

Bootcamp Data Analyst with Python and SQL Batch 4



About Me!



Institut Teknologi Sepuluh Nopember
Graduates, Majoring in Physics Engineering
Class of 2013.

Recipient of Data Scientist Program
scholarship from Digital Talent Scholarship
x DQLab (May 2022)

Recipient of Google Data Analytic Program
scholarship from Digital Talent Scholarship
x Google (September 2022)



airbnb
Singapore

Project Background

Help a property owner determine a strategy to conduct rental activities that generate maximum profit through the Airbnb marketplace.



Work Environment & Tools

The tool used in data analysis is Python programming language on the Google Colab platform.



Data Profiling

Creating data profiling aims to have a strong understanding of data to compile framework analysis and visualize data.

There are three pieces of data used in this project, as follows:

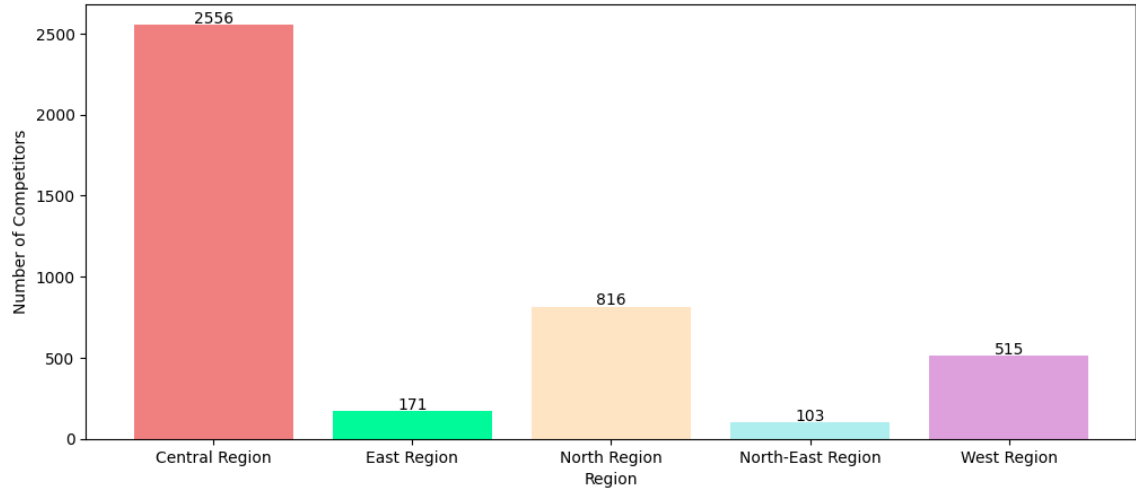
- The DQLab Airbnb Listing Dataset contains a list of Airbnb listings in Singapore.
- The Listings Reviews History Dataset contains historical order/rent data per listing in Singapore from January 1, 2018, to September 22, 2022.
- The Neighbourhood Mapping Dataset contains the mapping of the Singapore region based on neighbourhood.

Data Cleansing

Identifying incorrect, incomplete, inaccurate, irrelevant, or missing data and then modifying, replacing, or deleting them according to the need.

