CAPSTONE PROJECT – THE BATTLE OF THE NEIGHBOURHOODS

BY IBM/COURSERA

ALEX BERSCHAUER

GERMANY

2019

Table of contents:

1. Introduction: Business Problem

1.1 SCENARIO AND BACKGROUND

I AM TRYING TO GET A DATA SCIENTIST, ADDING TO MY MBA DEGREE, AND CURRENTLY LIVING IN FRANKFURT-AM-MAIN, GERMANY. I ENJOY MANY AMENITIES IN THE NEIGHBORHOOD, SUCH AS INTERNATIONAL COUSIN RESTAURANTS, CAFES, FOOD SHOPS AND SOME ENTERTAINMENT OPTIONS. RECENTLY, I HAVE BEEN OFFERED A OPPORTUNITY TO WORK IN NEW YORK, US.
WELL, I AM REALLY VERY EXCITED ABOUT THE FUTURE JOB, I AM ALSO A LITTLE STRESSED ABOUT TO SECURE A COMPARABLE PLACE TO LIVE IN NEW YORK. THEREFORE,
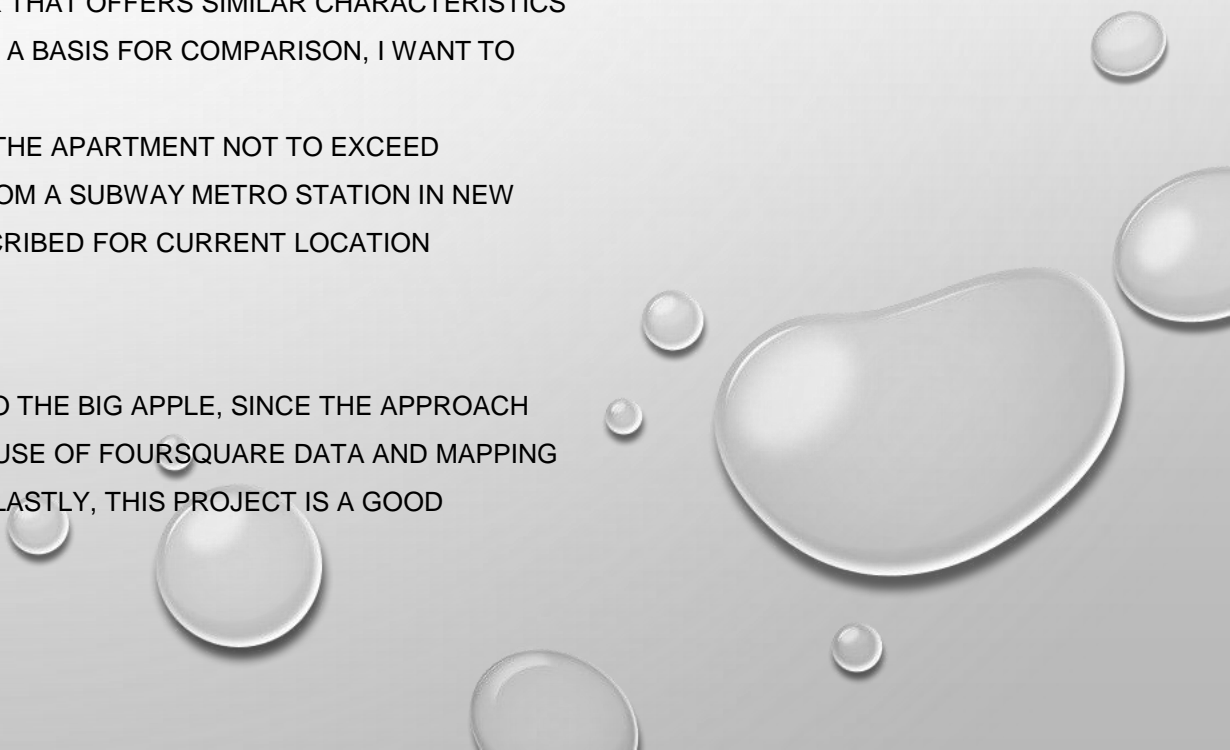
1.2 PROBLEM TO BE RESOLVED:

