BATTLE OF THE NEIGHBORHOODS IBM COURSERA CAPSTONE PROJECT

Harlem New York Coffeeshops & Diners

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Abstract

This project uses unsupervised machine learning of Foursquare location data to determine the best section of Harlem, New York to open a new coffeeshop or diner.

Introduction

Harlem is a vibrant neighborhood in New York City that spans from 110th Street to 155th Street, comprised of historic neighborhoods like Morningside Heights and Sugar Hill, known for its trendy bars, restaurants and clubs.

Methodology

Coordinates for Harlem, NY were extracted in JSON format from Foursquare, then analyzed using Python. I created a data table and used the Folium library to create a street view map of existing Harlem Coffeeshops and Restaurants.

Business Question/Problem

Within Harlem, if a restauranteur/entrepreneur is interested in opening a new diner or coffeeshop, **the question** is: which part (ie. East, West or Central Harlem) would they open it? **The problem** that they must address is that in order to draw in customers and be profitable, it must be located near accessible public transportation and be in a location with enough interested customers nearby. The **target audience** is entrepreneurs who are interested in opening a new diner or coffeeshop in Harlem. They should care because the location will have a strong effect on both their potential profits and the longevity of their business.

Data

The data that will be used are geolocation information of existing Harlem restaurants in Harlem New York available on the Foursquare website. It will include venue names and the specific location of the eatery. This will help us learn which section of Harlem has a large concentration of existing restaurants and determine the best location for a person looking to open a new diner in Harlem.

Out[16]:

	uid	name	shortname	address	postalcode	lat	lng
0	537f7140498e15919e85ff84	Manhattanville Coffee	Coffee Shop	283 Pleasant Ave	10030	40.821496	-73.944595
1	541c683e498ef421d4e16eb3	The Edge Harlem	American	283 Pleasant Ave	10030	40.819692	-73.946073
2	52e3eef9498e1affb602399b	Double Dutch Espresso	Coffee Shop	283 Pleasant Ave	10026	40.805893	-73.954222
3	4af2e1aaf964a520f2e821e3	The Love Cafe	Café	283 Pleasant Ave	10029	40.794550	-73.933798
4	4eb0d7bc4fc6015c82ea1c3e	Lenox Coffee	Coffee Shop	283 Pleasant Ave	10027	40.810161	-73.943247

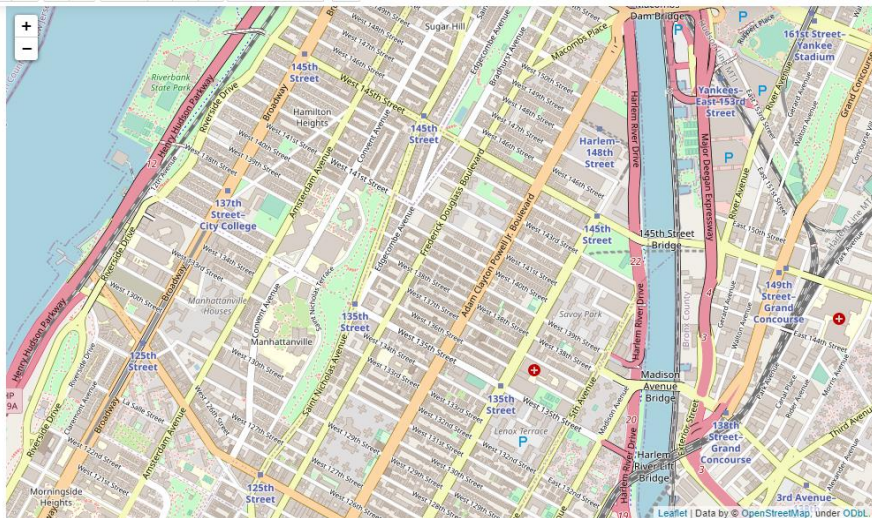*Table 1:First 5 results of Foursquare data*

Figure 1:Map created from Foursquare data

Results/Conclusion

Based on the analysis of the existing coffeeshops and diners/restaurants in Harlem, New York, I have concluded that Central Harlem will be the best place for a new diner or coffee shop location. The main reasons are:

- Less competition due to lack of existing coffeeshops/diners
- Potential customer base from residents living in nearby apartments and houses, employees working in the area and churchgoers interested in Sunday brunch
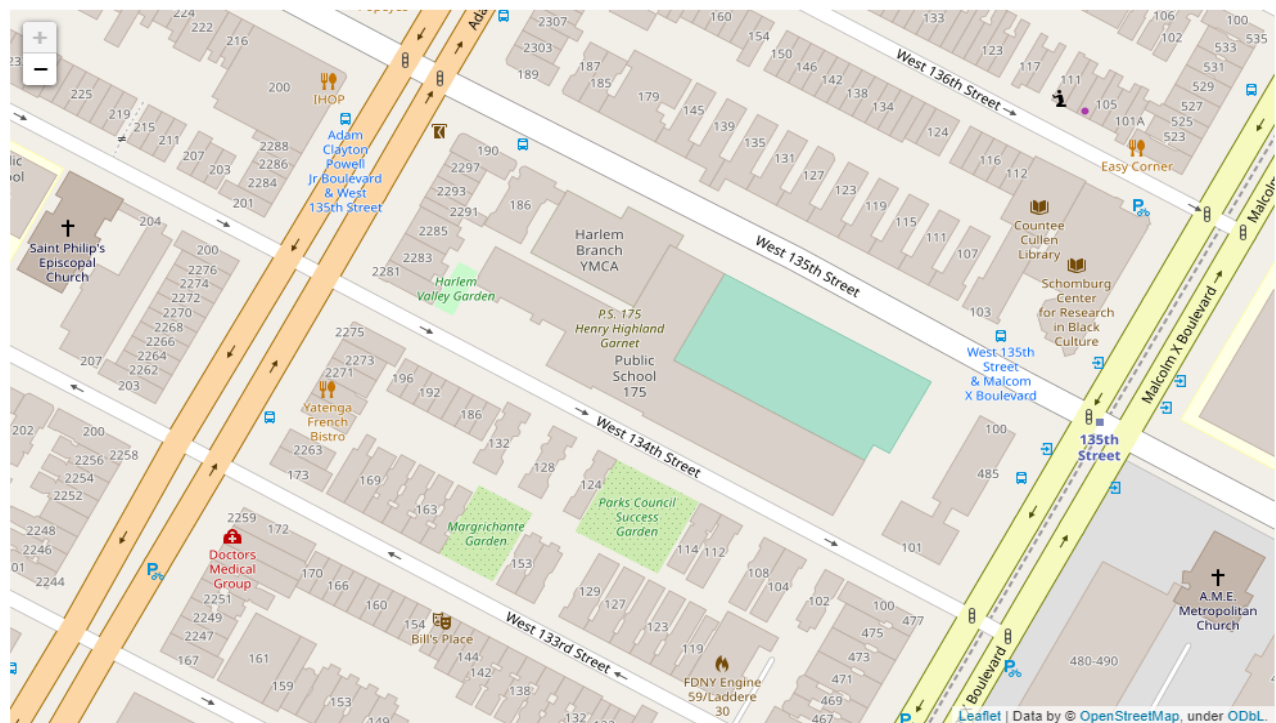- Accessible to mass transit and roadways for people who drive

Figure 2:Map of Central Harlem, New York