

Capstone project

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1. INTRODUCTION

1.1SCENARIO AND BACKGROUND

I have chosen CHANDIGARH, INDIA (my hometown) as the location to be used as current location for this project.

1.2PROBLEM TO BE RESOLVED

- youngsters are migrating to foreign countries in search of jobs,want to find an apartment at least similar to one they used to live.
- Thus the problem is to find similar apartment in MANHATTAN, NEW YORK, USA with similar amenities which were around in Chandigarh

1.3AUDIENCE FOR THIS PROJECT

- useful to every person considering moving to foreign countries similar to USA
- will help travel agencies partner with appropriate entities

2. DATA SECTION

- **DATA OF CURRENT PLACE (CHANDIGARH HERE)**

Data from FOURSQUARE will be used to identify the main venues near Chandigarh.

This data will be superimposed on the map of Chandigarh, will serve as reference to find desired location in MANHATTAN.

- **DATA NEEDED TO SOLVE THE PROBLEM**

-

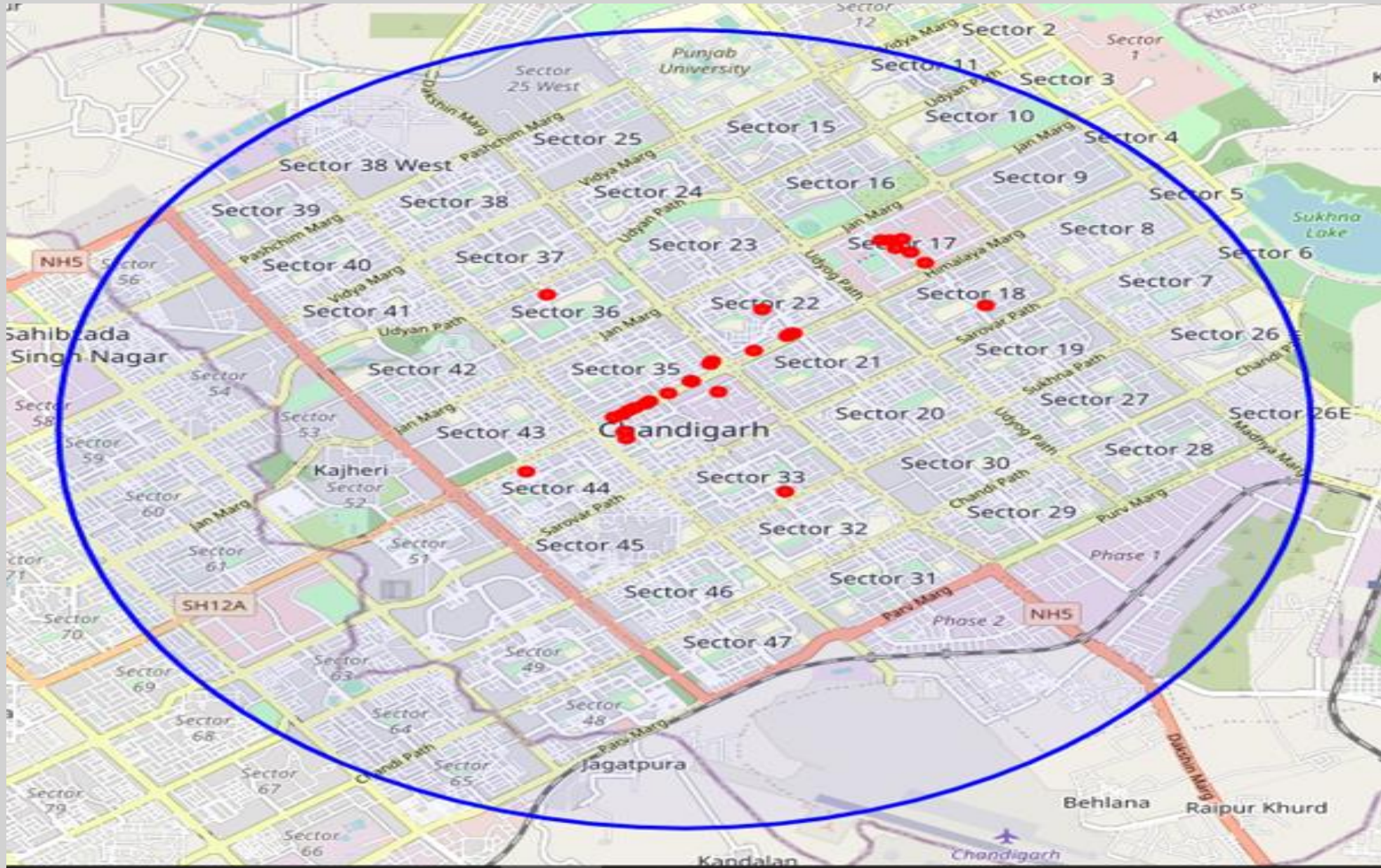
- Coordinates of places in manhattan.
- Info of the apartments listed for renting out in Manhattan
- List of basic facilities provided at each neighbourhood (top 5)
- List of metro/bus stations near and in each neighbourhood.