THE CHALLENGE TO RESOLVE IS BEING ABLE TO FIND A RENTAL APARTMENT IN NEW YORK THAT OFFERS SIMILAR CHARACTERISTICS AND BENEFITS TO MY CURRENT SITUATION IN FRANKFURT. THEREFORE, IN ORDER TO SET A BASIS FOR COMPARISON, I WANT TO FIND A RENTAL UNIT SUBJECT TO THE FOLLOWING CONDITIONS:
APARTMENT WITH MIN 3 BEDROOMS (WE HAVE 2 KIDS IN OUR FAMILY) MONTHLY RENT OF THE APARTMENT NOT TO EXCEED US$3000/MONTH FLAT SHOULD BE LOCATED WITHIN WALKING DISTANCE (UP TO 2.0 KM) FROM A SUBWAY METRO STATION IN NEW YORK AREA OF THE FLAT WITH AMENITIES AND VENUES SOME SIMILAR TO THE ONES DESCRIBED FOR CURRENT LOCATION

1.3 INTERESTED AUDIENCE

I THINK THIS IS A RELEVANT PROJECT FOR A PERSON OR FAMILY CONSIDERING MOVING TO THE BIG APPLE, SINCE THE APPROACH AND METHODOLOGIES USED HERE ARE SUPPOSED TO BE APPLICABLE IN ALL CASES. THE USE OF FOURSQUARE DATA AND MAPPING TECHNIQUES COMBINED WITH DATA ANALYSIS WILL HELP RESOLVE THE KEY QUESTIONS. LASTLY, THIS PROJECT IS A GOOD PRACTICAL CASE TO PRACTICE DATA SCIENCE SKILLS.
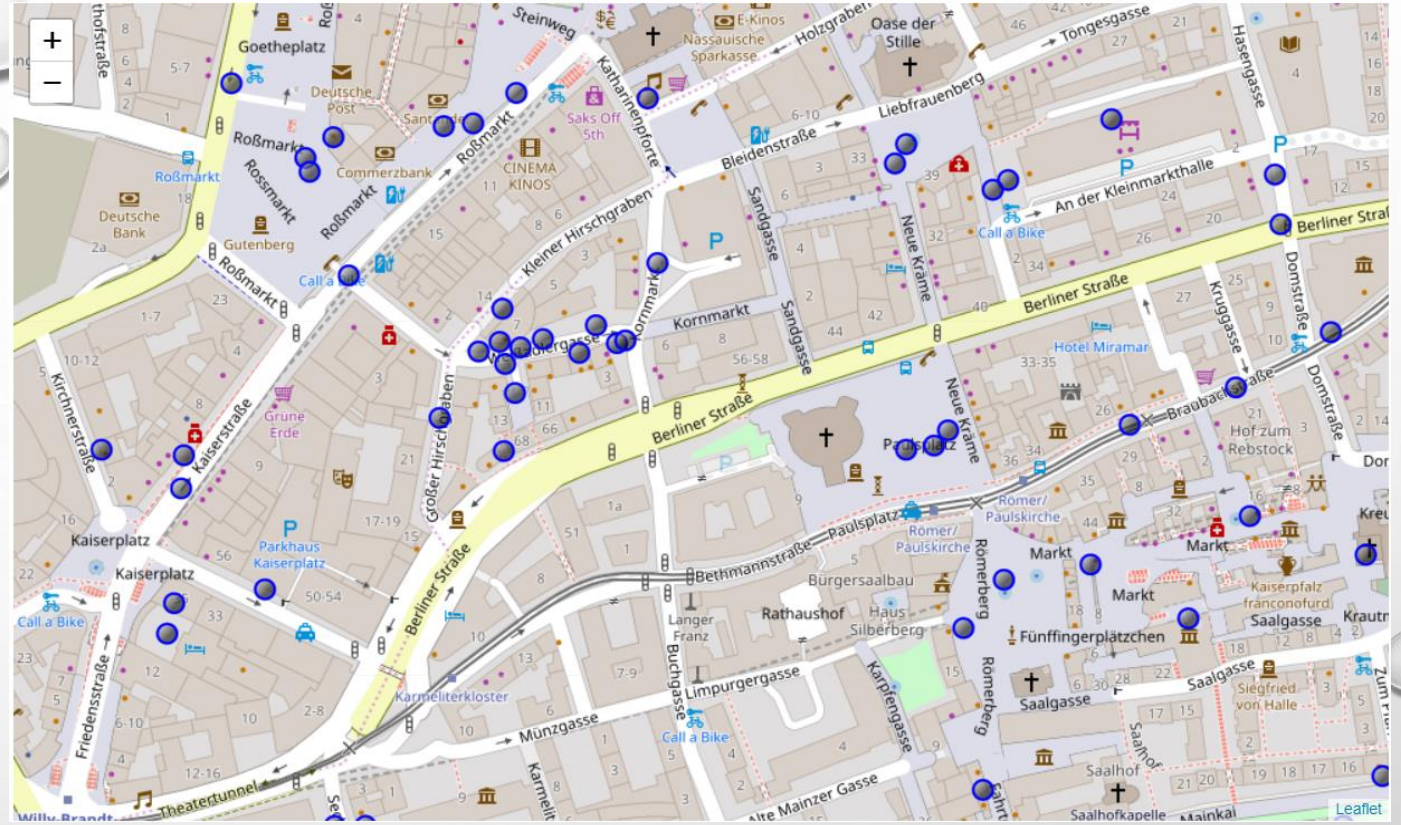
I am currently living in Frankfurt-am-Main, Germany. I enjoy many amenities in the neighborhood, such as international cousin restaurants, cafes, food shops and some entertainment options.