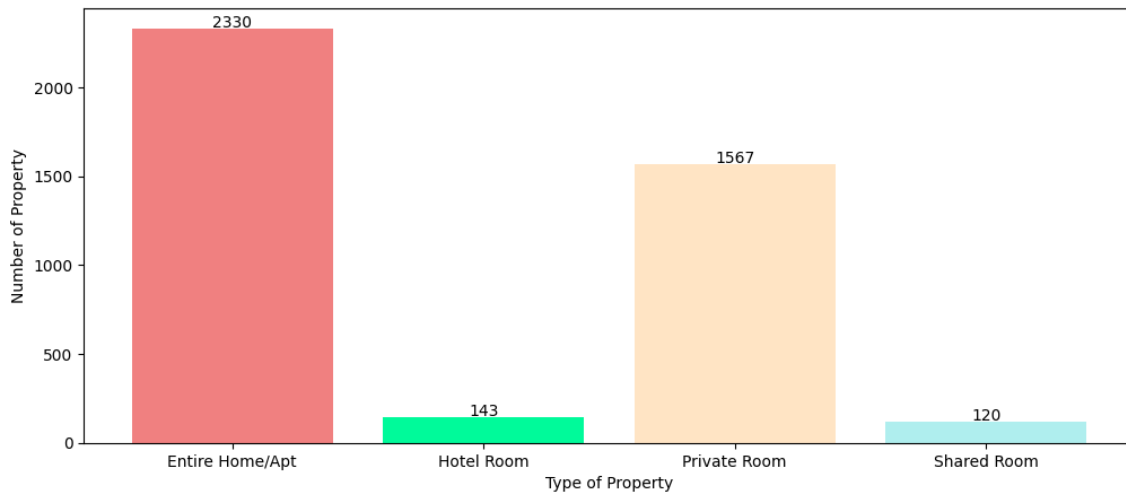
- The first thing to do on the DQLab Airbnb Listing Dataset is to remove the "Unnamed: 0" column, and remove listings that have a listing price of 0.
- The only thing done on the Listings Reviews History Dataset is removing the "Unnamed: 0" column.
- The first thing to do on the Neighbourhood Mapping Dataset is to remove the "Unnamed: 0" column and then change the data type of the date column from object type to DateTime type.

The Total Competitors in Each Region



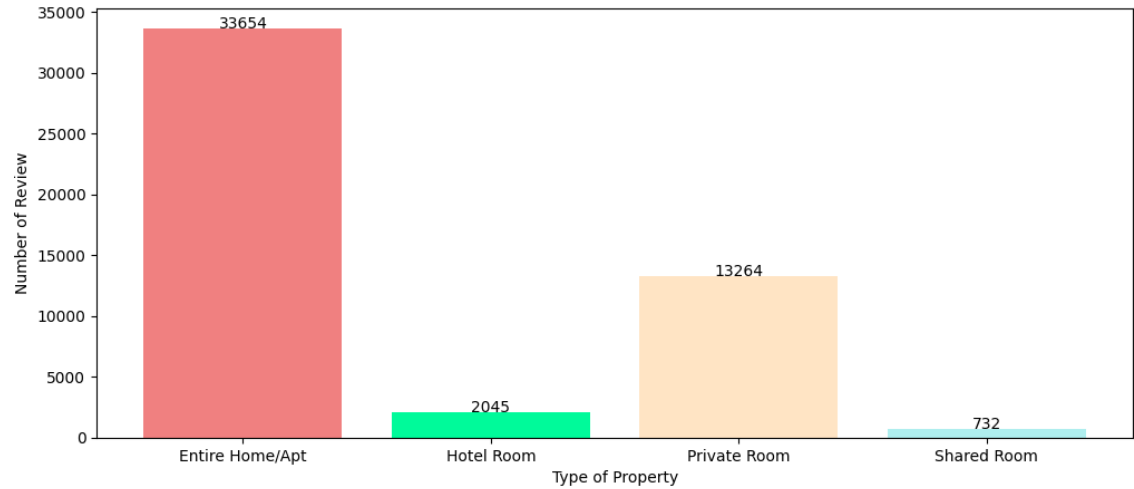
The region with the most competitors is the Central Region, with 2556 listings.

The Total Properties Offered by Competitors



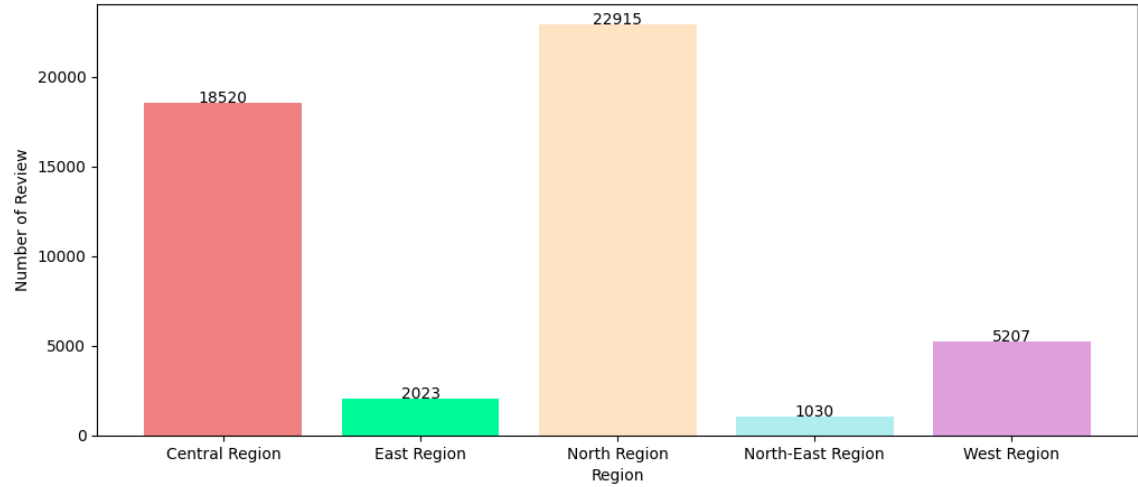
The most common property competitors offer is the Entire Home/Apt, with 2330 listings.

The Most Rented Property Types by Customers While Visiting Singapore



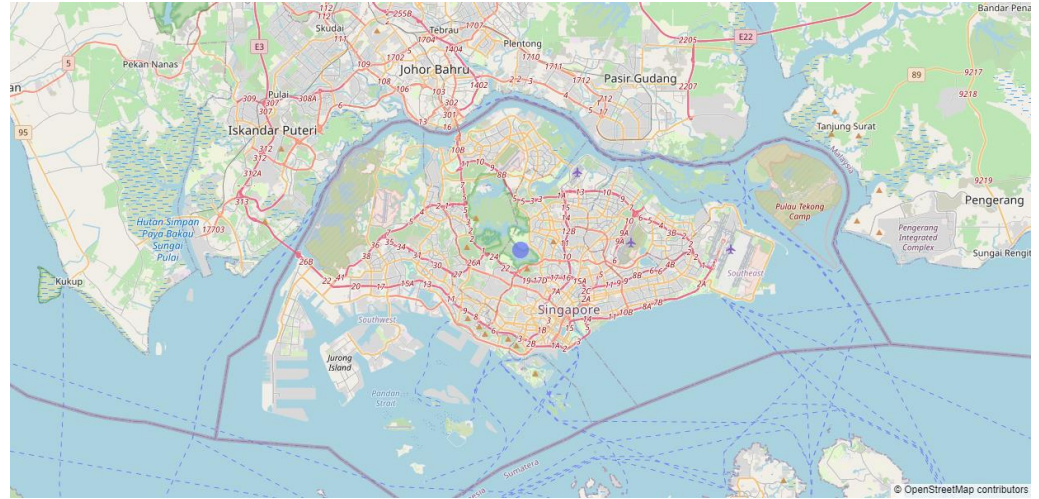
The most common property type rented by customers is the Entire Home/Apt, with 33654 times.

The Region Whose Properties Are Most Rented by Customers



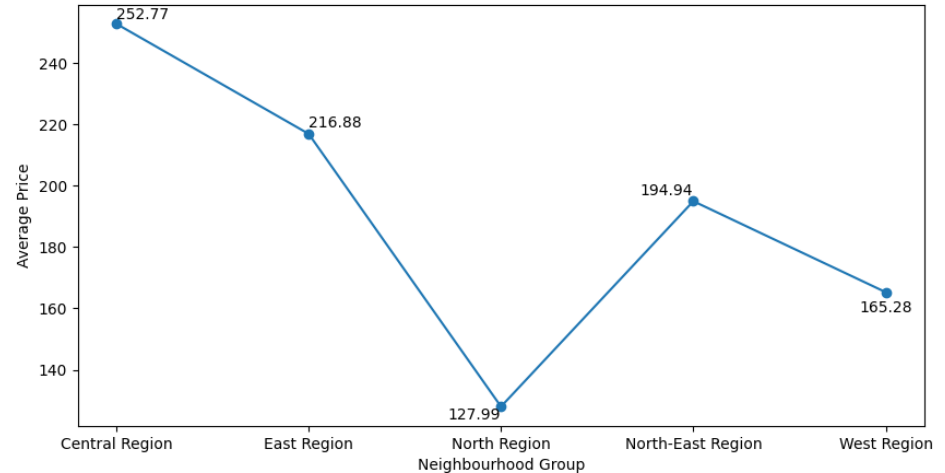
Customers prefer to rent properties in the northern region with 22915 times.