3. METHODOLOGY

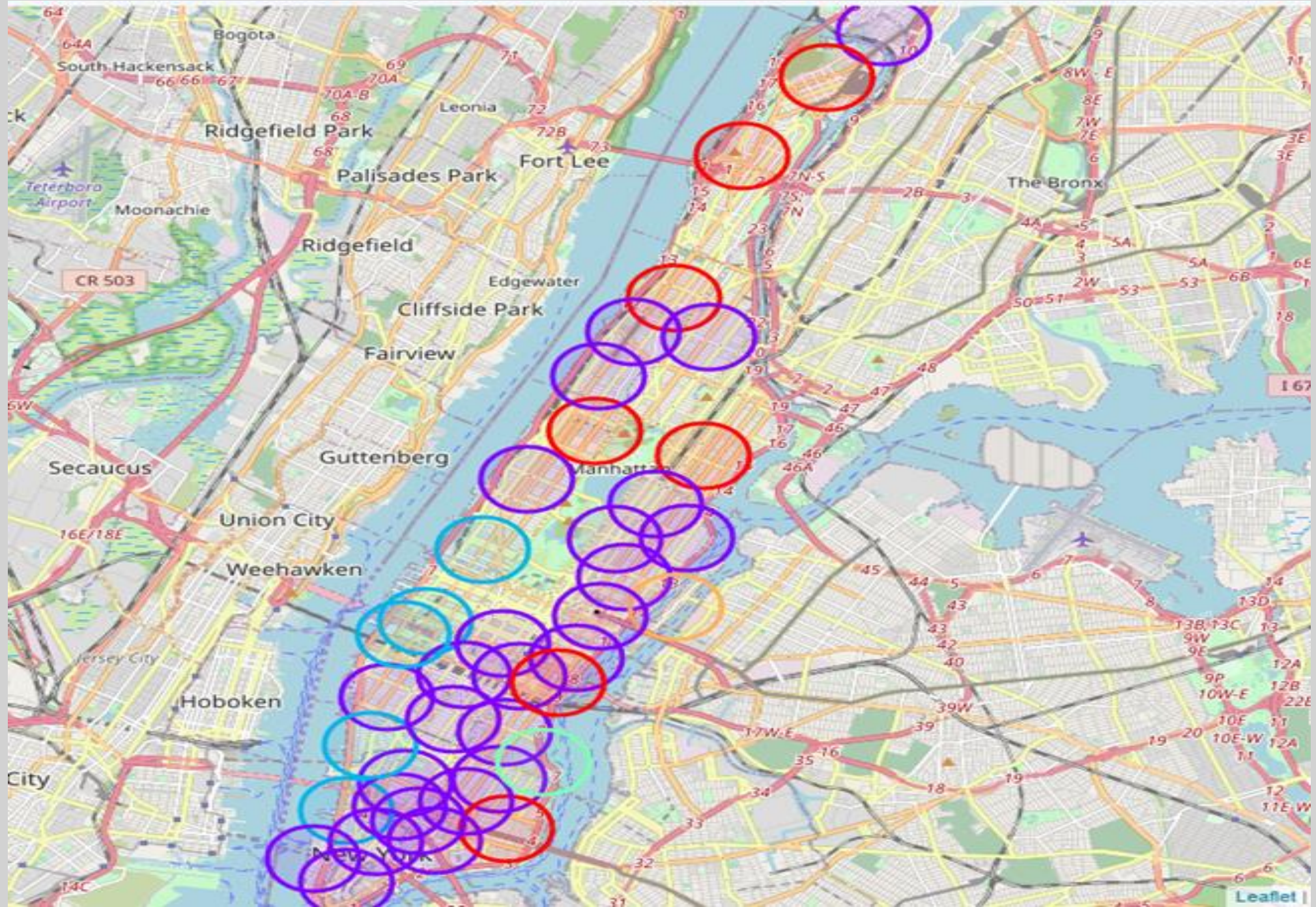
- FourSquare to get the coordinates of the venues around the current residence (chandigarh) .
- compared those venues with clustered neighbourhood.
- Rules while filtering apartments in manhattan:
 1. Must be close to 1 or more metro stations.
 2. Must be in the neighbourhood containing similar venues
 3. Rent price must be lower or equal to our budget .
 4. No of rooms

