

The best place for a japanese restaurant in Rio

Breno S. M. Maia
Coursera Capstone



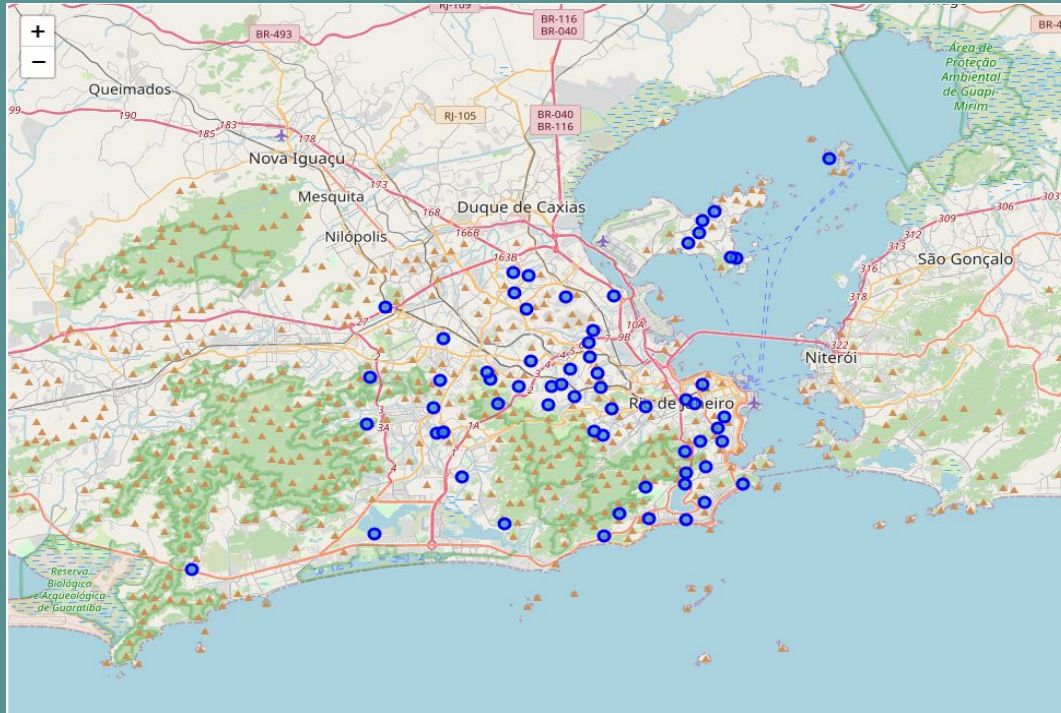


Introduction

In order to successfully determinate the better locations for a profitable investment in a japanese restaurant, we considered as the most important features: Income per capita, number of restaurants and rate of asian restaurants.

We started with 126 neighborhoods, but reduced it to 63, because we decided to only explore those with income per capita above the median, as the restaurant category that we are interested is knowly expansive.

Potential locations





Foursquare API

Foursquare API was used to obtain the venues in a 1600m radius around each of the highlighted neighborhoods in the previous map. Subsequently, if the venue was a restaurant or a asian restaurant specifically, this information was added to the Data Frame



Machine Learning

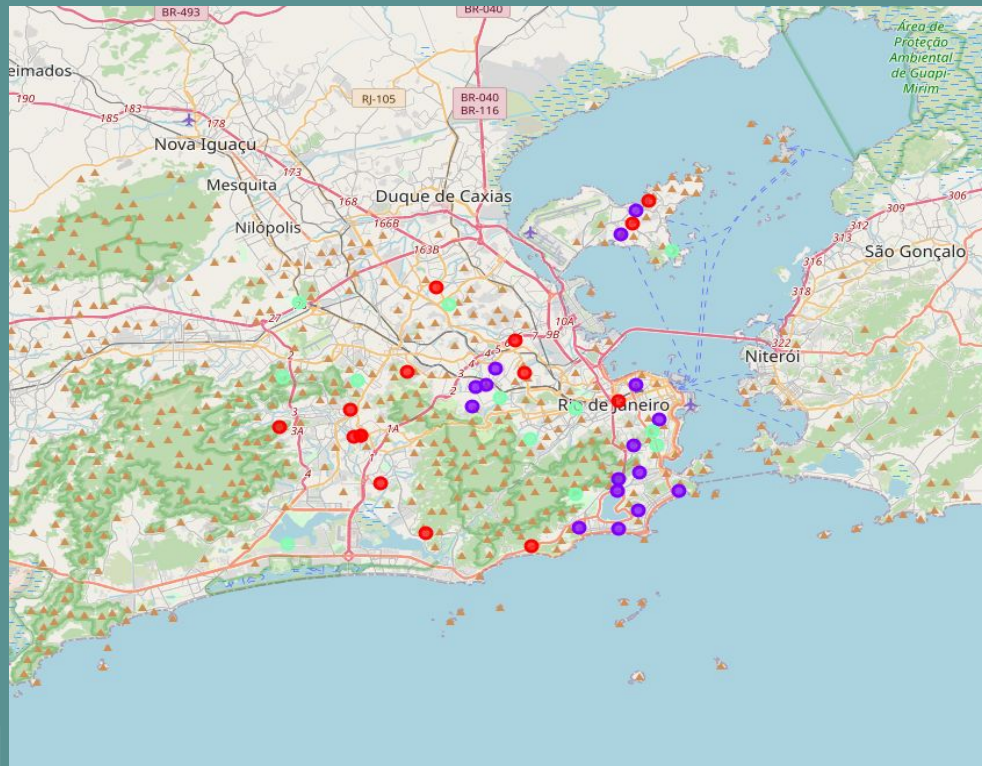
After that, we used the unsupervised ML algorithm K-means, which formed 3 different clusters with the neighborhoods.