Why Do So Many Customers Rent Properties in the North Region? Is It Close to Merlion Park, a Singapore Landmark?



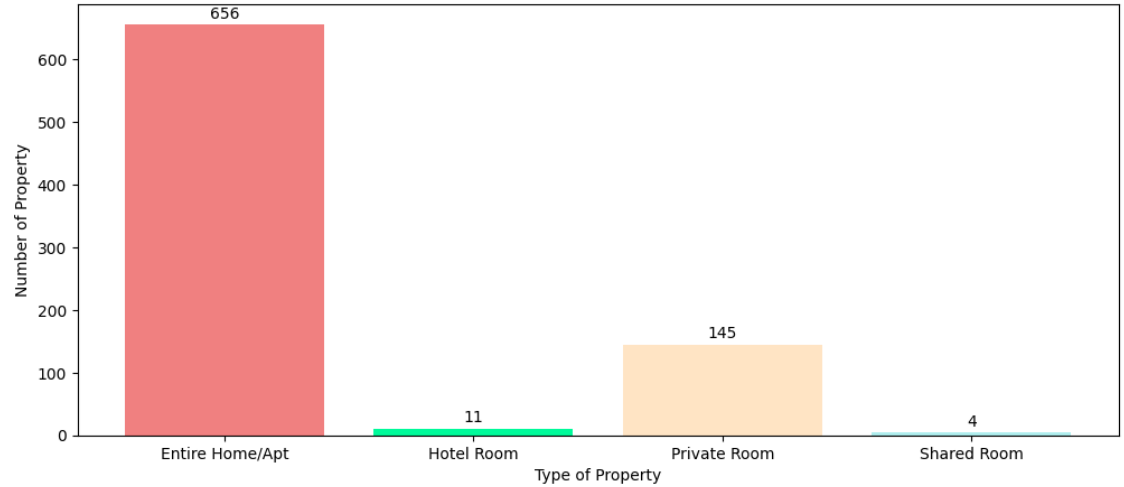
No, because the closest property from the North Region is 7.7km away from Merlion Park.

Why Do So Many Customers Rent Properties in the North Region? Is It Close to Merlion Park, a Singapore Landmark?



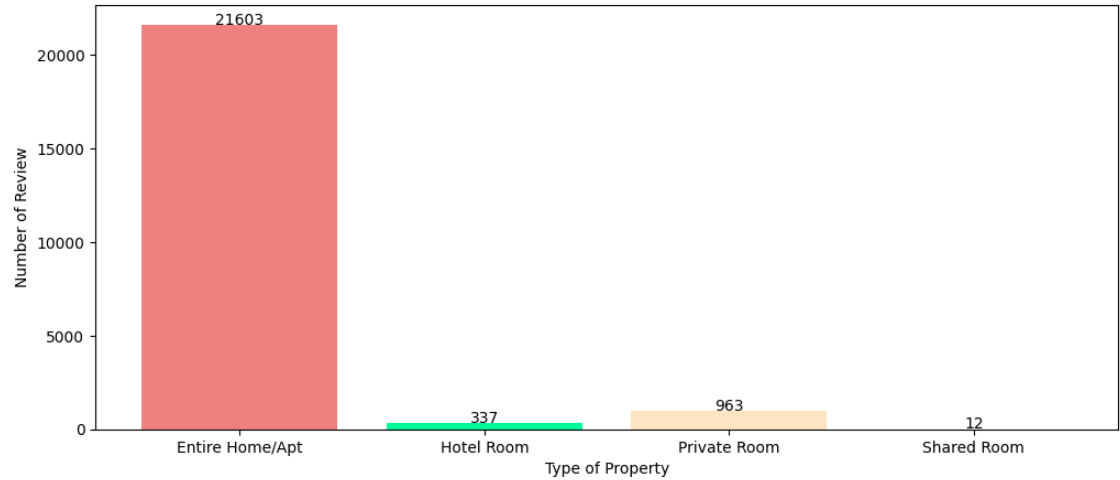
The reason is that the North Region has an average price that is affordable/cheaper than other regions.