4. RESULTS

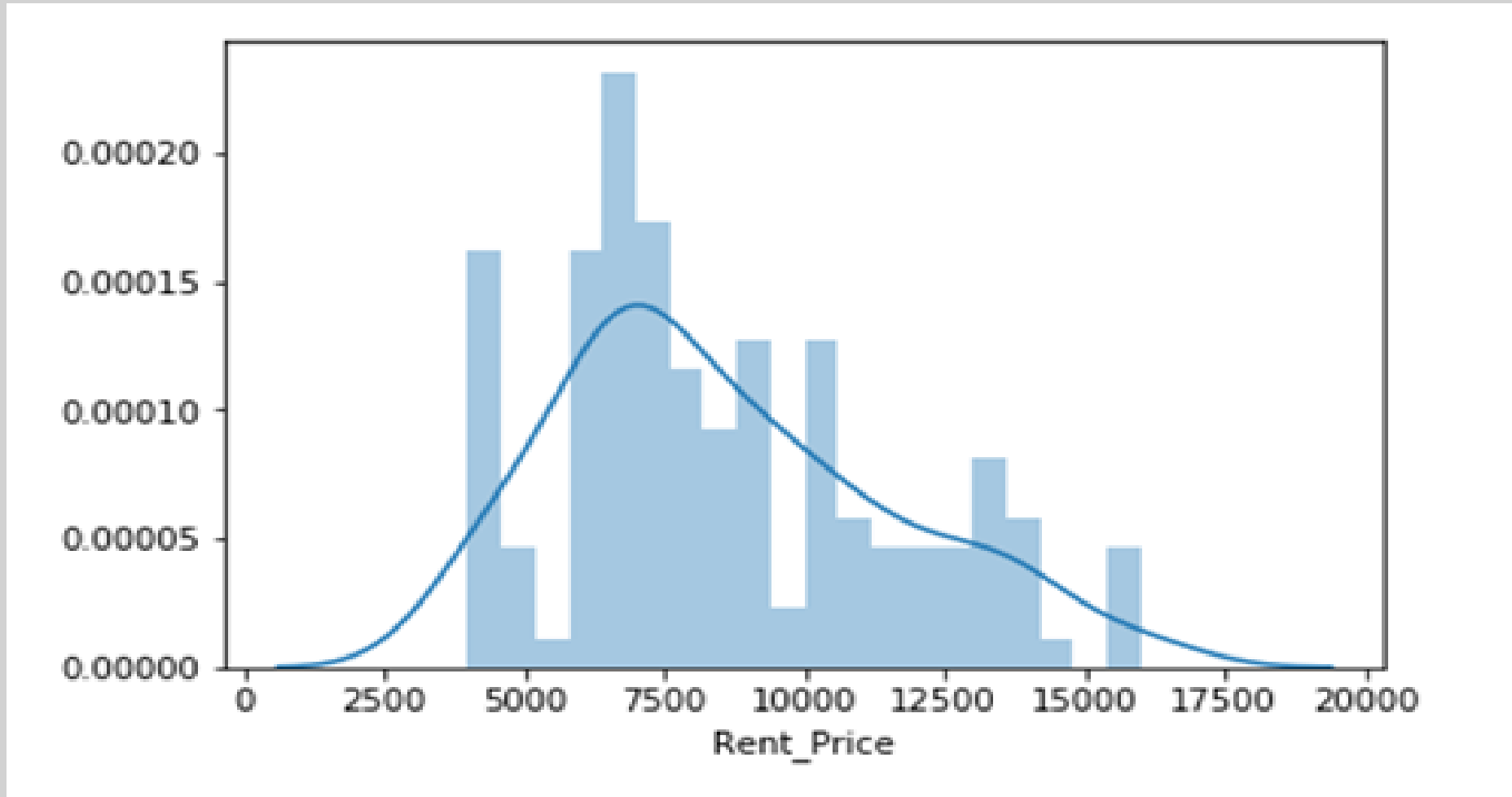
4.1 MAP OF CHANDIGARH WITH VENUES



4.2 MAP OF MANHATTAN, NEW YORK WITH CLUSTERED NEIGHBORHOODS ALONG VENUES

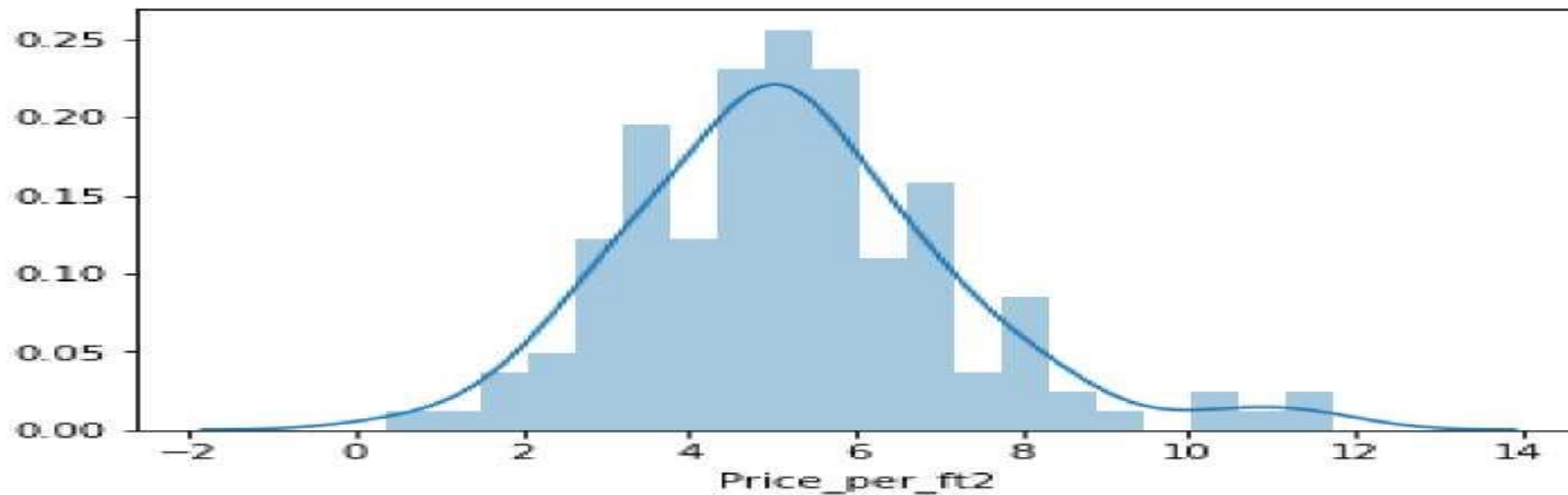


4.3 ANALYSING GEODATA OF APARTMENTS ON RENT IN MANHATTAN

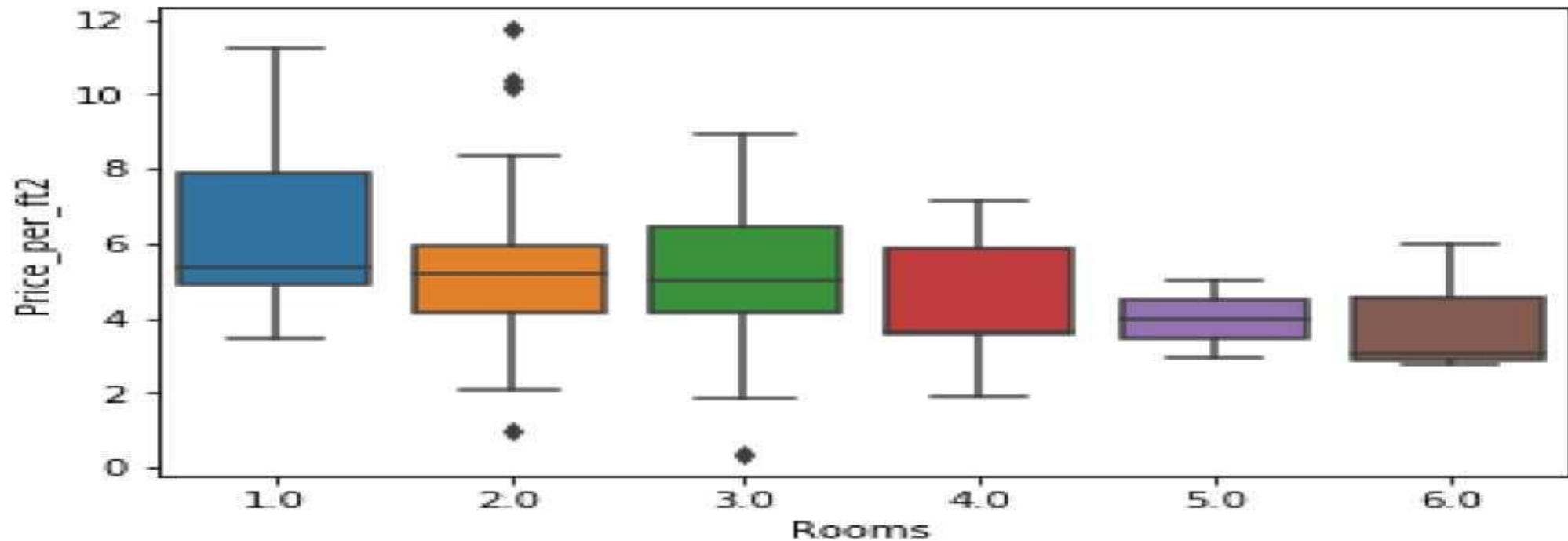


Observation from above plot- maximum rental apartments have rent close from 6000 to 7000 US dollar which is greater than my budget but being developed nation with better facilities they'll definitely charge more.

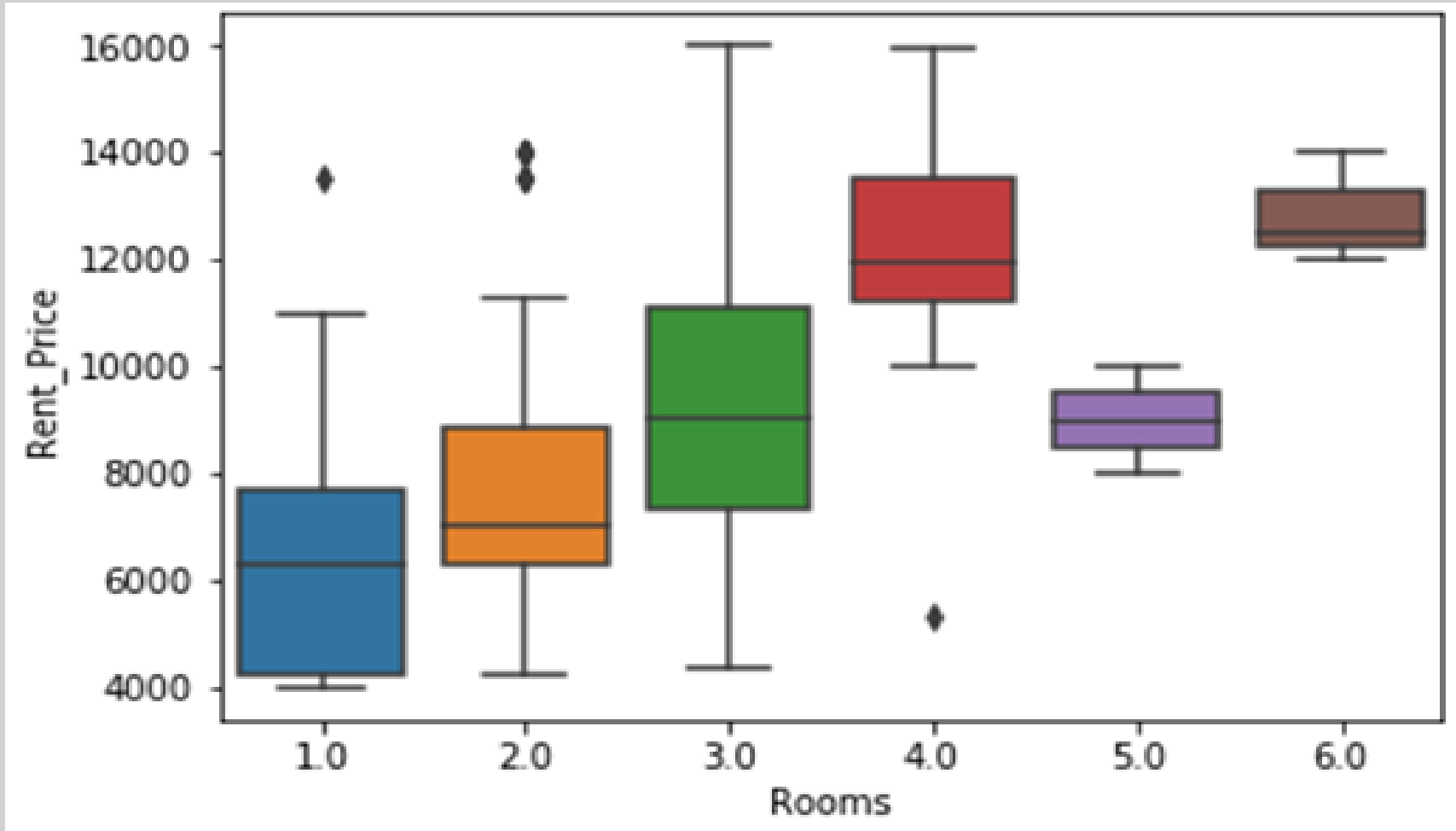
2. Plotting univariate distribution of Price per square foot



