

Airbnb Stay Sale Price and Data Analysis of Perth, Western Australia

Kaveh Azizian

Coursera - IBM

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Introduction & Problem Definition

Airbnb

- An online marketplace for arranging or offering lodging, primarily home-stays, or tourism experiences
- Acts as a broker, receiving commissions from each booking
- A good choice for majority of tourists due to its cheaper price and helping the guest to have a feeling about local culture and community
- Becoming popular all over the world and in Australia as well
- A source of investment for some local peoples

Problem?

- Providing useful information for potential investors
- Analyze the popularity of the different suburbs in Perth
- Providing an insight about the sale price based on the available data
- Provide advice for a potential investor who may want to have a portfolio of houses or apartments for short term renting purposes

Available Data and Clearing

Data

- <http://data.insideairbnb.com/australia/wa/western-australia/2019-12-08/visualisations/listings.csv>
- Columns

```
['id', 'name', 'host_id', 'host_name', 'neighbourhood_group',  
'neighbourhood', 'latitude', 'longitude', 'room_type', 'price',  
'minimum_nights', 'number_of_reviews', 'last_review',  
'reviews_per_month', 'calculated_host_listings_count',  
'availability_365'],
```

Filtered Data

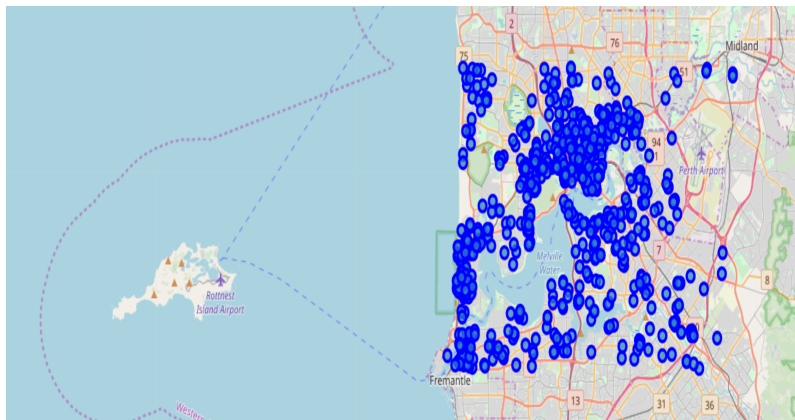
	id	name	neighbourhood	latitude	longitude	room_type	price	minimum_nights	availability_365
0	37688	Living in our family home	MELVILLE	-32.06806	115.87674	Private room	73	1	364
1	42713	Bed with Breakfast	IRWIN	-29.25216	114.93205	Private room	94	1	353
2	45825	St James for short-longer stay?	CANNING	-32.00395	115.91394	Private room	60	3	365
3	58329	Trewent Farmhouse - rustic & rambling	MANJIMUP	-34.35542	116.18267	Entire home/apt	215	2	41
4	59311	family home in canning vale	GOSNELLS	-32.07592	115.93188	Private room	64	1	362

- Folium returns Perth [Longitude Latitude]=[31.9527121, 115.8604796]

Final Data for Analysis

Limit to Perth and Its Suburbs

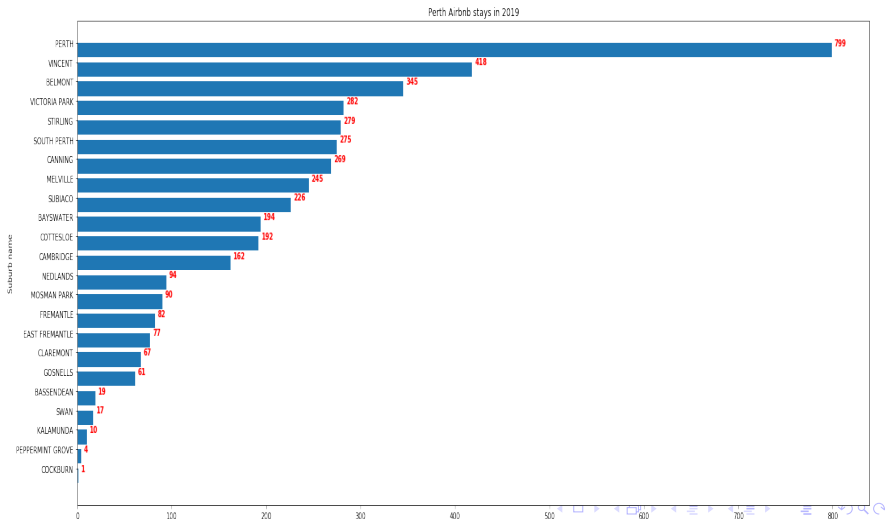
- Interval of latitude= $[32.05 \ 31.9]$ and longitude= $[115.7 \ 116]$