Properties Offered by Competitors in the Northern Region



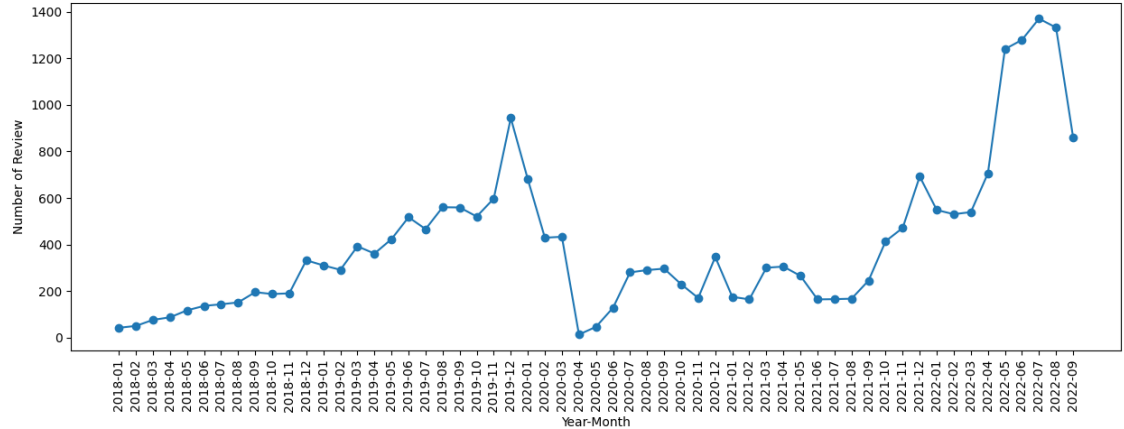
The most common property competitors offer in the northern region is the entire home/apt with 656 listings.

The Most Rented Properties by Customers in the North Region

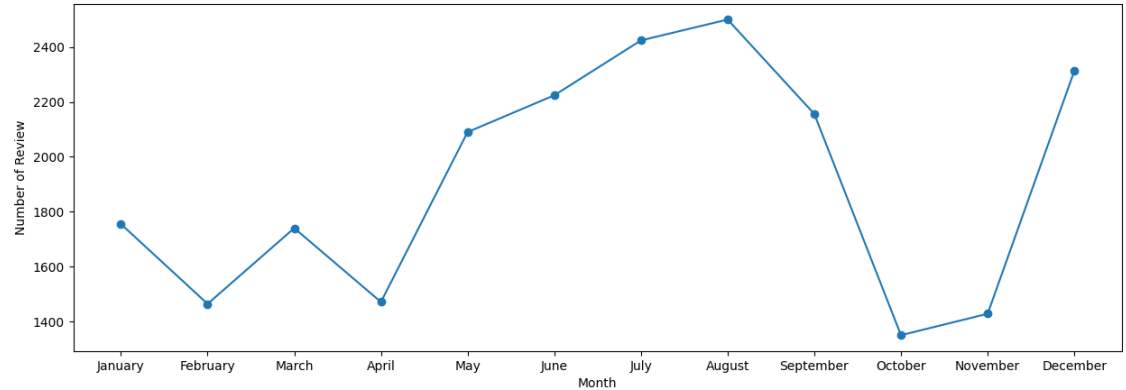


The most rented property by customers in the northern region is an entire home/apt with 21603 times.

