

CAPSTONE PROJECT

THE BATTLE OF NEIGHBORHOODS

APPLIED DATA SCIENCE CAPSTONE BY ALFONSO LOPEZ



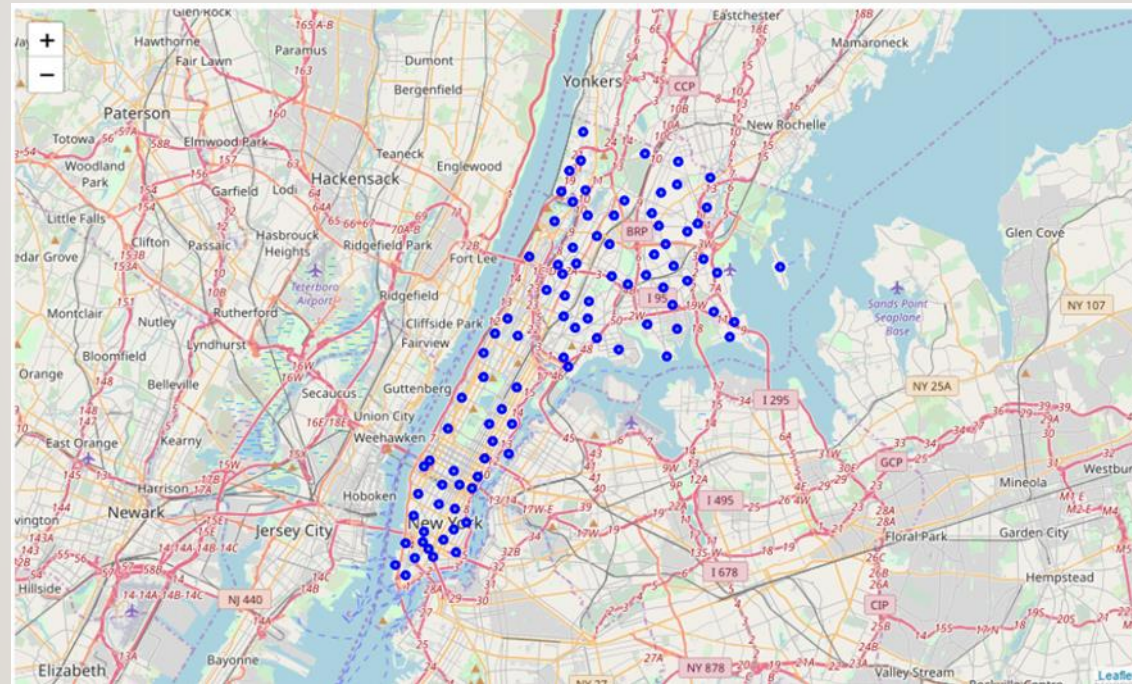
INTRODUCTION: BUSINESS PROBLEM

- The **West Stationery Company** (WSC) is expanding their business to the east of USA. During last three years, but it has not been as successful as expected.
- WSC have decided to open at the same time **3 new WSC Stationery Stores** at New York, with the main goal of revert this situation.
- To support this decision and to select the best neighborhoods for the new stores, WSC has hired us as Data Scientist experts.
- WSC has defined this project as "**The Knowledge Triangle**" (TKT as secret key inside the company) and many of their resources will focus on it.

INTRODUCTION: BUSINESS PROBLEM

- This solution will not be easy. The company has given us the following notes (that won't help in the problem resolution):
 - WSC has no experience nor information about its market at NY City.
 - The renting price of commercial premises at New York is probable the highest of USA.
 - There is a short time to finish the work as the opening is expected by **September, the 1st 2019.**
 - WSC wants not only the best places, but also, they will be more or less geographically distributed at NY City.

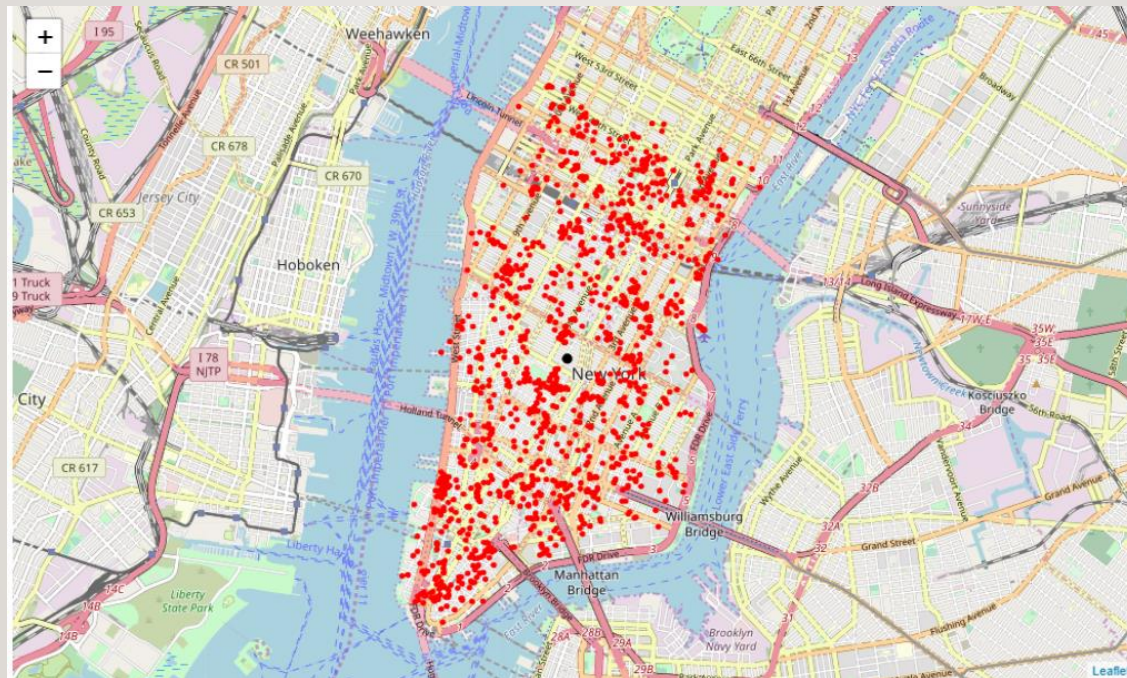
NEIGHBORHOOD DATA AND REPRESENTING IT IN A NY CITY MAP:



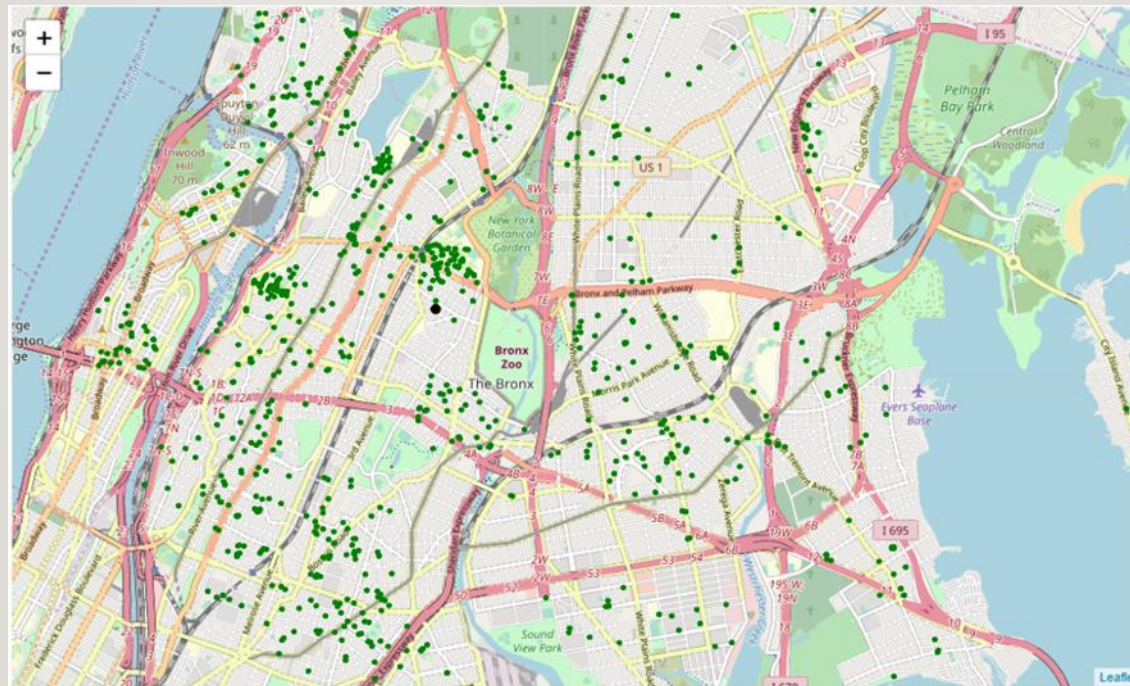
METHODOLOGY

- In this project we will focus in selecting at least **3 New York City neighborhoods** where **WSC company should expand** its stationery store network.
- The analysis will be focused in detecting how cover the **greatest number of schools and universities** with 3 stores
- We will use clustering methods to distribute all the neighborhoods in three groups.

