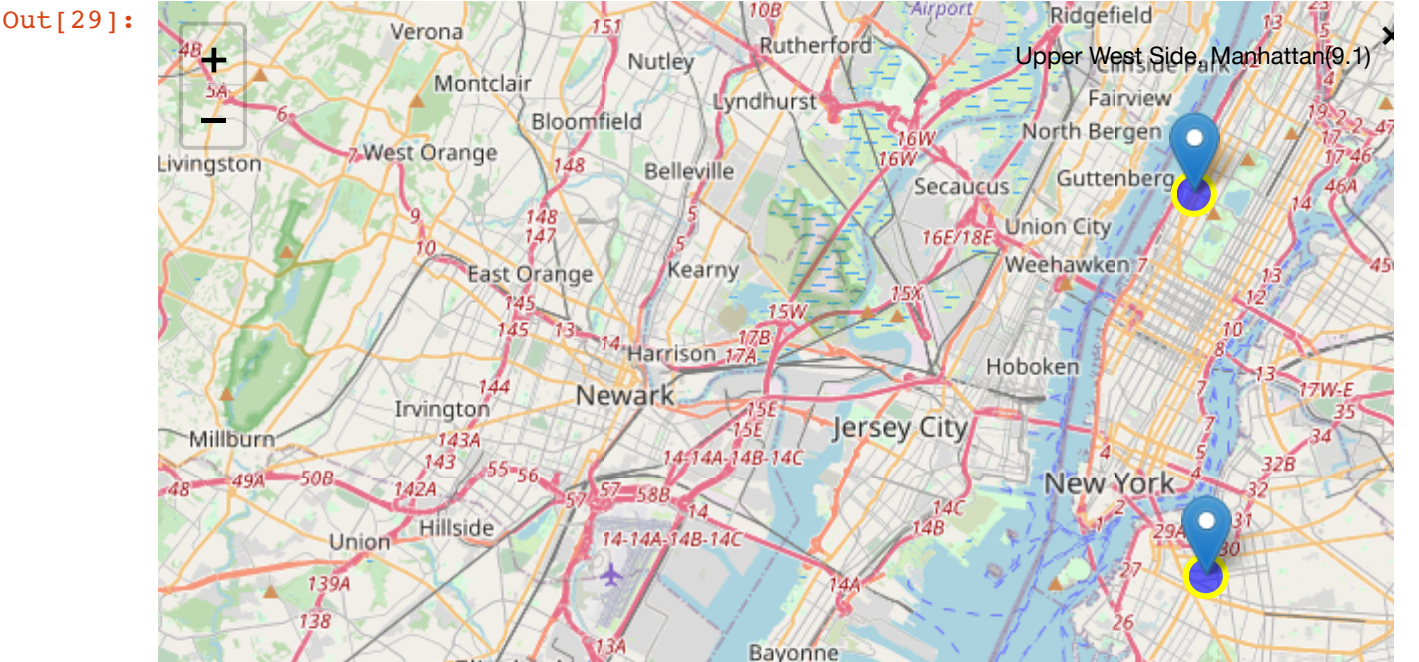
Manhattan has the best-rated Soul Food, followed by Brooklyn:

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Out[30]:

While you're sure to have a culturally-relevant immersive experience while patronizing a minority-owned or minority-serving establishment in either Brookyln's Fort Greene neighborhood or Manhattan's Upper West Side, our community grant will be awarded to Jacob's Pickles in Manhattan's Upper West Side. This restaurant has consistently engaged with the community and the community engages right back. Based on Foursquare's data and this analysis, we are confident that this community institution will make the most positive economic and cultural impact with the funds available.

In [ ]: