Best neighborhood to rent apartment in Bangkok

Coursera Capstone Project

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0.1 Introduction

Moving to a new area includes house hunting and finding a house in unfamiliar area is a major challenge. Conventional way of doing it is drive by your new neighborhood at night, before you move. Renting an apartment is a best option if a person is looking to settle at the place.

This project will help people who are thinking of renting a apartment in Bangkok and instead of doing it by traditional way they want to do it smartly. This project will provide best possible options of neighborhoods with rent, apartment and neighborhood features information. They can look at comparison and decide. The results will be useful for people who are

- Planning to rent apartment
- Already rent a apartment
- have a apartment to they want put on rental list

0.2 Target Audience

People who are looking for apartment to rent

People who already leave in area, and want to analyse

0.3 Business Problem

The objective behind this project is to analyse and come up with best possible neighborhood options in the Bangkok to rent a apartment. Use data science and machine learning techniques with python to find neighborhood which has more features which will make living more comfortable and pocket friendly.

0.4 Data

Below you'll find the data we need, data sources and descriptions of techniques we'll be using to get that information.

- List of neighborhoods and rental apartment in those: For rental apartment and neighborhood information we will use Thailand-property.com website. https://www.thailand-property.com/properties-for-rent/bangkok We will use web-scraping technique's to extract information from website pages with help of python requests and beuatifulsoup packages.
- Latitude and longitude of neighborhoods.: We will use python Geocoder package to get geographical coordinates of the neighborhoods
- Venues in the neighborhoods: we'll then use Foursquare API to get venue list for those neighborhoods. Foursquare has one of the largest database of 105+ million places and used by 125,000 developers.

0.5 Methodology

Firstly, we need to get list of apartments for rent in Bangkok. Doe this we'll scrape list of apartments from website (https://www.thailand-property.com/properties-for-rent/bangkok). We will do web scraping using python requests and beautifulsoup packages to extract the list of apartments for rent in Bangkok. After this we will need to clean and organize listings, name the columns, drop rows which don't have data and outliners. There are 996 apartments in the data set. Then we'll use Geocoder to get geo-locations latitude and longitude of neighbourhoods. From above fig-