3. Boxplot of rooms vs price per square foot



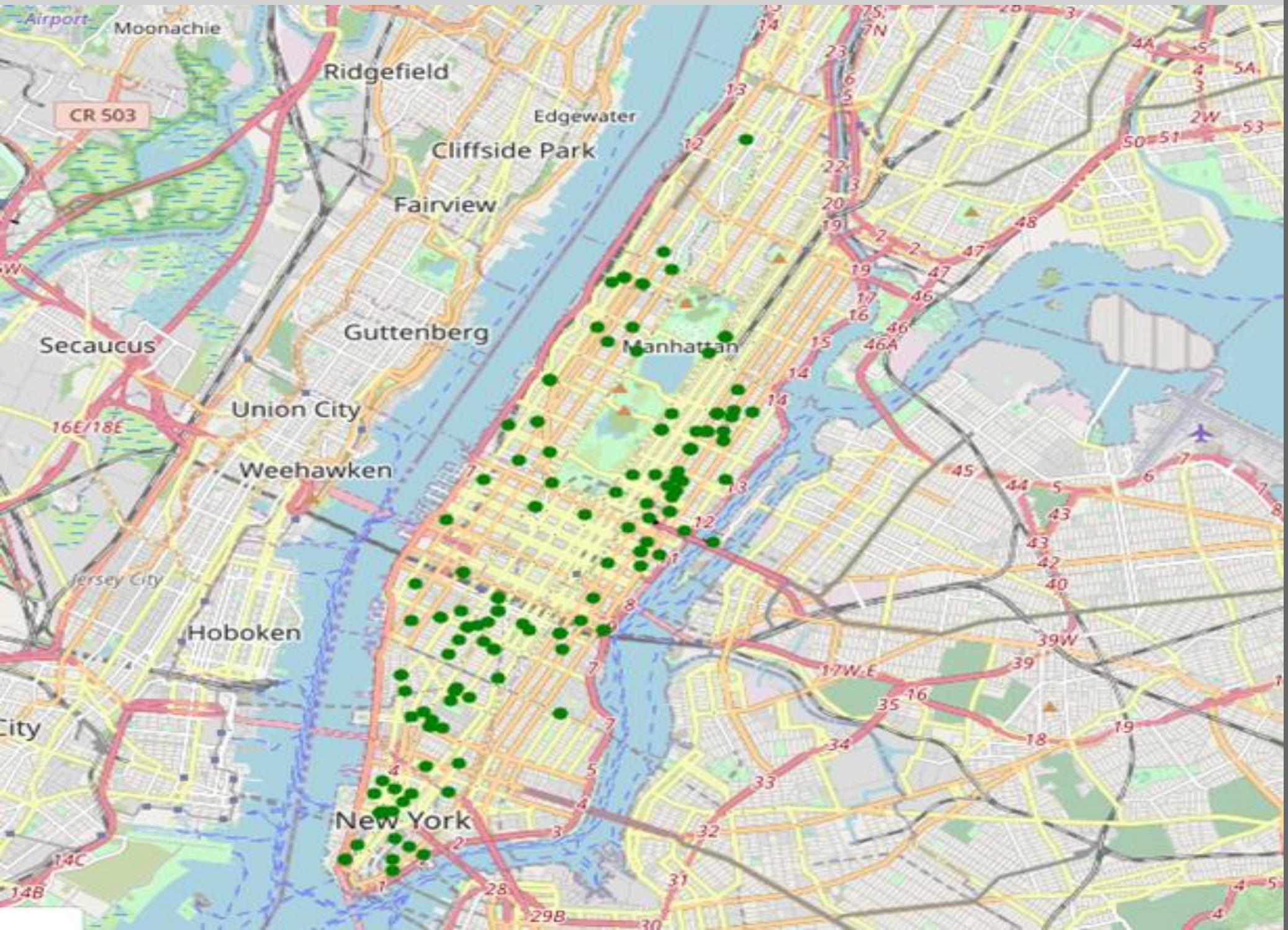
4. Boxplot of rooms vs rental price



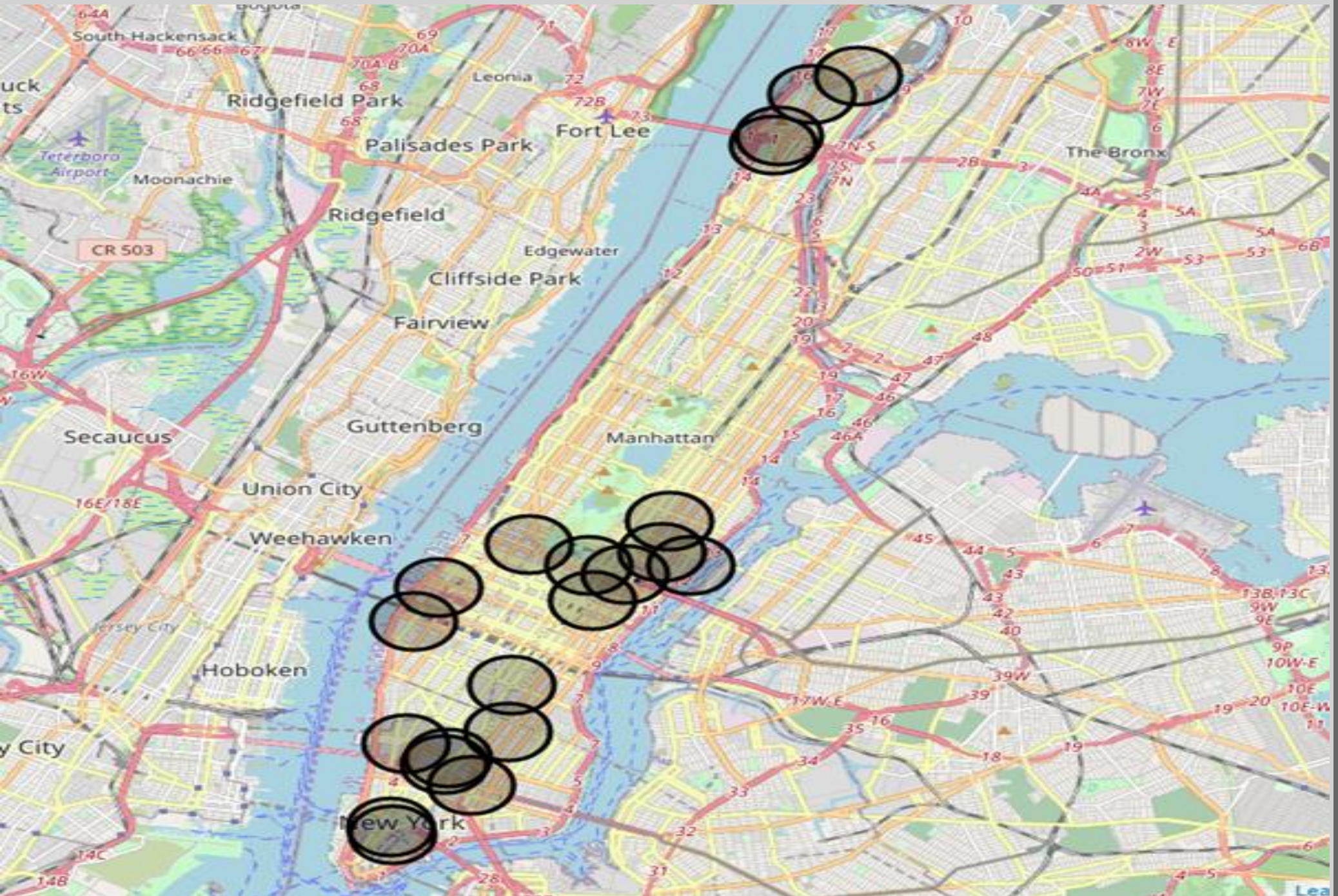
Observtion from above plot-

- median of 1 room apartments < 6500 rent price
- median of 2 room apartments > 7000 rent price
- there is a outlier in 4 room apartments charging < 6000 US dollar.