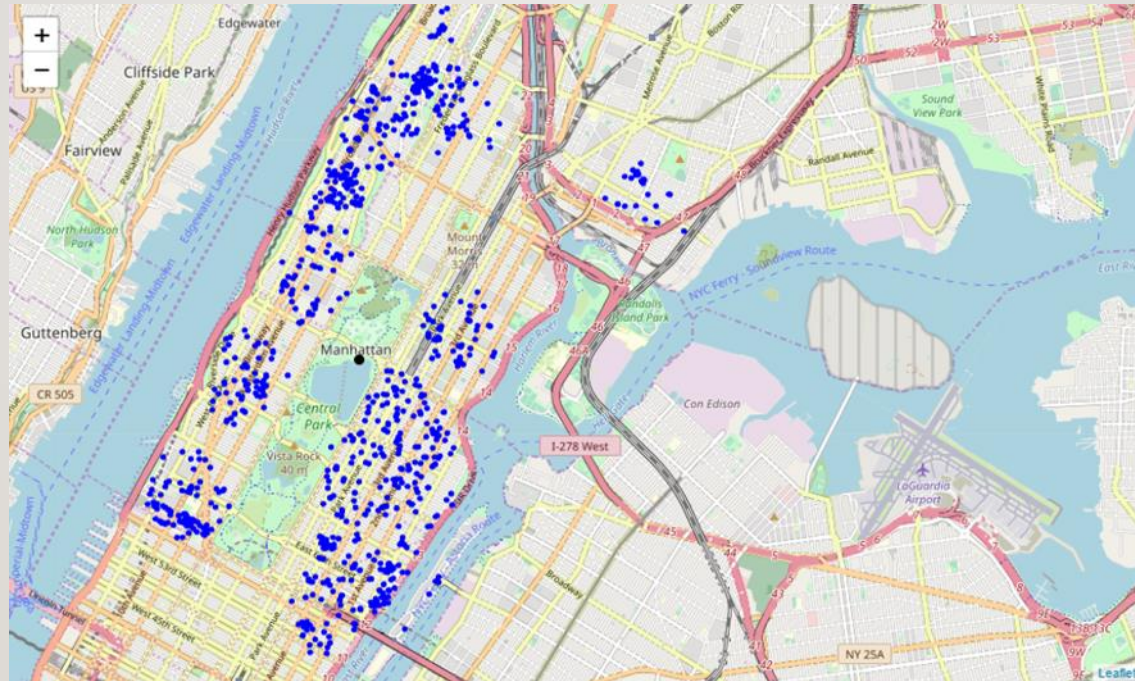
ANALYSIS CLUSTER 0



ANALYSIS CLUSTER I



ANALYSIS CLUSTER 2



SELECTING THE CLUSTERS

- Cluster 0

	Name	Categories	Latitude	Longitude	Distance	VenueType	Positive	Cluster
Neighborhood								
	Civic Center	96	96	96	96	96	96	96
	Midtown South	90	90	90	90	90	90	90
	Flatiron	88	88	88	88	88	88	88

- Cluster 1

	Name	Categories	Latitude	Longitude	Distance	VenueType	Positive	Cluster
Neighborhood								
	Belmont	66	66	66	66	66	66	66
	North Riverdale	52	52	52	52	52	52	52
	University Heights	50	50	50	50	50	50	50

- Cluster 2

	Name	Categories	Latitude	Longitude	Distance	VenueType	Positive	Cluster
Neighborhood								
	Lincoln Square	94	94	94	94	94	94	94
	Lenox Hill	81	81	81	81	81	81	81
	Manhattanville	79	79	79	79	79	79	79

NEIGHBORHOOD SELECTION.

- Based in the last results, our recommendation to WSC is to search a renting location at the following neighborhoods:
 - Civic Center
 - Belmont
 - Lincoln Square