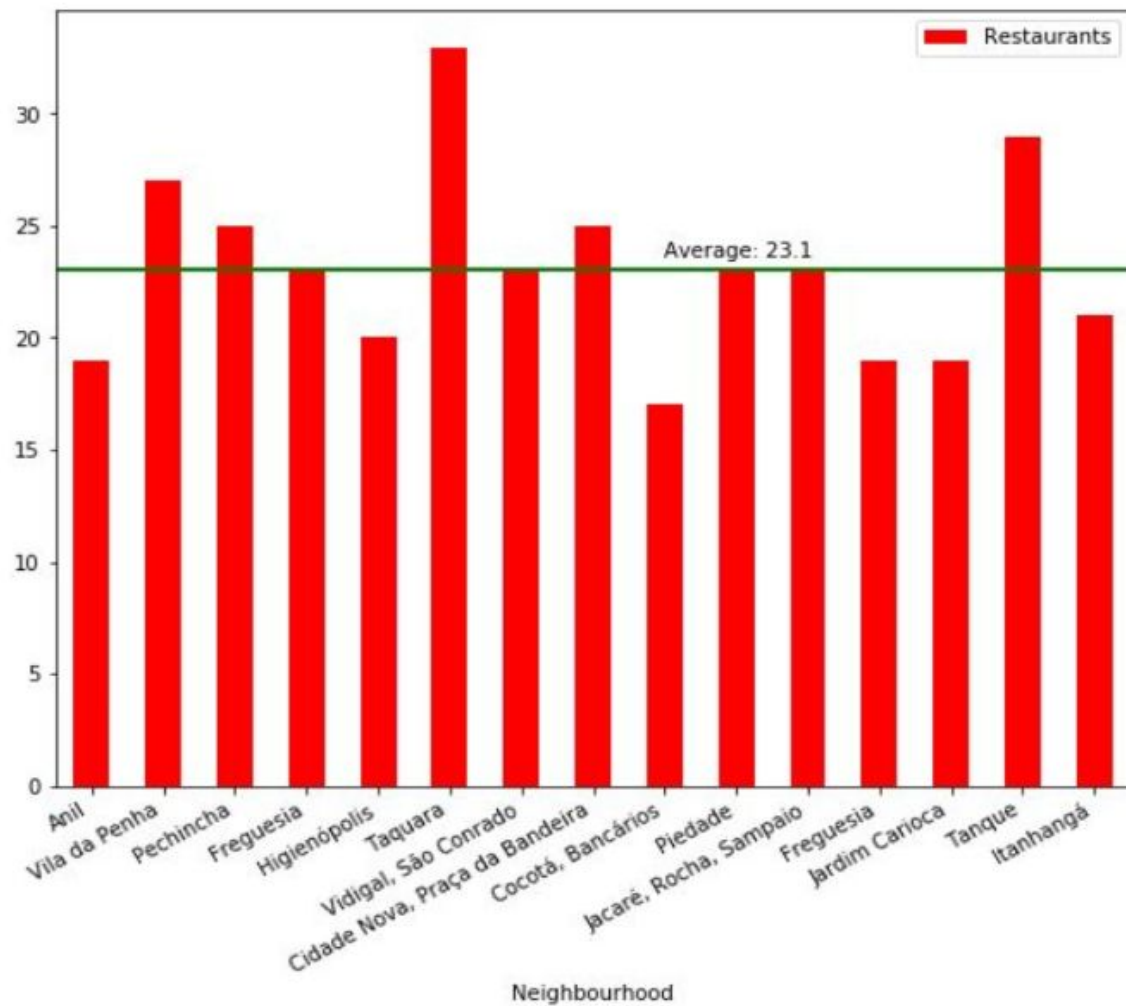
Here on the right, it can be seen the first 5 rows of the Data Frame in which K-means was applied