Some word about this beautiful city:
Frankfurt is the most international city in Germany, the largest financial center on the continent, the historical city of coronations, the city of Goethe and the Frankfurt School… In brief, to the smallest metropolis in the world, in which there is a lot to discover at close hand. Whether this glance at the city's home page is the start of a longer, maybe even permanent, stay on the banks of the Main, or if, as a business visitor, you only have a limited amount of time available: you will find that the city has interesting offers for extensive tours of the city, cultural enjoyment and attractive shopping trips waiting for you.

Here some data of the current location in Frankfurt. Frankfurt Map - Current residence and venues in neighbourhood.

On the map we can see some example venues in neighbourhood of the current residence in Frankfurt-am-Main. Germany.

But now I must think about the future. I Know, New York is the Capital of the World and also called the Big Apple.

Here are some words about this exciting metropole: Hustle. Heart. Glamour. Grit. This city is an ever-changing blend of these elements. Hustle powers Michelin-starred kitchens. Heart pulses under Broadway lights. Glamour shines in art deco palaces. And our New York City grit lends indelible character to every experience.
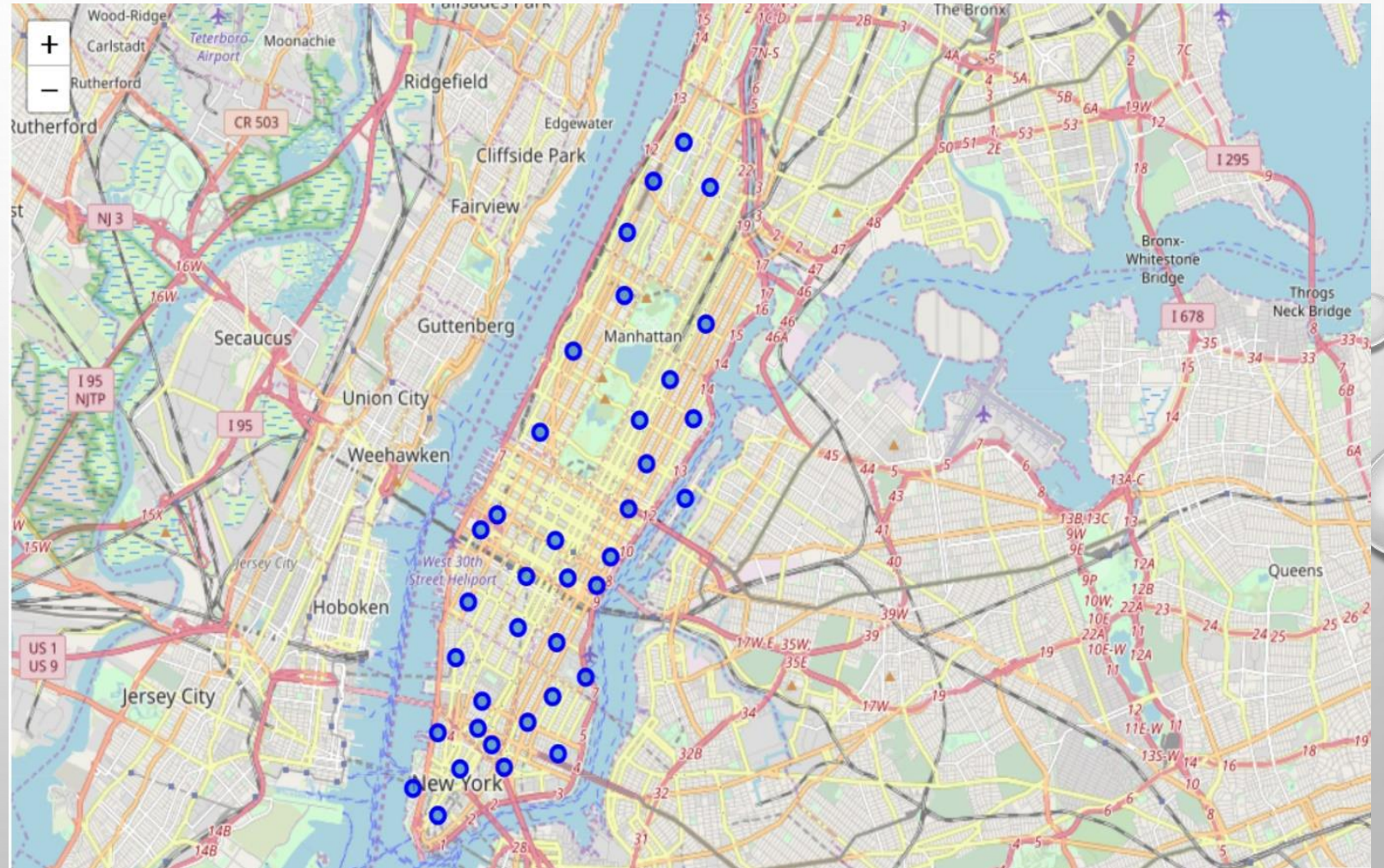
Well, I am really very excited about what I am expected of in the Big Apple!!!