Popularity of the Suburbs

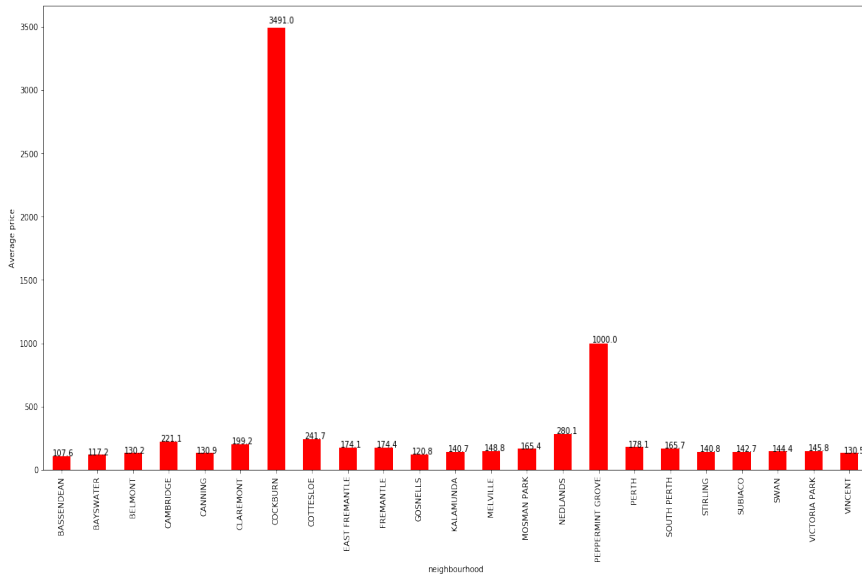
Perth Suburbs Airbnb Sales

- Grouping the data based on the neighborhood and counting the number of sales in different areas.



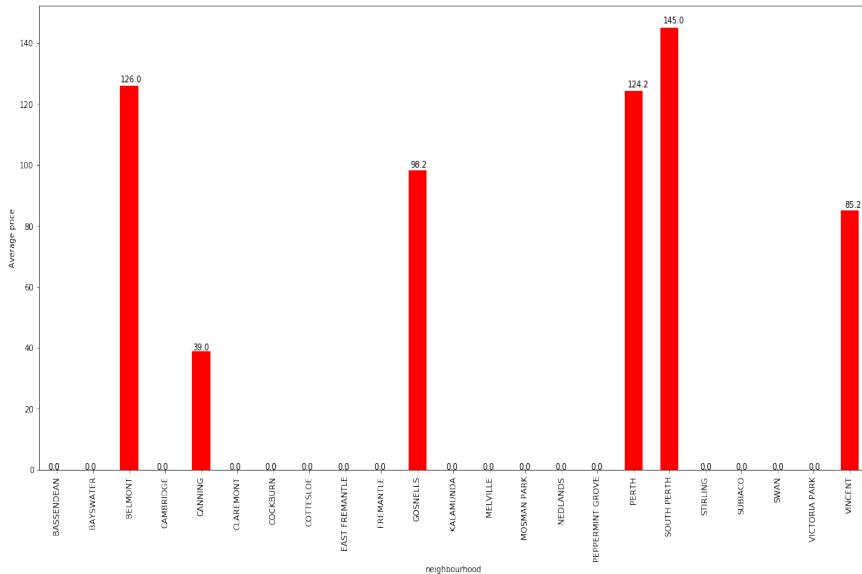
Sale prices based on the accommodation types

- Average sale price of **Entire home-apt** Airbnb accommodation



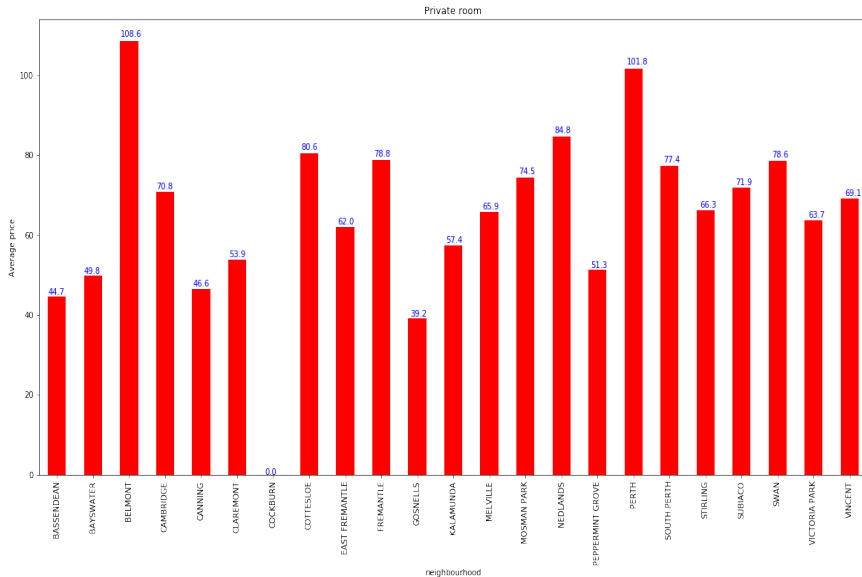
Sale prices based on the accommodation types