Trend Review in the Northern Region From January 1, 2018 to September 22, 2022

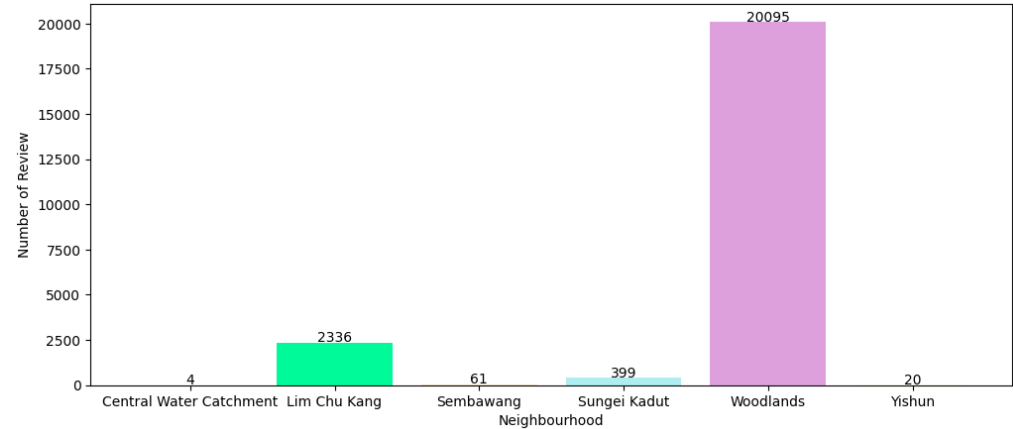


Trend Review in the Northern Region From January 1, 2018 to September 22, 2022



The busy periods are May through August and December. Due to the summer, Christmas, and New Year holidays

Neighbourhoods in the Northern Region That Have the Most Customers

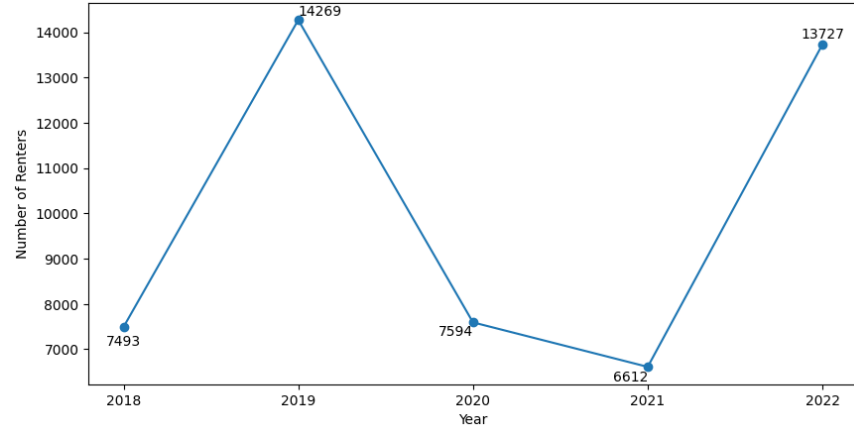


More customers are opting for properties in Woodlands. 9 properties out of the top 10 most active listings are in the Woodlands neighbourhood.

**Average Price of
Top 10 Most Active
Listings**

52,8

What challenges will be faced by the owner



From 2018 to 2022, there was a crisis in 2020. Where there was a decrease in the number of customers by 13,43%, this decline was caused by the Covid-19 virus outbreak that hit the whole world. This resulted in the WHO giving an appeal for social distancing. Some countries also decided to close access in and out. The virus outbreak impacted some hosts/owners, as some hosts/owners had to close their businesses. This is evidenced by the cessation of operations of 446 listings after January 23, 2020.

To generate maximum profit through the Airbnb marketplace in Singapore, a property owner should pay attention to these points:

- it is advisable to rent out a property in the form of a house or apartment.
- it is advisable to have a property in the northern region, woodlands neighbourhood.
- it is recommended to set a price rate of 52.8 SGD.
- It is recommended to focus on May to August and December.
- It is advisable to prepare an emergency fund to deal with out-of-control risks such as the Covid-19 virus outbreak.

Thanks!