Analysis of Restaurants in New York

Made by:

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Introduction

- New York big city, high diversity of food
- Manhattan borough
- Question: Where to open a restaurant?



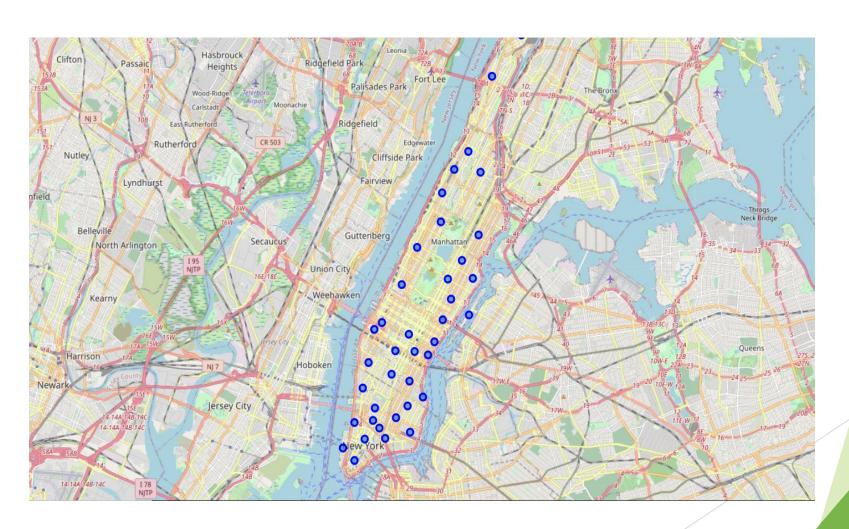
Data acquisition and cleaning

- data sources:
 - 1) Foursquare Locator
 - 2) New York neighborhood data
- data cleaning

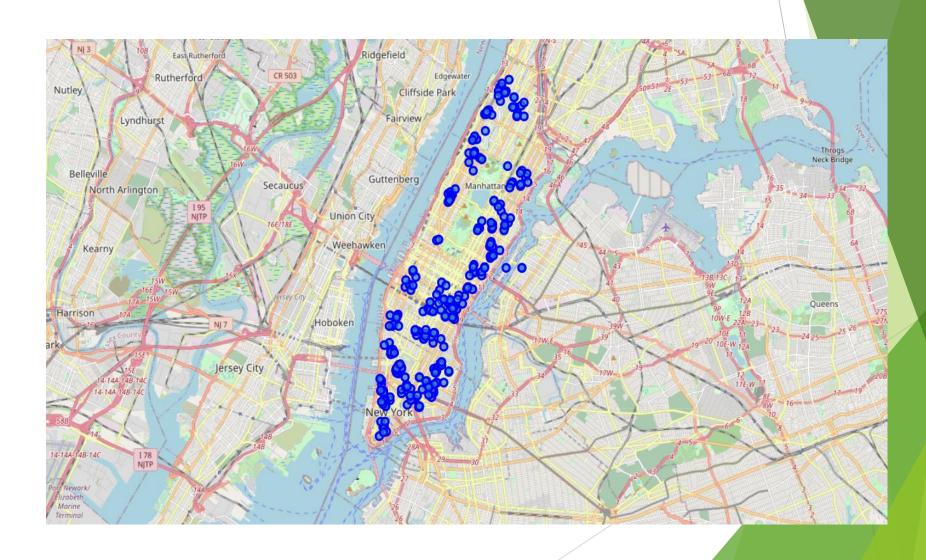
Table 1. Simple feature selection during data cleaning.

Kept features	Dropped features	Reason for dropping features	
Venue Latitude, Venue	Neighborhood Latitude,	In this case we are interested	
Longitude	Neighborhood Longitude	in location of each	
		restaurant, not the	
		coordinates of its	
		neighborhood.	
Neighborhood	Borough	Borough is the same for	
		every neighborhood.	
Italian, American, Mexican	All other types of restaurants	Only three type of	
restaurants		restaurants are considered in	
		this case due to amount of	
		data.	