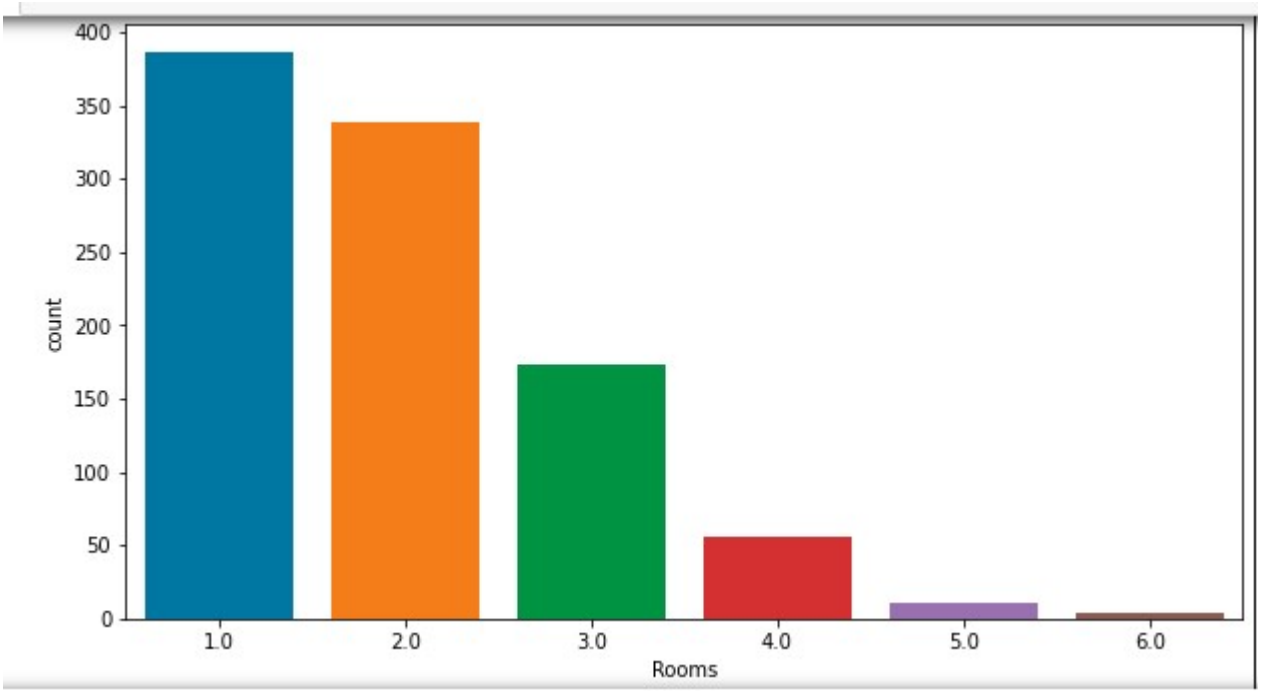

Figure 1: Number of apartments by Rooms

ure, we can see most of the apartments have 1 rooms. and the number of rooms increases number of apartments available to rent decreases. From above figure, we can see most of the apartments are located in Khlong Toei, Wattana.

Above graph shows if there's a correlation between price and apartment size.

Above graph shows if there's pattern between price and no of rooms. As we can see as no of rooms increases , rent price increases.

Above graph shows if there's pattern between price and size of apartments.