But what is my future neighbourhood?

Let us have a look at the map:

Here are some examples of amenities in the neighbourhood:

Central Harlem

Seafood Restaurant

Bar

Cosmetics Shop

French Restaurant

Public Art

Chelsea
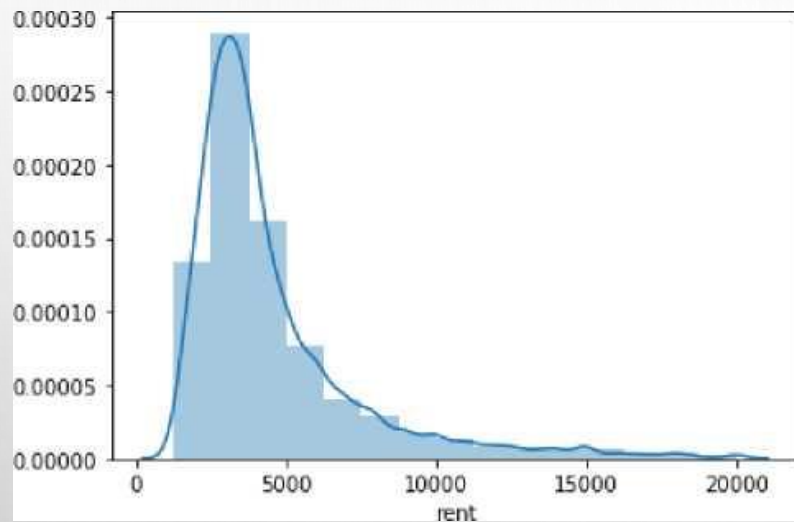
Coffee Shop
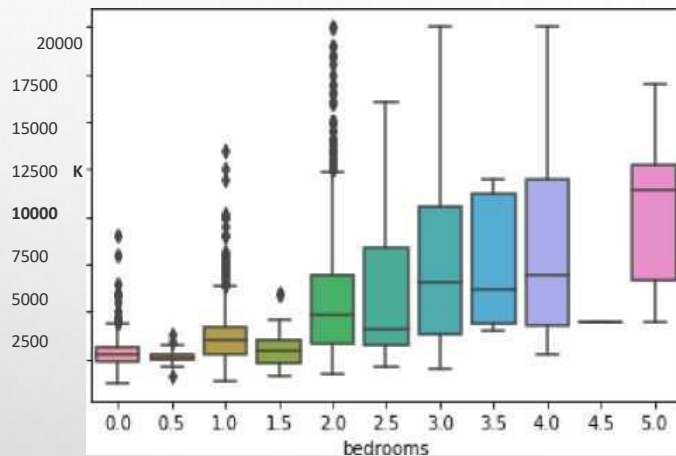
Italian Restaurant