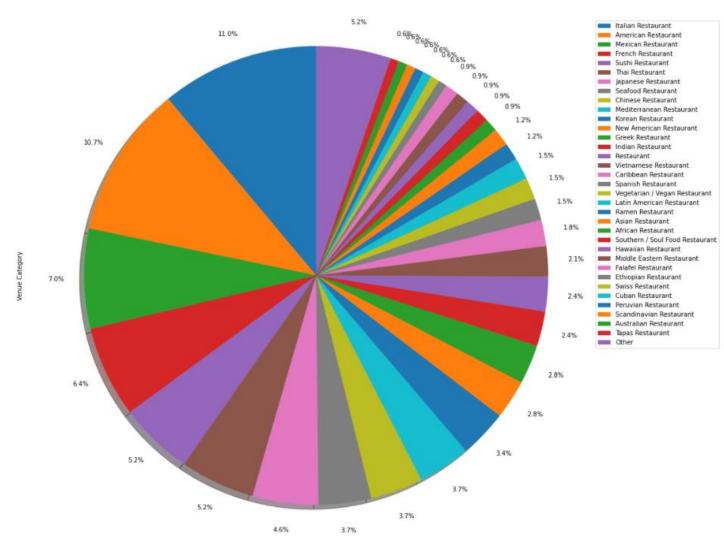
Neighborhoods on Manhattan



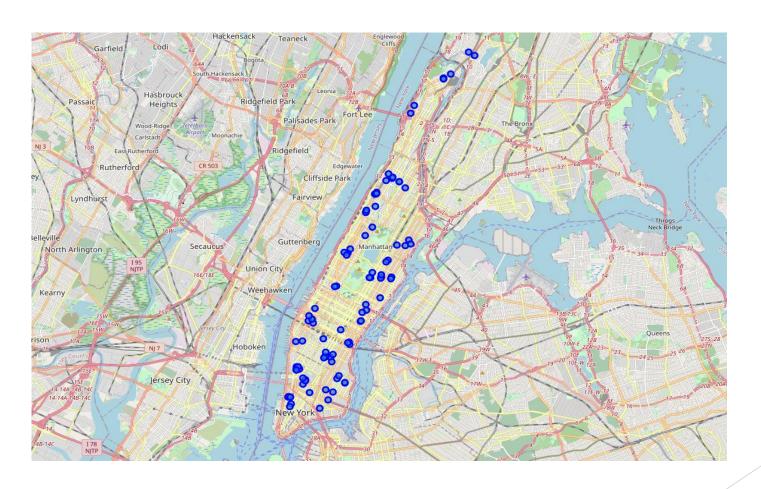
Restaurants on Manhattan



► Types of restaurants on Manhattan

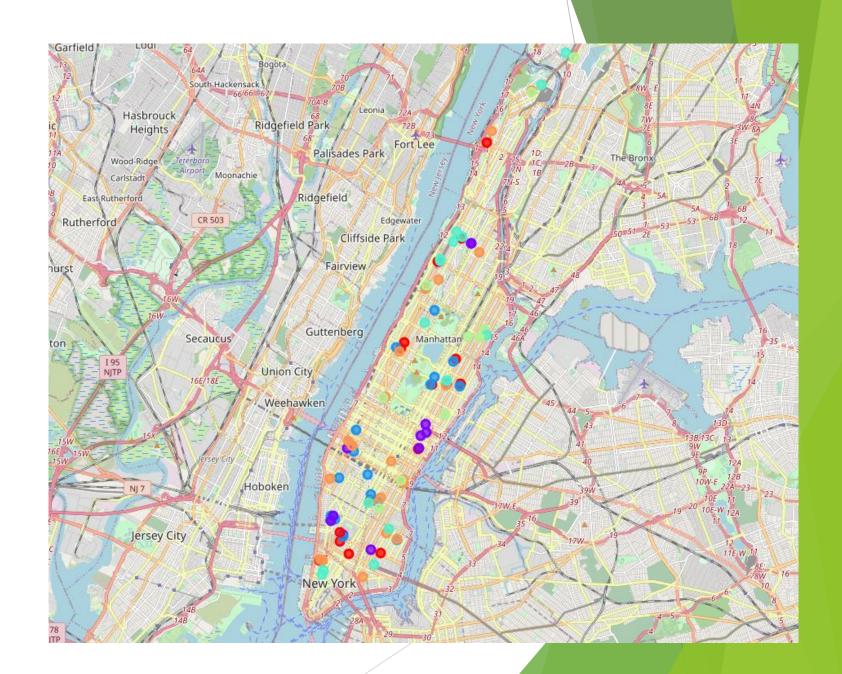


Mexican, Italian and American Restaurants on Manhattan



KMeans Model

 Devide restaurants according to ratings and type in 6 clusters



Example of cluster of with excellent grade

In [40]: restaurants.loc[restaurants['Cluster Labels'] == 1]
Out[40]:

Cluster Labels	Neighborhood	Venue	Venue Latitude	Venue Longitude	Venue Category	rating
1	Greenwich Village	Carbone	40.727903	-74.000136	1	5
1	Noho	Lil' Frankie's	40.723445	-73.988328	1	5
1	Sutton Place	Felidia	40.760267	-73.965277	1	5
1	Sutton Place	Scalinatella	40.762761	-73.965566	1	5
1	Sutton Place	amata	40.759236	-73.967515	1	5
1	Hamilton Heights	The Edge Harlem	40.819692	-73.946073	2	5
1	Central Harlem	The Edge Harlem	40.819692	-73.946073	2	5
1	West Village	Westville West	40.734055	-74.004279	2	5
1	West Village	The Little Owl	40.732441	-74.005424	2	5
1	Turtle Bay	The Smith	40.755376	-73.968243	2	5
1	Hudson Yards	Friedman's	40.755271	-73.998509	2	5
	1 1 1 1 1 1 1 1	1 Greenwich Village 1 Noho 1 Sutton Place 1 Sutton Place 1 Sutton Place 1 Hamilton Heights 1 Central Harlem 1 West Village 1 West Village 1 Turtle Bay	1 Greenwich Village Carbone 1 Noho Lil' Frankie's 1 Sutton Place Felidia 1 Sutton Place Scalinatella 1 Sutton Place amata 1 Hamilton Heights The Edge Harlem 1 Central Harlem The Edge Harlem 1 West Village Westville West 1 West Village The Little Owl 1 Turtle Bay The Smith	1 Greenwich Village Carbone 40.727903 1 Noho Lil' Frankie's 40.723445 1 Sutton Place Felidia 40.760267 1 Sutton Place Scalinatella 40.762761 1 Sutton Place amata 40.759236 1 Hamilton Heights The Edge Harlem 40.819692 1 Central Harlem The Edge Harlem 40.819692 1 West Village Westville West 40.734055 1 West Village The Little Owl 40.732441 1 Turtle Bay The Smith 40.755376	1 Greenwich Village Carbone 40.727903 -74.000136 1 Noho Lil' Frankie's 40.723445 -73.988328 1 Sutton Place Felidia 40.760267 -73.965277 1 Sutton Place Scalinatella 40.762761 -73.965566 1 Sutton Place amata 40.759236 -73.967515 1 Hamilton Heights The Edge Harlem 40.819692 -73.946073 1 Central Harlem The Edge Harlem 40.819692 -73.946073 1 West Village Westville West 40.734055 -74.004279 1 West Village The Little Owl 40.732441 -74.005424 1 Turtle Bay The Smith 40.755376 -73.968243	1 Greenwich Village Carbone 40.727903 -74.000136 1 1 Noho Lil' Frankie's 40.723445 -73.988328 1 1 Sutton Place Felidia 40.760267 -73.965277 1 1 Sutton Place Scalinatella 40.762761 -73.965566 1 1 Sutton Place amata 40.759236 -73.967515 1 1 Hamilton Heights The Edge Harlem 40.819692 -73.946073 2 1 Central Harlem The Edge Harlem 40.819692 -73.946073 2 1 West Village Westville West 40.734055 -74.004279 2 1 West Village The Little Owl 40.732441 -74.005424 2 1 Turtle Bay The Smith 40.755376 -73.968243 2

Conclusions

- When client looks at the map he/she can determine where should it be good place for opening the restaurant according to the type of food that it will serve.
- ► The restaurant owner will not have good competition which will be great tail wind in the beginning of his business.

Thank you for your attention!