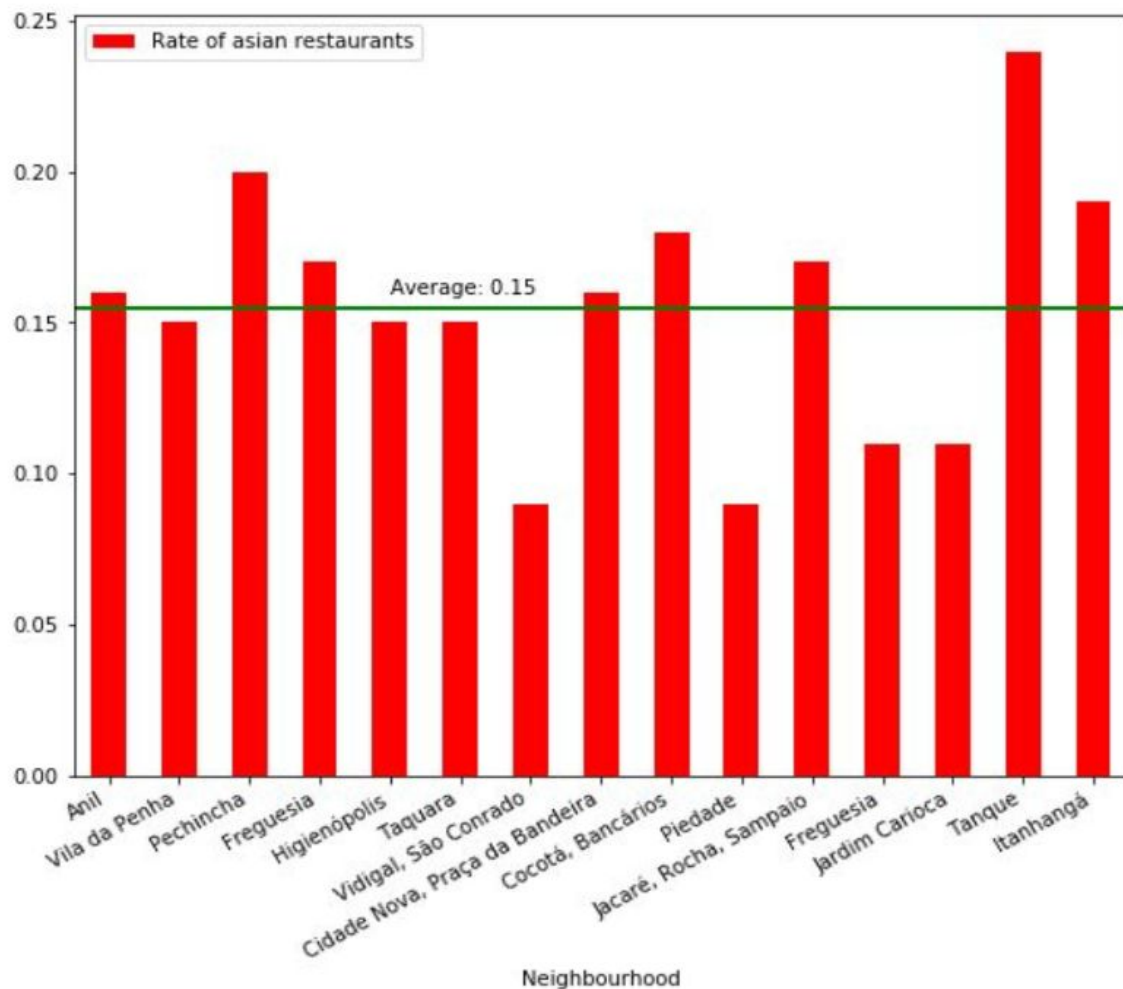
The clusters will be referred to as: Red, Purple and Green

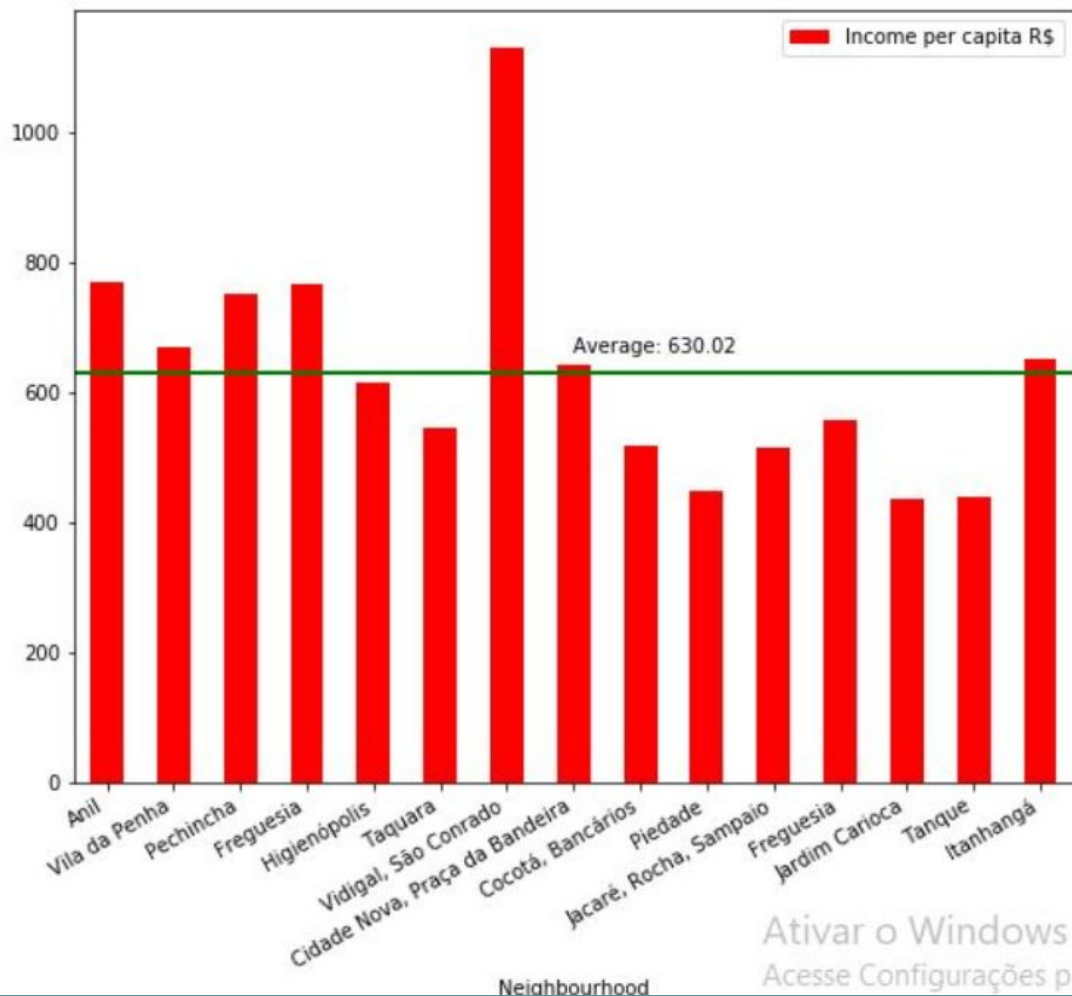
	Income per capita R\$	Restaurants	Rate of asian restaurants
Neighbourhood			
Leblon	2441.28	18	0.17
Jardim Guanabara	1316.86	19	0.11
Ipanema	2465.45	22	0.05
Lagoa	2955.29	23	0.04
Flamengo	1781.71	11	0.36

Clusters



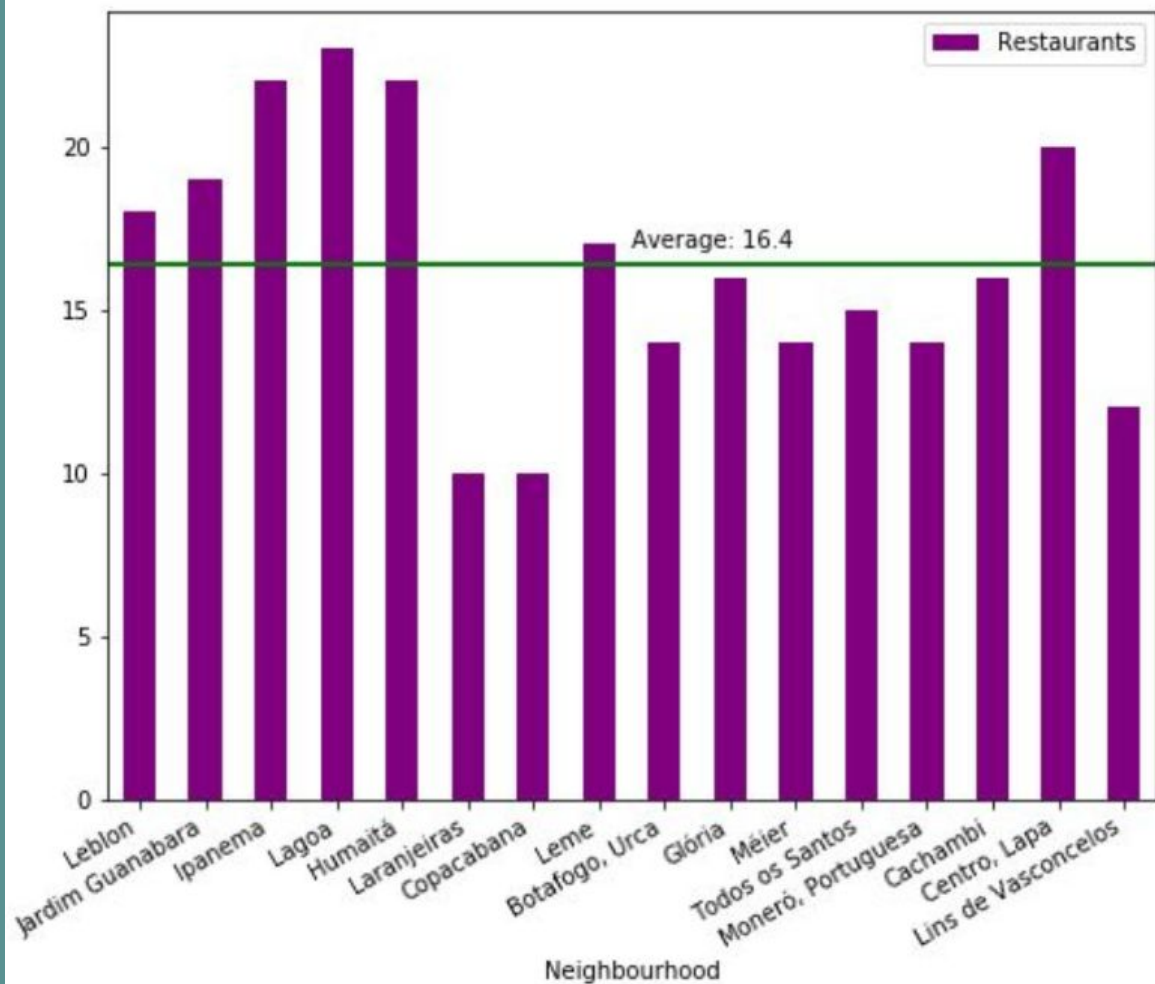


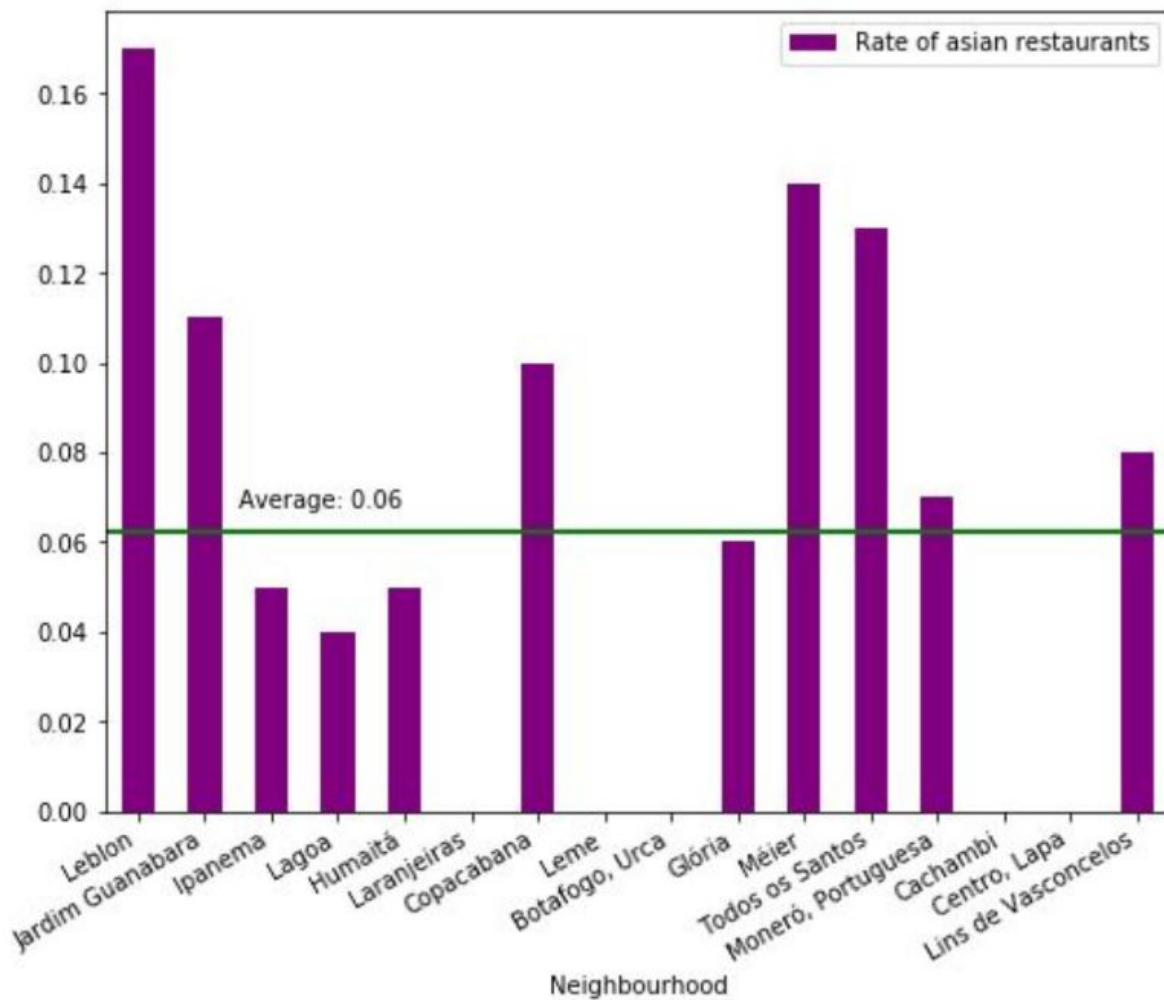


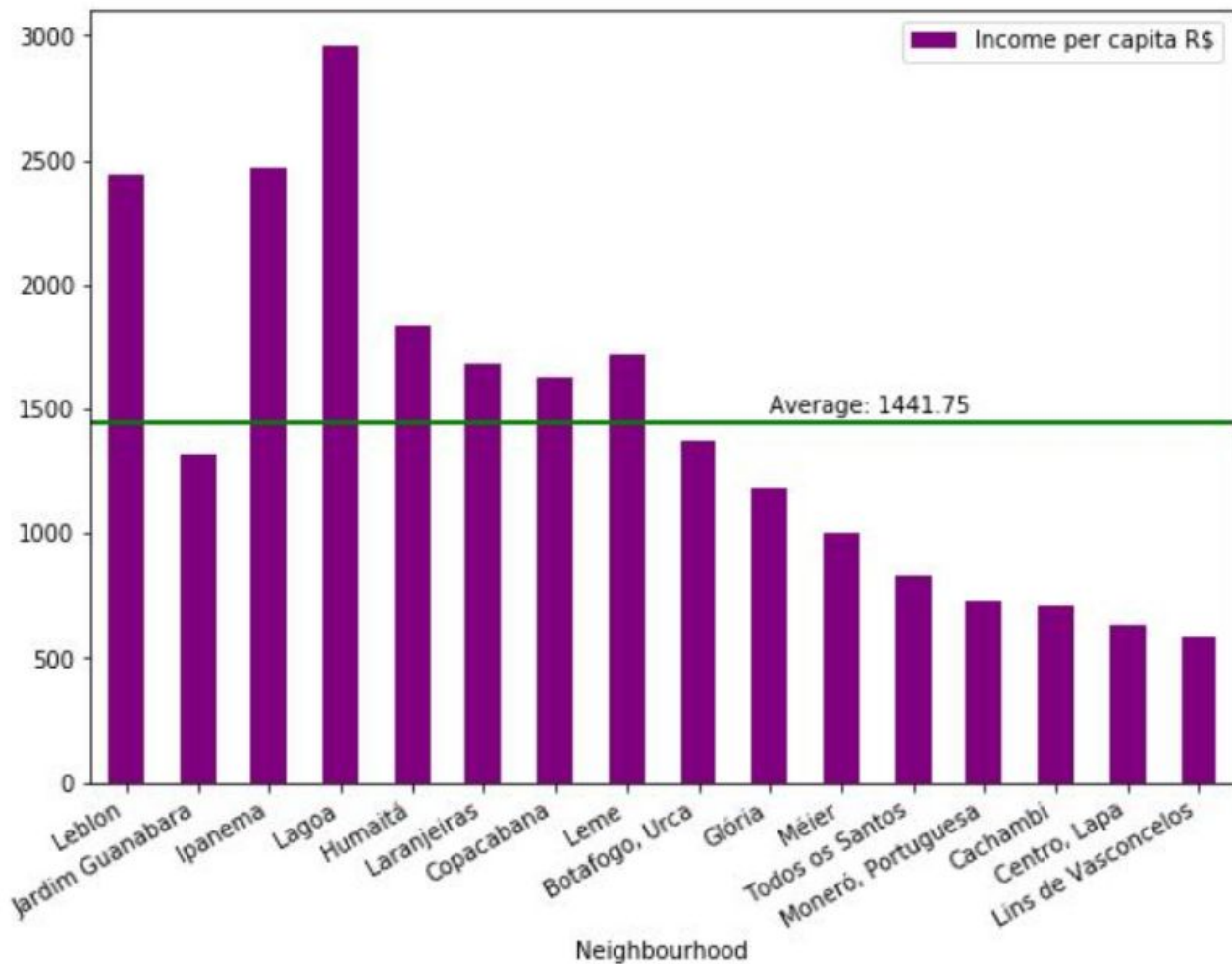


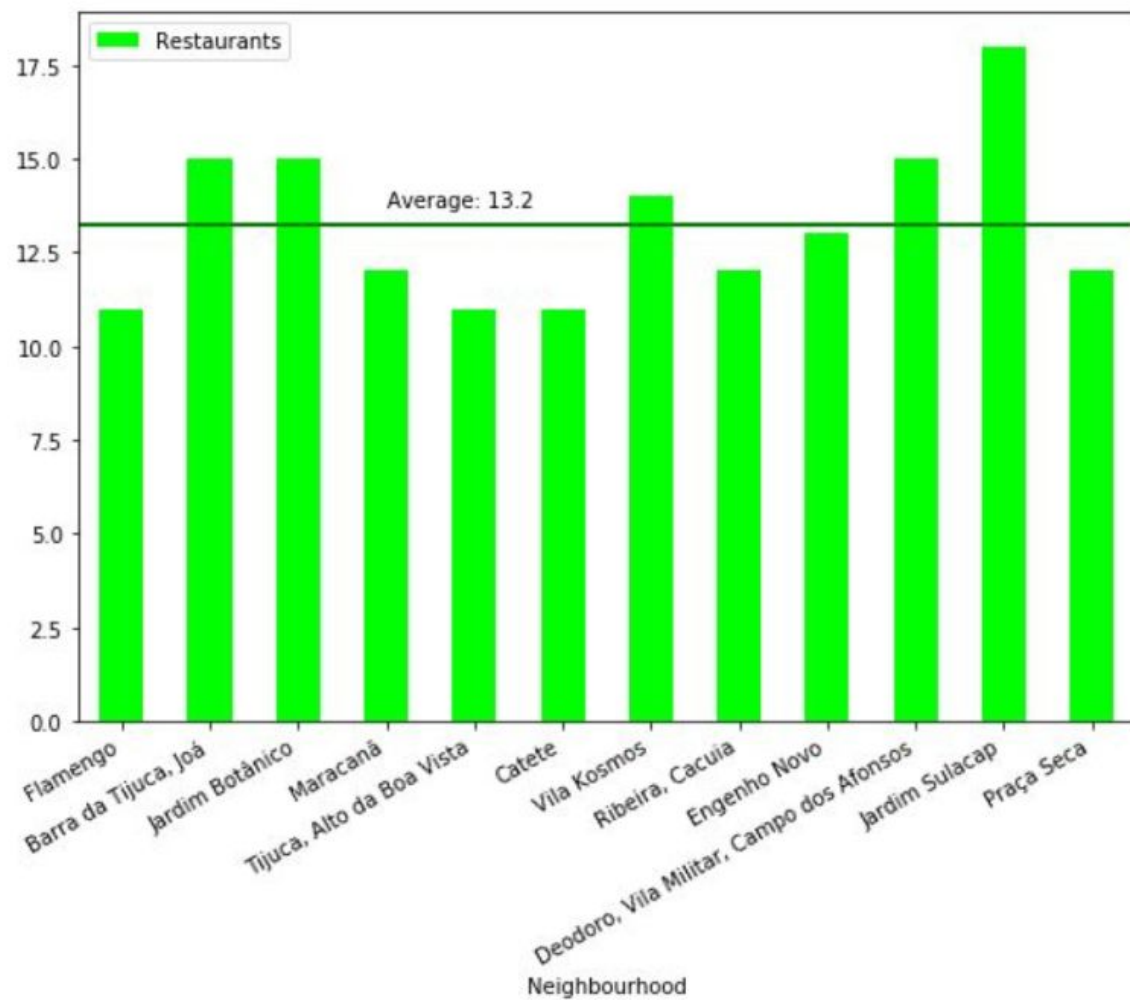
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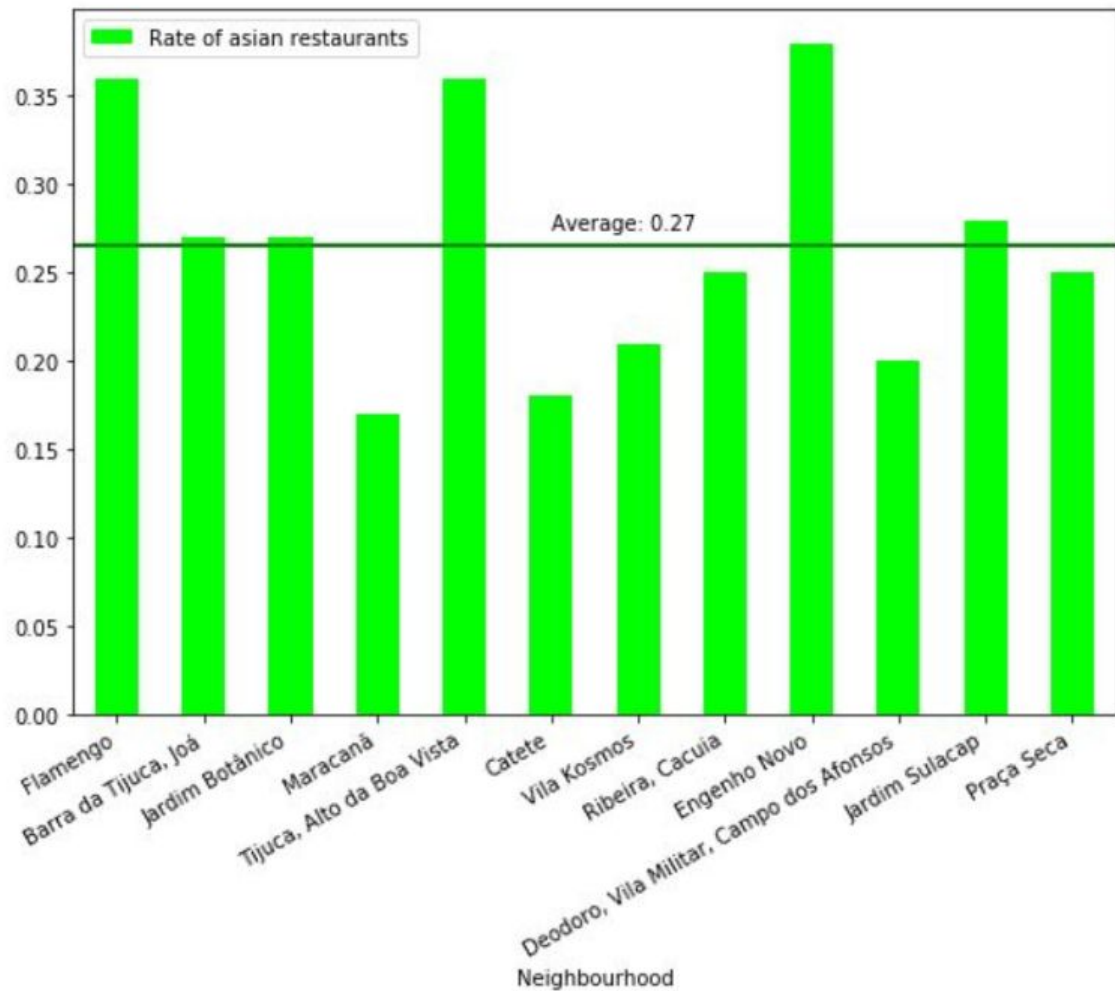
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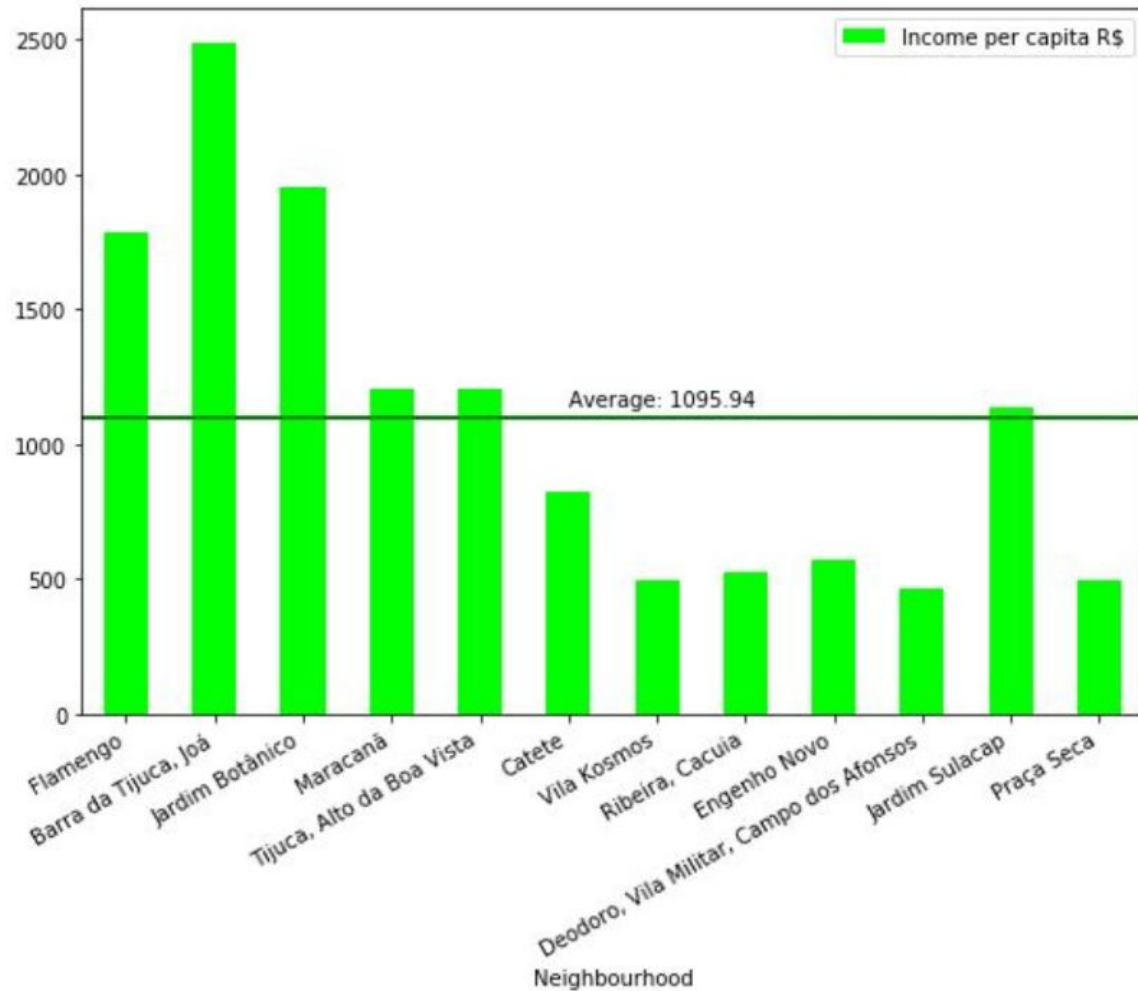












Discussion

The read cluster sends mixed messages. It has a large number of restaurants, but few of them are direct competitors of ours potential japanese restaurant. Since it is the cluster with the smallest income per capita, it would be interesting considering a low cost approach of japanese cuisine.

The purple cluster is the one with the better opportunities. It has the highest income, and very few asian restaurants. A fancy japanese restaurant in some of these neighborhoods would probably find great demand.

The green cluster is the worst one for our purposes. Although it has middle-high income, it's already crowded with asian restaurants. One would likely find very hard competition to a new japanese restaurant in these neighborhoods.

Conclusion

In this report, it was analysed the neighborhoods of Rio de Janeiro, with the objective of discovering the ones that are suitable for a profitable investment in a japanese restaurant. The results revealed that such neighborhoods are in our purple cluster. The best ones probably are Leme, Botafogo, Centro and Lagoa.