Ice Cream Shop

Bakery

Nightclub

MANHATTAN APARTMENT RENT PRICE STATISTICS

As we can see the rental prices are mainly set at actually round $3000 per month, which is satisfactory!
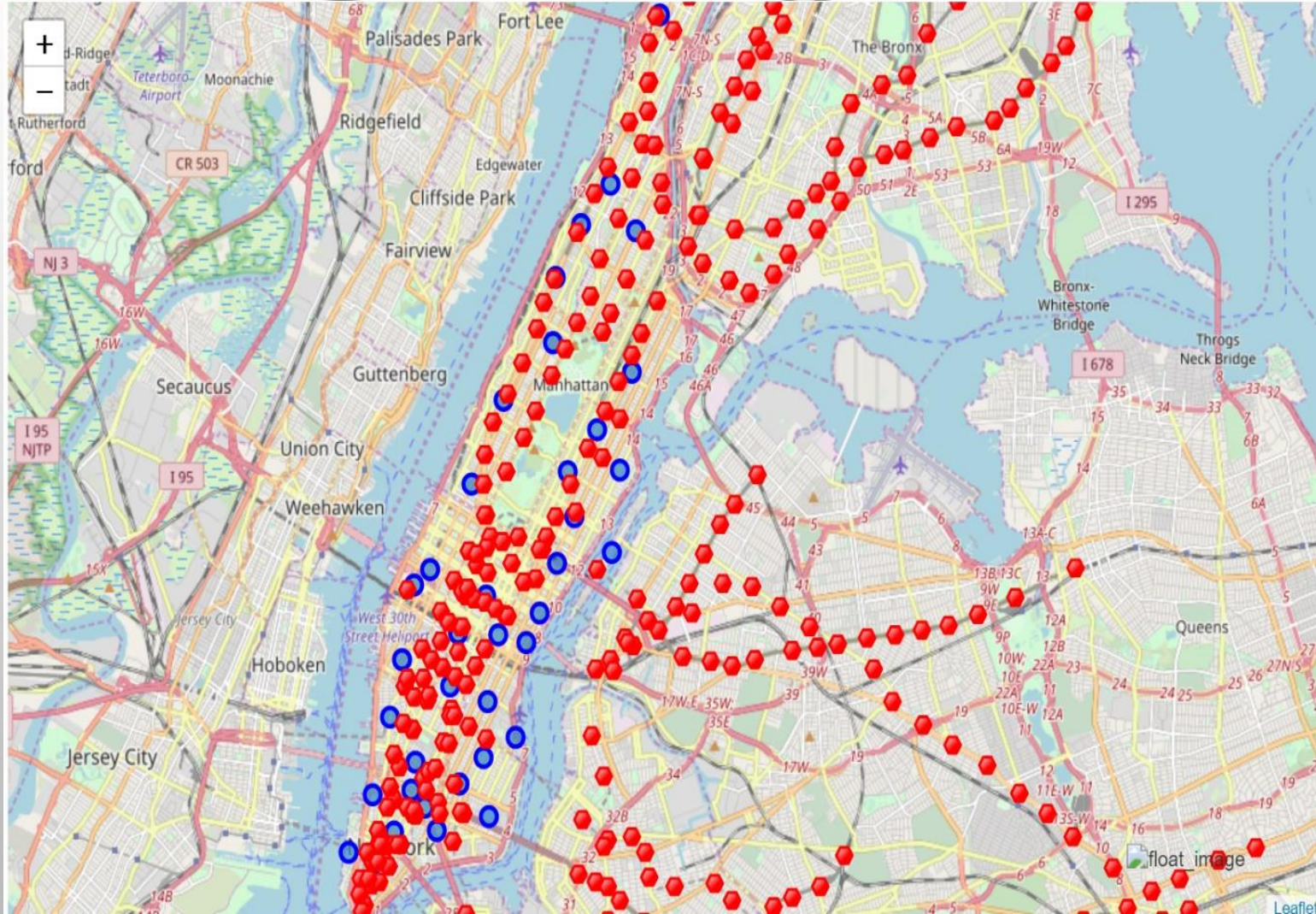
Remember, we need a 3 bedrooms apartment, for we have two children.

The boxplot shows us that there are not very many offers to the desired price about $3000 per month. But we still have a choice!

Consolidate Map of Manhattan showing places for rent and the subway locations nearby

To remember of the main question asked in the 1. Section of our survey:

Question: I would like to have a choice of locations with the following criteria:

Apartment with min 3 bedrooms (we have 2 kids in our family)

Monthly rent of the apartment not to exceed US$3000/month

Flat should be located within walking distance (up to 2.0 km) from a subway metro station in New York

Area of the flat with amenities and venues some like the ones described for current location

Apartment Selection

I can now choose the apartment which correlates with my idea:

- of price (US$3000/month)

- of flat size (with min 3 bedrooms)

- up to 2.0 km from a subway metro station

- amenities and venues some like the ones described for current location in Frankfurt