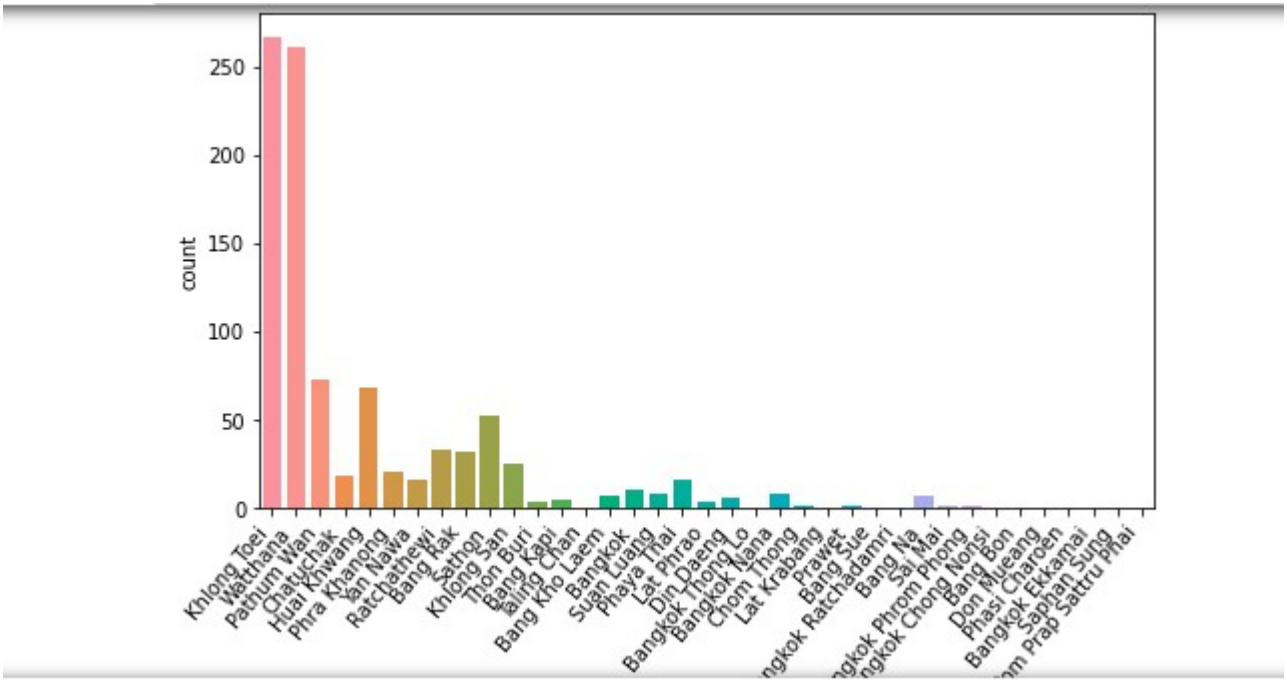

Figure 2: Number of apartments by city

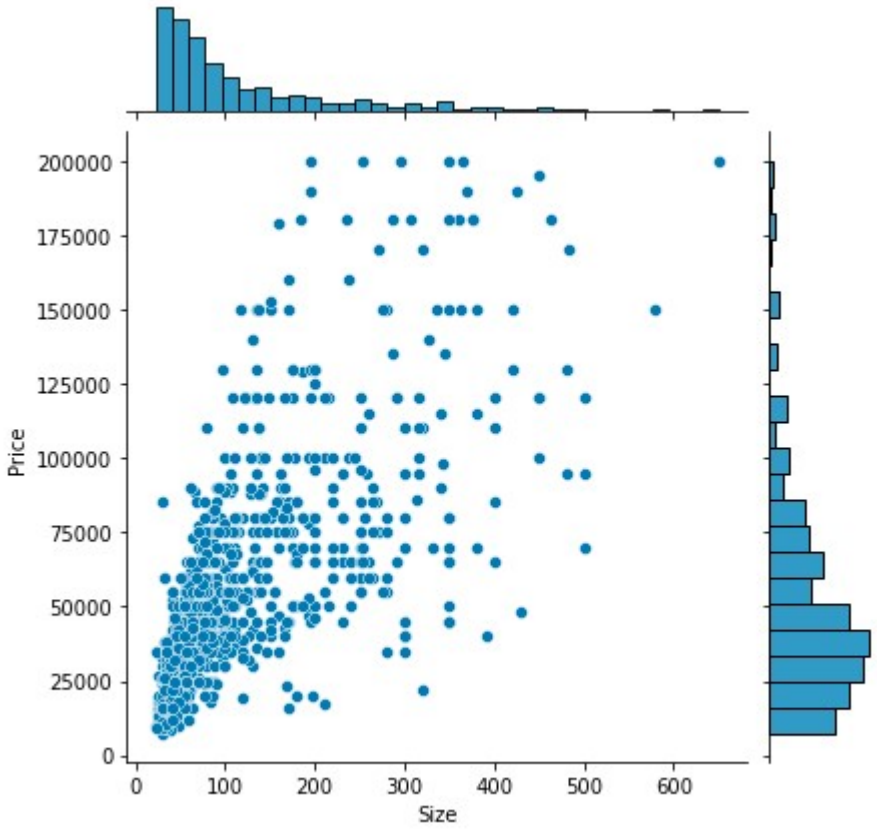

Figure 3: Correlation between price and apartment size

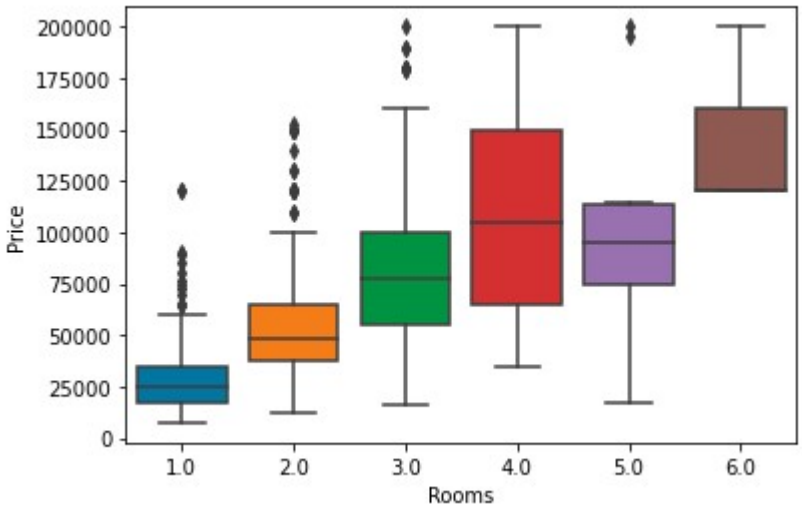

Figure 4: graph showing relation between price and no of rooms

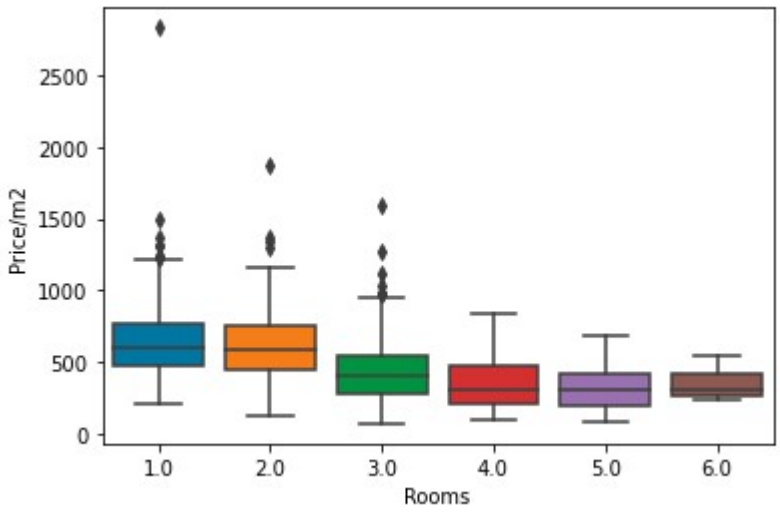

Figure 5: graph showing relation between price and size of apartments

As we can see price of apartment based on size of apartment is mostly same.But it's much higher when number of rooms are 1 and 2.

