

Applied Data Science Capstone

The Battle of Neighborhoods

Apartments For Rent In NYC

Apartments For Rent In NYC

1. Introduction

suitable apartment for rent in Manhattan NYC that complies with the demands on location, price and venues. The data required to resolve this challenge is described

Problem statement to resolve

To find an apartment with minimum of 1-2 bedrooms, price of Maximum US\$7000-7500 per month located within 1 kilometers of subway along

Apartments For Rent In NYC

2.Data Section

following data is required to answer the issues of the problem:

List of Boroughs and neighborhoods of Manhattan with their latitude and longitude

List of Subway metro stations in Manhattan with their relative location

Venues for each Manhattan neighborhoods (that can be clustered)

Venues for subway metro stations

The data will be used as follows:

Use foursquare and geopy data to map the location of subway metro stations , separately and on top of the above clustered map in order to be able to identify the venues and amenities near each metro station, or explore each subway location separately

Addresses from rental locations will be converted to geodata using Geopy-distance and Nominatim. Data will be searched in open data sources if available, from real estate sites if open to reading, libraries or other government agencies such as Metro New York

The procesing of these DATA will allow to answer the key questions to make a decision:

How venues distribute among Manhattan neighborhoods and around metro stations?

Are there tradeoffs between size and price and location?

Any other interesting statistical data findings of the real estate and overall data.

3.METHODOLOGY

The background of the slide is an abstract geometric pattern composed of numerous triangles of varying sizes. The color palette is a gradient of blues and greens, with darker shades of blue at the bottom and lighter, more yellowish-green shades at the top. The triangles are arranged in a way that creates a sense of depth and movement, resembling a stylized mountain range or a crystalline structure.

**The geographical coordinate of Melbourne home are -
37.8210248, 144.965629.
neighborhood_latitude=-37.8212898
neighborhood_longitude=144.9644173**

```
# Riverside Quay Southbank (Riverside Quay) Southbank VIC 3006 Australia
address = 'Riverside Quay, Southbank'

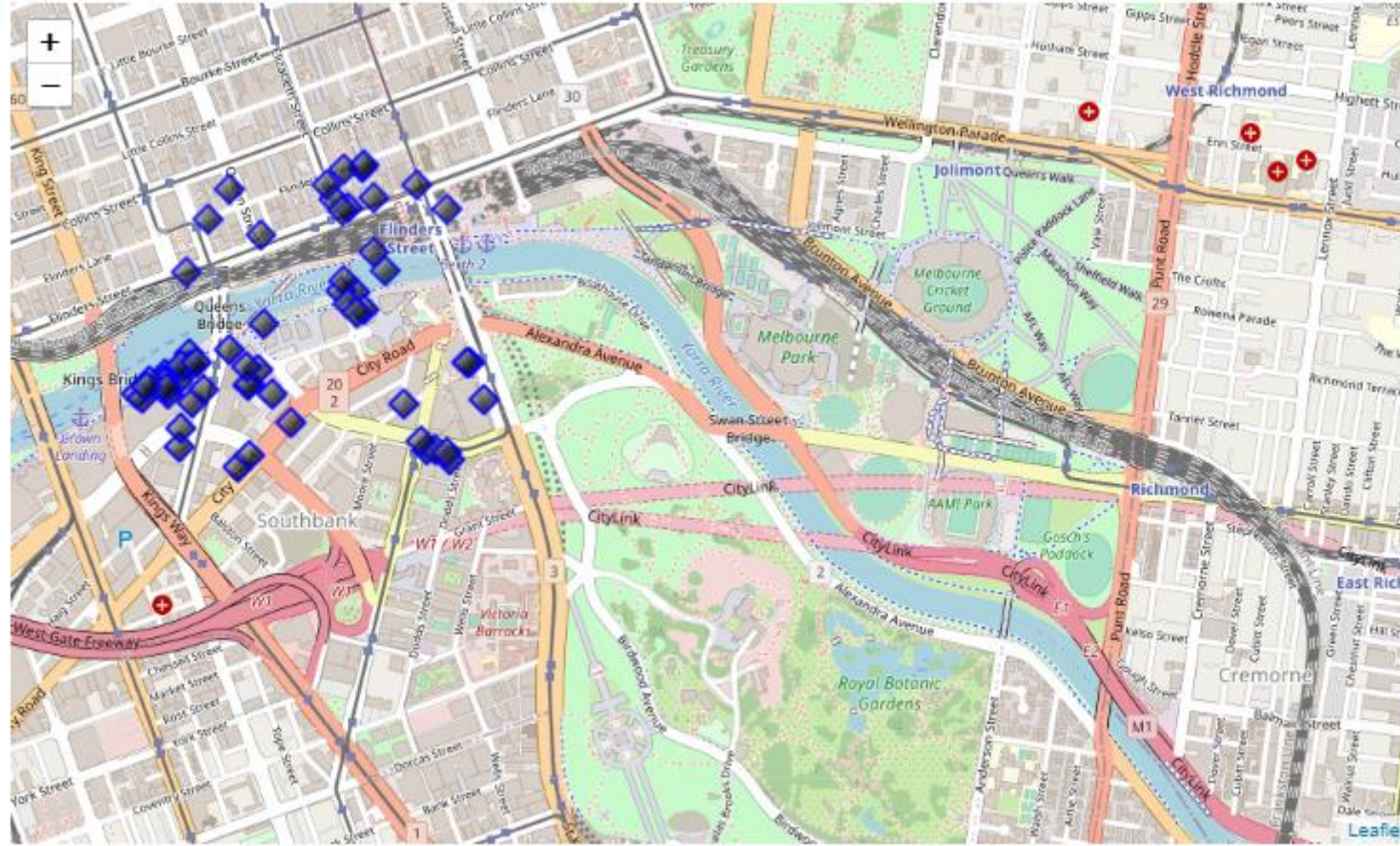
geolocator = Nominatim()
location = geolocator.geocode(address)
latitude = location.latitude
longitude = location.longitude
print('The geographical coordinate of Melbourne home are {}, {}'.format(latitude, longitude))
```

/opt/conda/envs/Python36/lib/python3.6/site-packages/ipykernel/__main__.py:4: DeprecationWarning: Using Nominatim with the default "geopy/1.18.1" `user_agent` is strongly discouraged, as it violates Nominatim's ToS <https://operations.osmfoundation.org/policies/nominatim/> and may possibly cause 403 and 429 HTTP errors. Please specify a custom `user_agent` with `Nominatim(user_agent="my-application")` or by overriding the default `user_agent`: `geopy.geocoders.options.default_user_agent = "my-application"`. In geopy 2.0 this will become an exception.

The geographical coordinate of Melbourne home are -37.8210248, 144.965629.

```
neighborhood_latitude=-37.8212898
neighborhood_longitude=144.9644173
```


Out[11]:

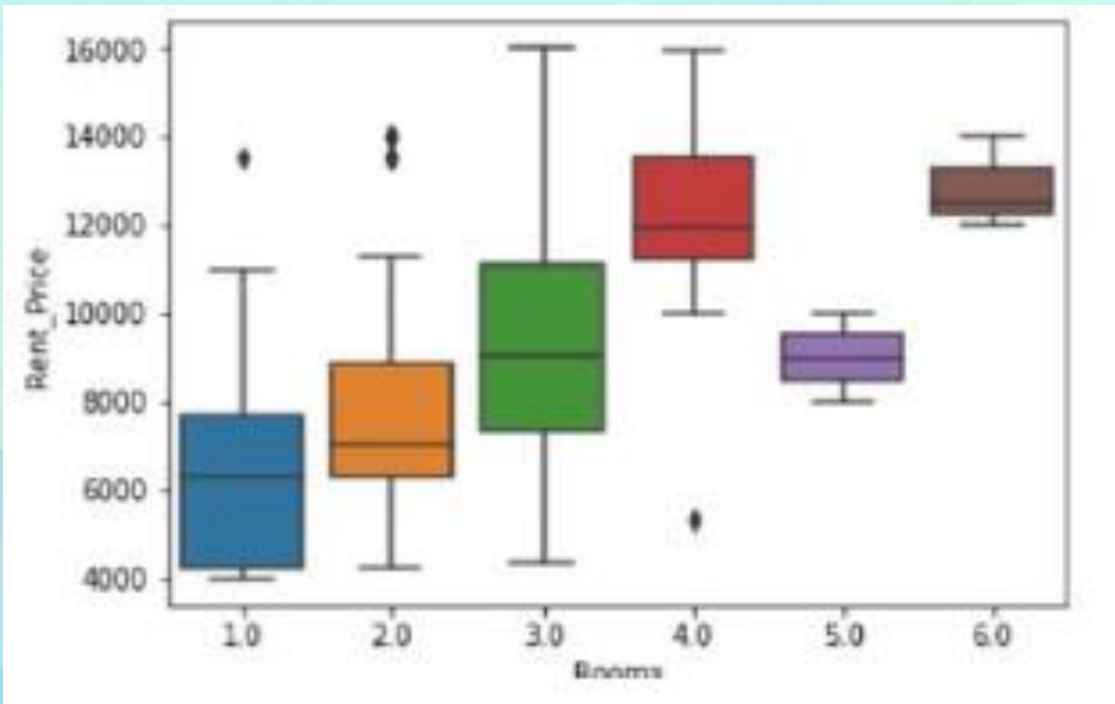


In [8]: results = requests.get(url).json()

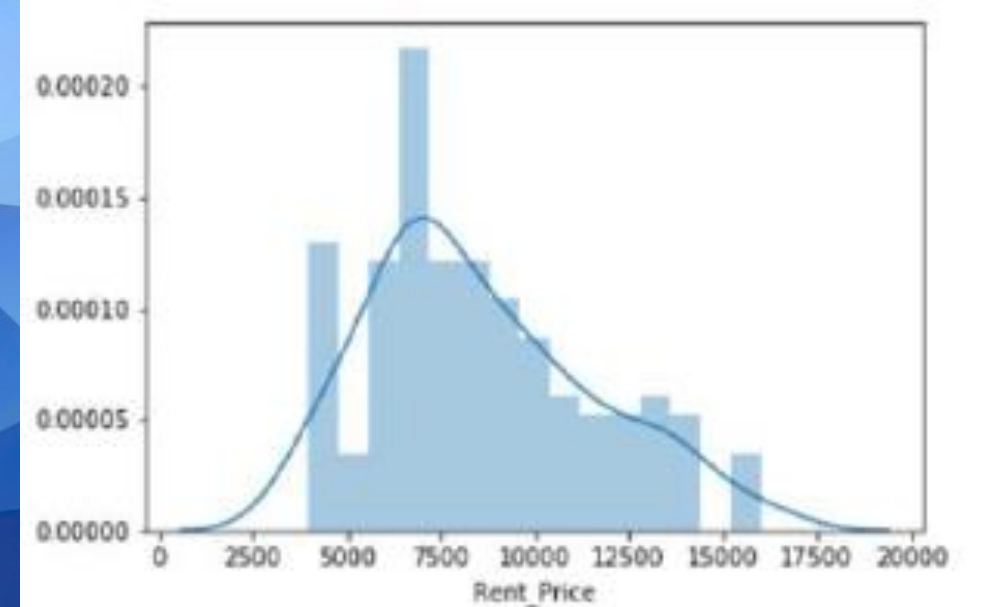
Neighborhood in Southbank Melbourne

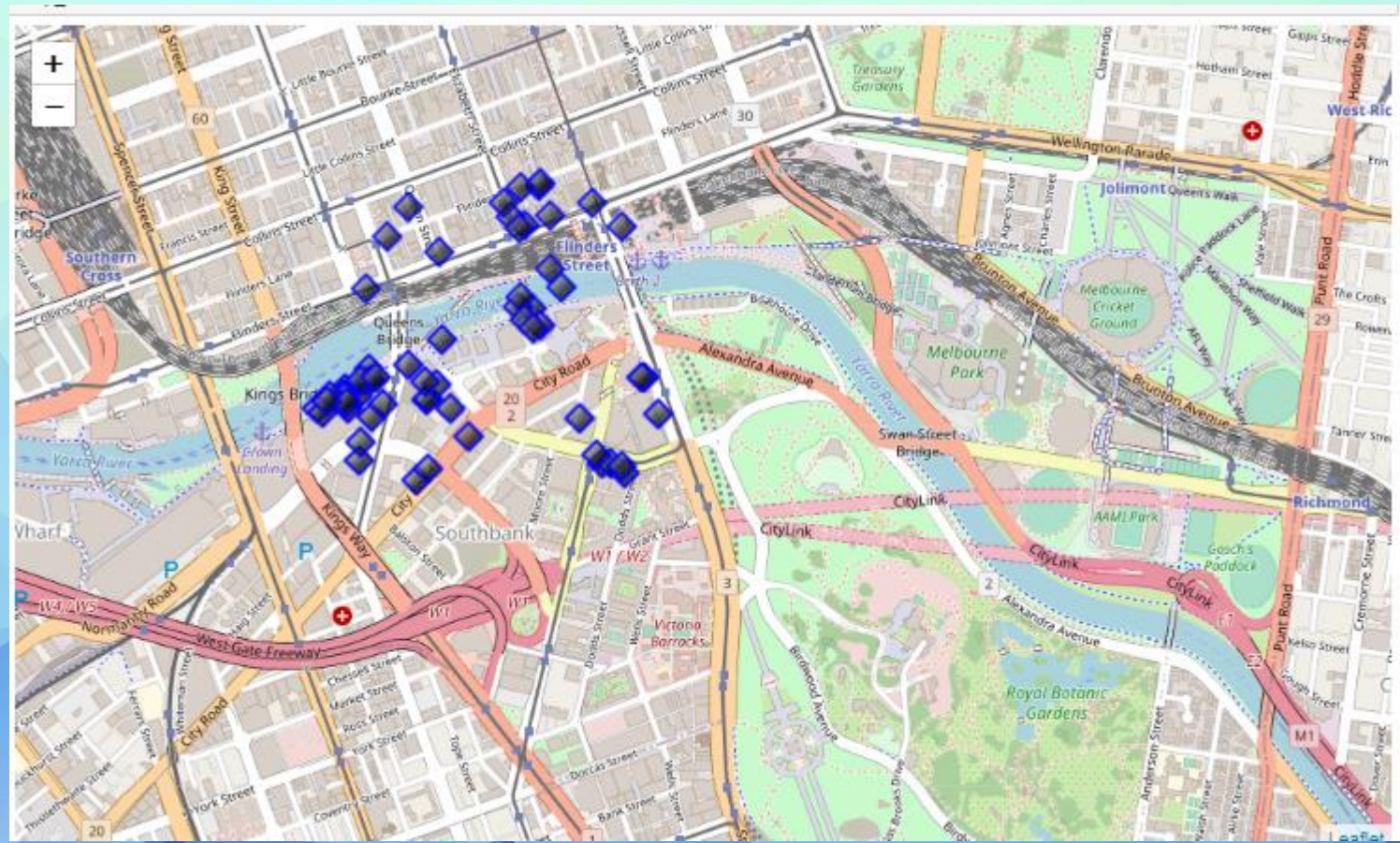
VENUES AROUND NEIGHBORHOOD IN SOUTHBANK MELBOURNE

	name	categories	lat	lng
0	Southbank Promenade	Pedestrian Plaza	-37.819959	144.965467
1	Ponyfish Island	Bar	-37.819918	144.965021
2	Yarra River	River	-37.819684	144.965115
3	The Langham	Hotel	-37.820370	144.965710
4	Broad Bean Organic Grocer	Grocery Store	-37.822588	144.966912
5	Pure South	Australian Restaurant	-37.820232	144.965259
6	Arbory Bar & Eatery	Bar	-37.819020	144.966004
7	Arbory Afloat	Bar	-37.819430	144.966338
8	Candela Nuevo	Cocktail Bar	-37.818614	144.962604
9	Crown Promenade	Plaza	-37.821669	144.960354



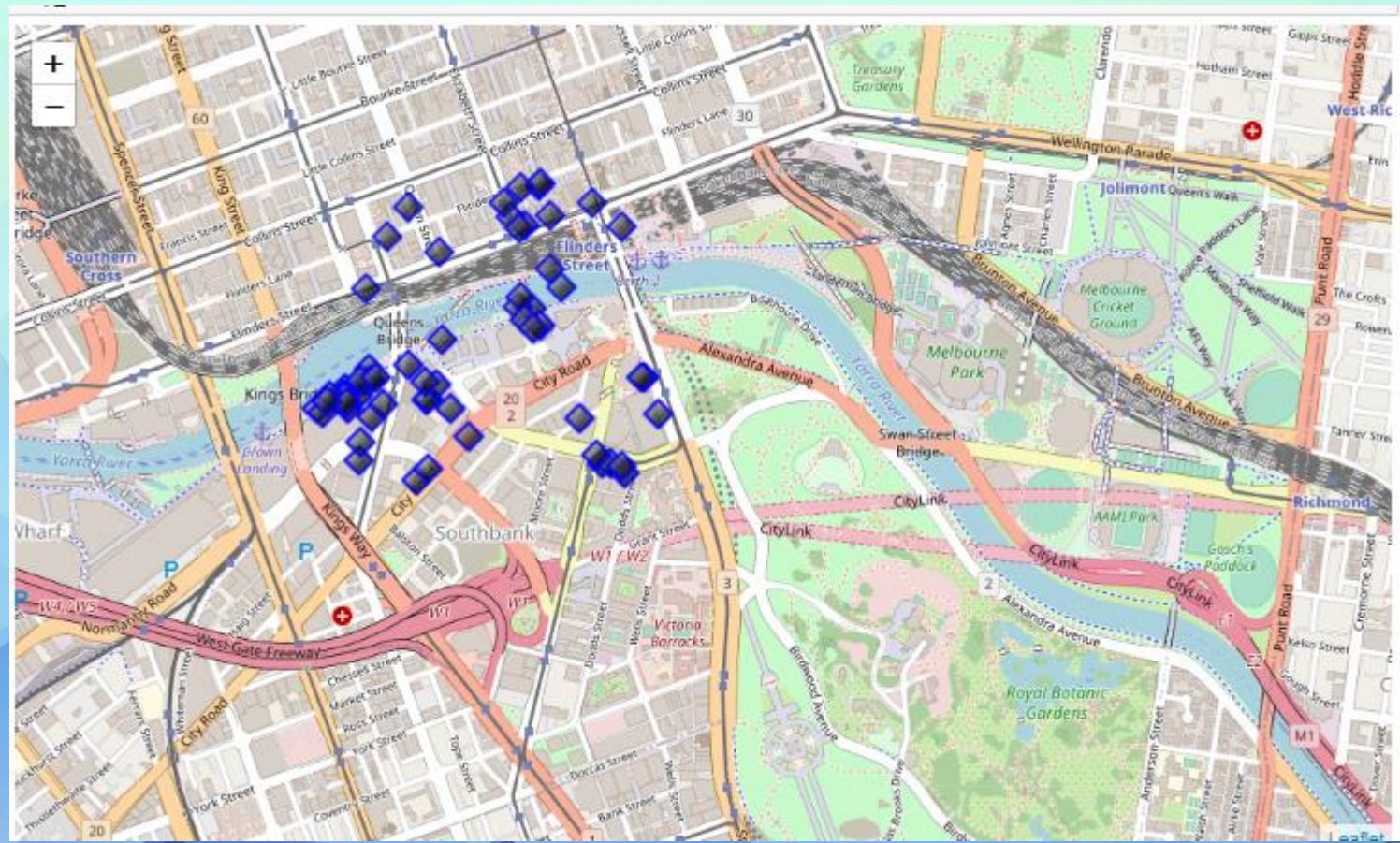
RENTAL PRICE STATISTICS MH APARTMENTS





5. DISCUSSION

I believe that convenience and location both matter a lot. Having to spend \$7000-7500 USD per month considering that I currently pay 2000 USD a month in Southbank and enjoying life means I should stay in Melbourne .



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I believe that convenience and location both matter a lot. Having to spend \$7000-7500 USD per month considering that I currently pay 1800 USD a month in Southbank and enjoying life means I should stay in Melbourne .