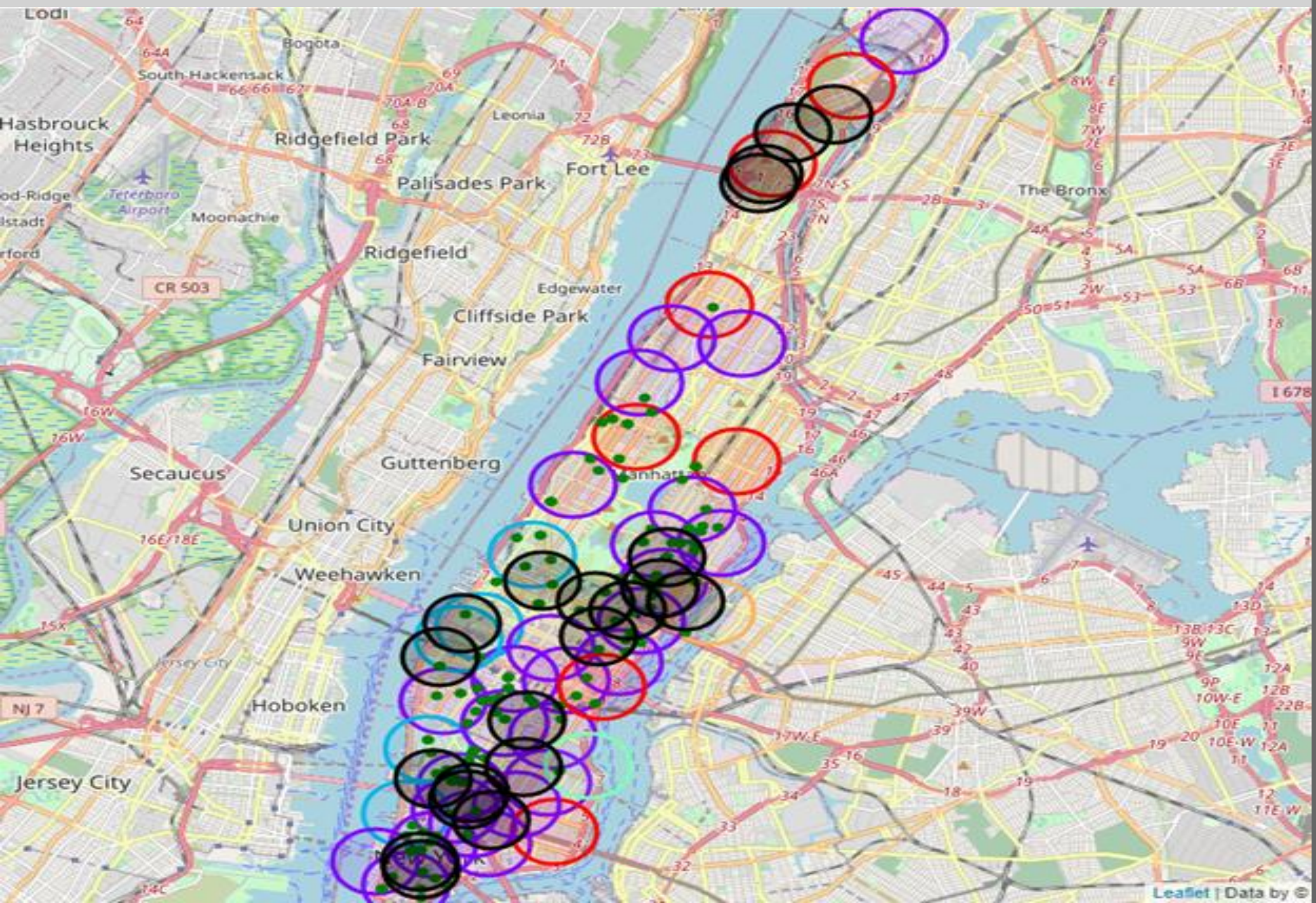
4.4 APARTMENTS ON RENT IN MANHATTAN,NY



4.6 MAP OF MANHATTAN WITH METRO STATIONS MARKED



FINAL MAP



THE FINAL MAP IS COMBINED MAP WITH ALL THE NECESSARY MARKERS :

- BLACK MARKERS TELL THE INFORMATION OF METRO STATIONS
- GREEN MARKERS TELL THE INFORMATION OF APARTMENTS ON RENT
- RED MARKERS TELL THE INFORMATION OF CLUSTER=0 NEIGHBORHOODS
- PURPLE MARKERS TELL THE INFORMATION OF CLUSTER=1 NEIGHBORHOODS
- SKY BLUE MARKERS TELL THE INFORMATION OF CLUSTER=2 NEIGHBORHOODS

5. DISCUSSION

- **to generalize it more ,need more diverse data , from different countries & different kind of areas.**
- **Different person might require more facilities,bigger Apartment ,more rooms and thus the model can help them too.**
- **One can observe that the apartments on rent are not available in north of manhattan which is isolated a little.**
- **Most apartments on rent + metro stations + cluster venues found in southern part**

6. CONCLUSION

In this study , I found out how to find an apartment in New York, With atleast similar amenities as in chandigarh but better in ways such as metro stations nearby !



Above labelled apartment 211 East 70th street (4250\$ rent price) with nearest 72street Subway Station in LENOX HILL neighbourhood(cluster=1) is the one I have chosen

THANK YOU