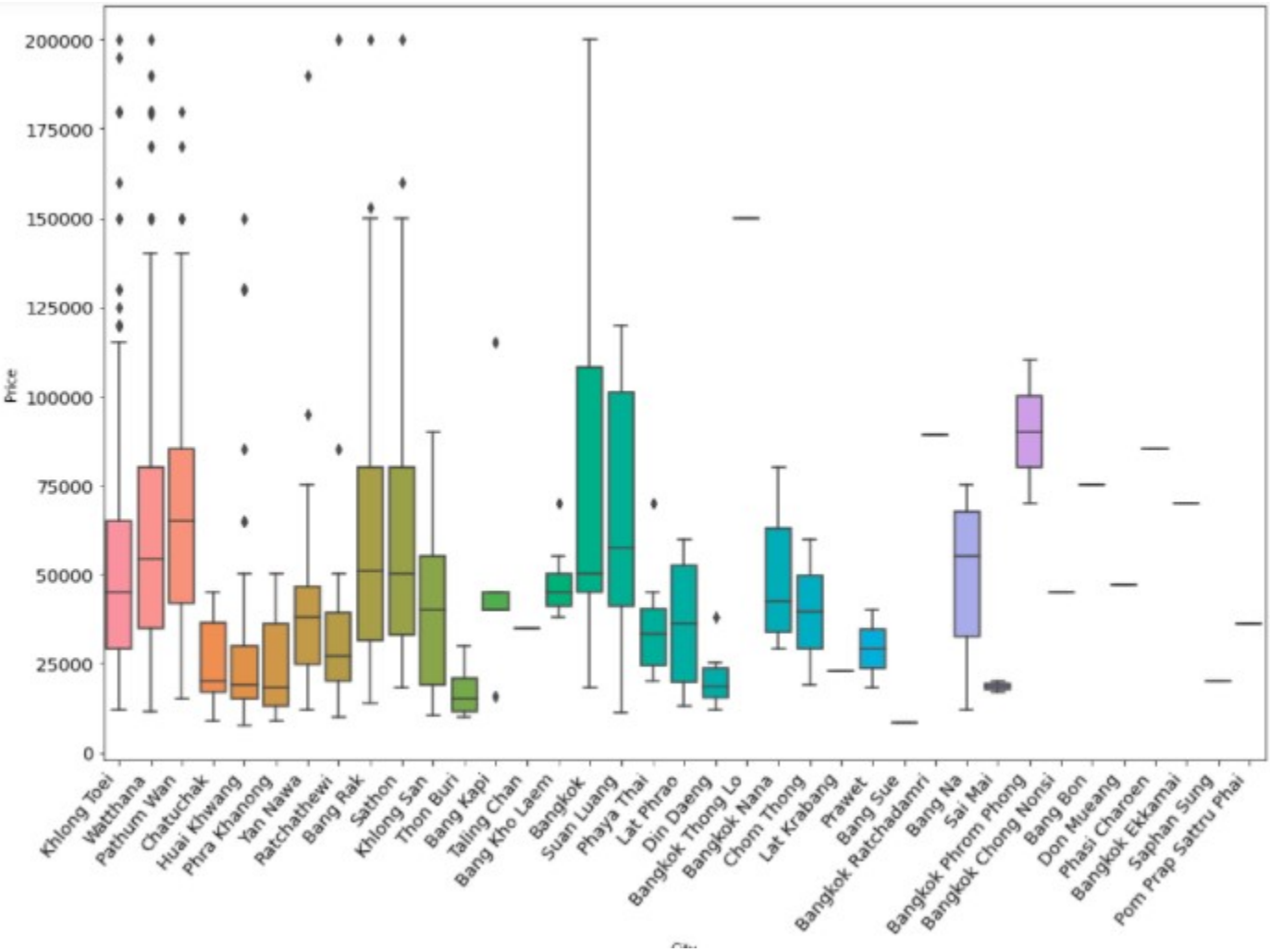

Figure 6: graph showing relation between price and city

Above graph shows if there's pattern between price and city.

After collecting venue data from foursquare API, we will use K-means clustering to create neighborhoods cluster.