- Average sale price of **Hotel room** Airbnb accommodation



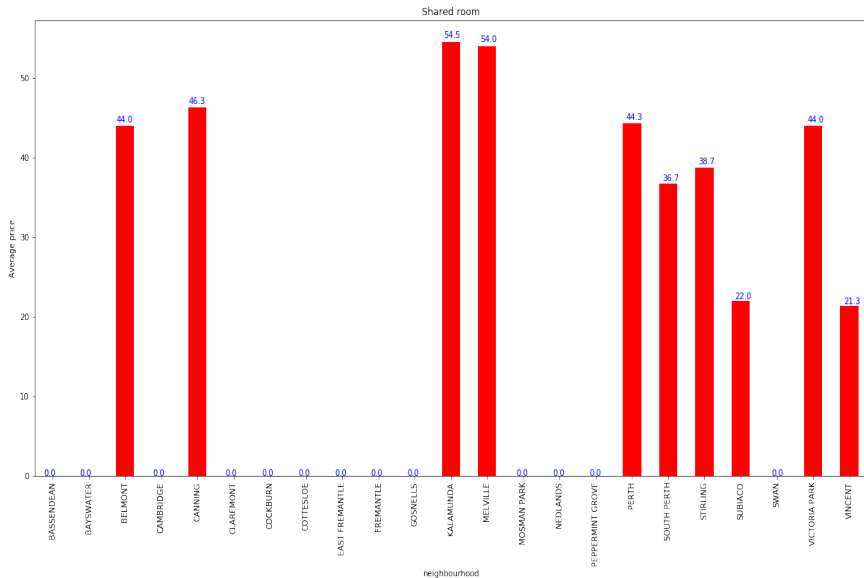
Sale prices based on the accommodation types

● Average sale price of **Private room** Airbnb accommodation



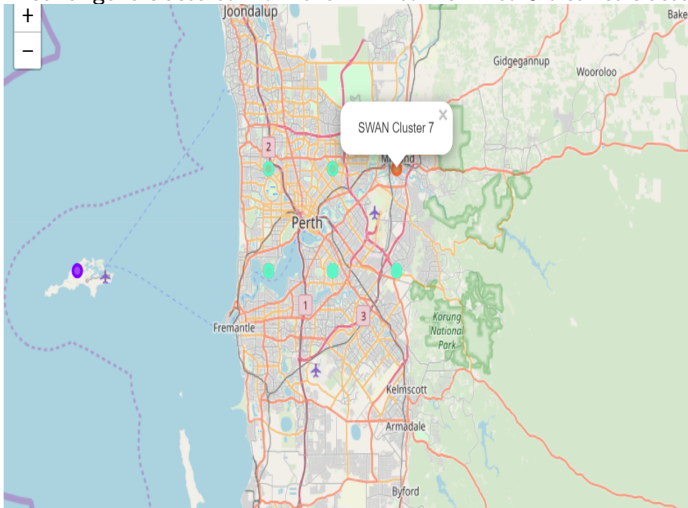
Sale prices based on the accommodation types

- Average sale price of **Shared room** Airbnb accommodation



Clustering based on sale price

- Price range is clustered from the min. to max into 8 distinct cluster



Conclusions

- Three suburb of **Perth CBD**, **Vincent** and **Belmont** are the best suburbs in terms of popularity
 - Airbnb sales of properties in these suburbs is higher than the other regions
- **Perth CBD** is the best one for investment purposes due to higher sale price of different type of accommodations
- **Vincent** and **Belmont** can be considered equivalent for the investment purpose regarding their popularity and sale prices
- **Cockburn**, **Pepermintgrouve** and **Kalamanda** have the lowest popularity and number of sales
 - the market of **Cockburn** is very special with only one sale and a very high prices
- **Pepermintgrouve** and **Kalamanda** are not recommended for Airbnb investment purpose due to low number of sales and not high sale price
 - specifically for private room type of accommodation

Further Steps and Questions that Should be Addressed

- Impact of available features in different type of accommodations
- Predicting future price of Airbnb stays based on the available historical data
- Venue analysis in different suburbs

Thanks for your time and consideration!