0.6 Results

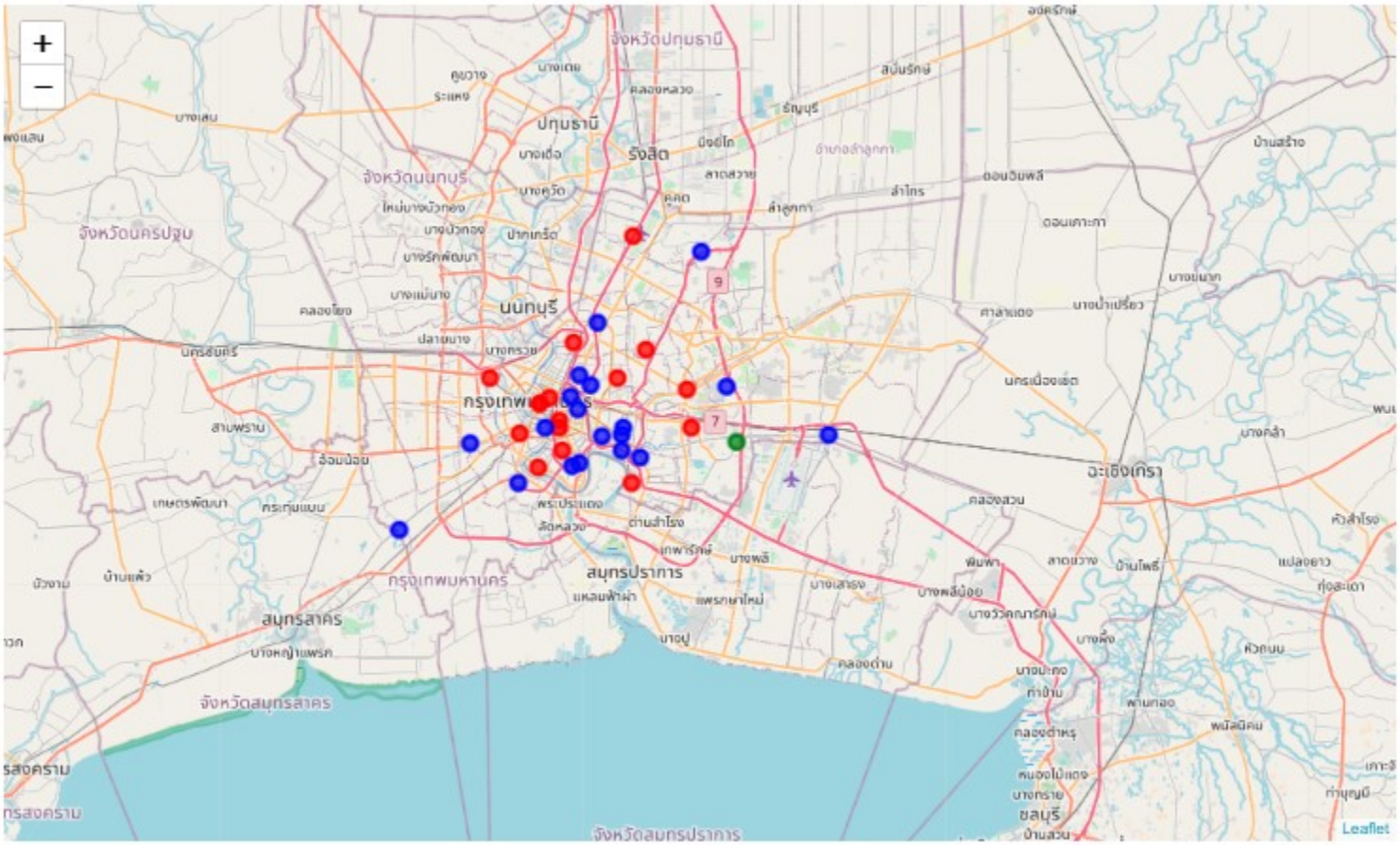

Figure 7: graph showing Cluster 1 and cluster 2

Above graph shows visual representation of cluster 1 and cluster 2. Blue dots represents neighborhoods cluster 1 and Red dots represents neighborhoods from cluster 2. By looking at above data we can see Cluster 1 has more more parks , supermarkets, gyms so it is more residential.Cluster 1 is seems more residential, it has parks, gym, restaurant, cafes, bar facilities, super market, Convenience store, icecream shops. Cluster 2 is more commercial it has more markets, travelling facilities (Bus stop, train station, airports), museum.

0.7 Conclusion

From above results, it proves Cluster 1 has more more parks , supermarkets, gyms so it is more residential. Khlong Toei and Watthana are 2 cities from cluster 1 and they have most number of apartments options for rent. Chatuchak and Phra Khanong are the cities which have have low rent in cluster 1. These are the cities tat we can recommend a person which is looking for apartments to rent in Bangkok.