



NORTH VS SOUTH: A PORTUGUESE (VEGE)TALE

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OBJECTIVE & DATA

- What is the best place to open a vegetarian restaurant? Lisboa or Porto?
- Focusing only on Lisboa: What is the best neighborhood to open a vegetarian restaurant?
- Are Lisboa's neighborhoods very distinct between one another in terms of types of restaurants?
- Datasets used for this analysis: Foursquare database and airbnb dataset from *Kaggle*.

RESULTS: LISBOA VS PORTO

Counts of each type of restaurant in Lisboa (left) and Porto (right):

```
counts_lis = df_lis.groupby('categories')['name'].nunique()  
counts_lis
```

categories	
African Restaurant	2
Asian Restaurant	2
BBQ Joint	1
Breakfast Spot	1
Cocktail Bar	1
Himalayan Restaurant	2
Hotel	1
Indian Restaurant	2
Italian Restaurant	1
Japanese Restaurant	1
Mexican Restaurant	1
Pakistani Restaurant	1
Portuguese Restaurant	20
Restaurant	11
Seafood Restaurant	1
South Indian Restaurant	1
Steakhouse	1

```
counts_por = df_por.groupby('categories')['name'].nunique()  
counts_por
```

categories	
Afghan Restaurant	1
Asian Restaurant	1
Bar	1
Chinese Restaurant	1
Gastropub	1
Italian Restaurant	1
Mediterranean Restaurant	1
Portuguese Restaurant	28
Restaurant	10
Seafood Restaurant	1
Tapas Restaurant	2
Turkish Restaurant	2

Conclusion: There are no vegetarian restaurants for that specific venue.

RESULTS: CLUSTER ANALYSIS LISBON'S NEIGHBORHOODS

► Counts of different types of restaurants in Lisboa:

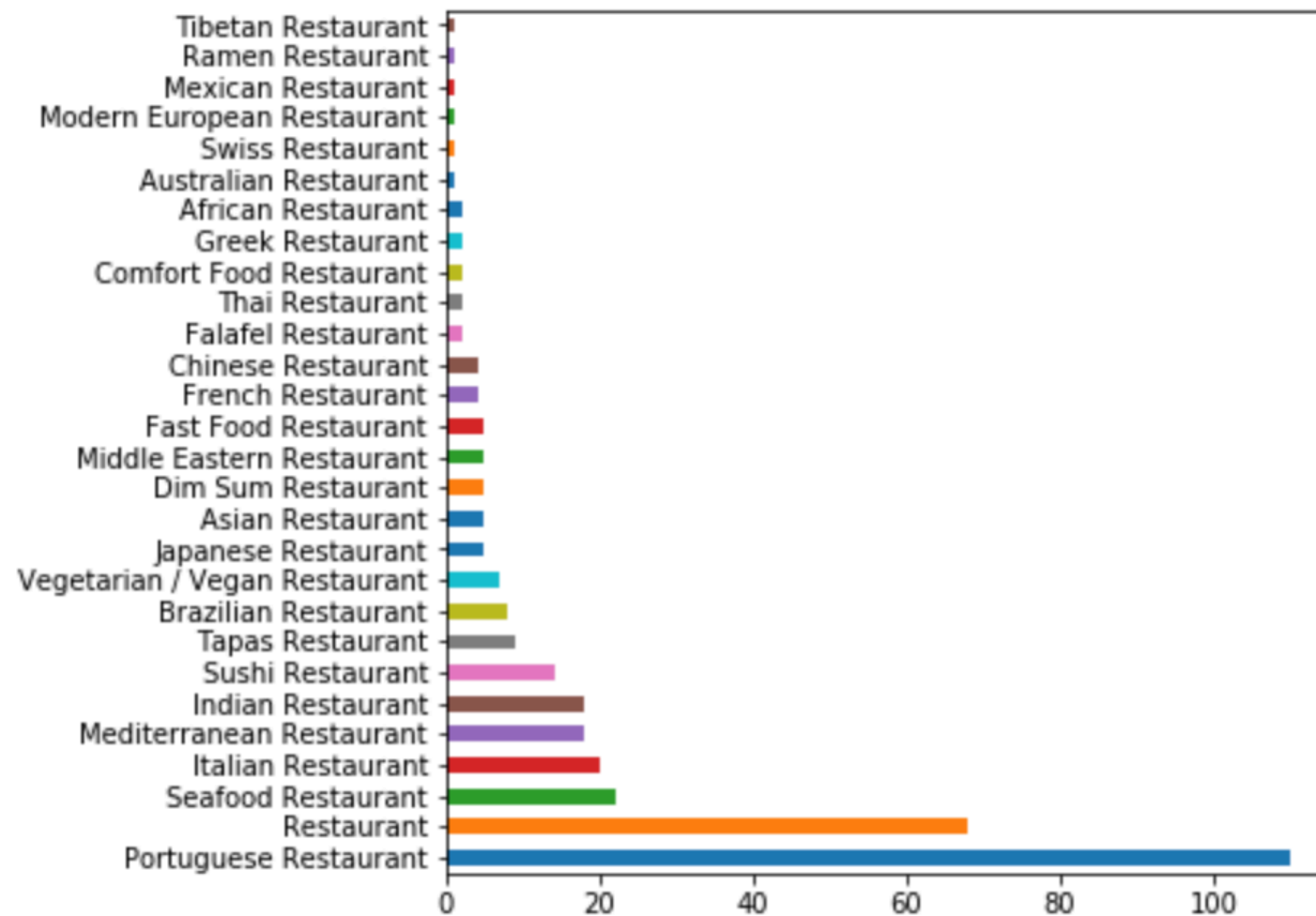


Fig 1: Count of the different types of Restaurants in Lisboa.

RESULTS: CLUSTER ANALYSIS LISBON'S NEIGHBORHOODS

- *k*-means cluster analysis of Lisboa's neighborhoods type of restaurants - 7 clusters.

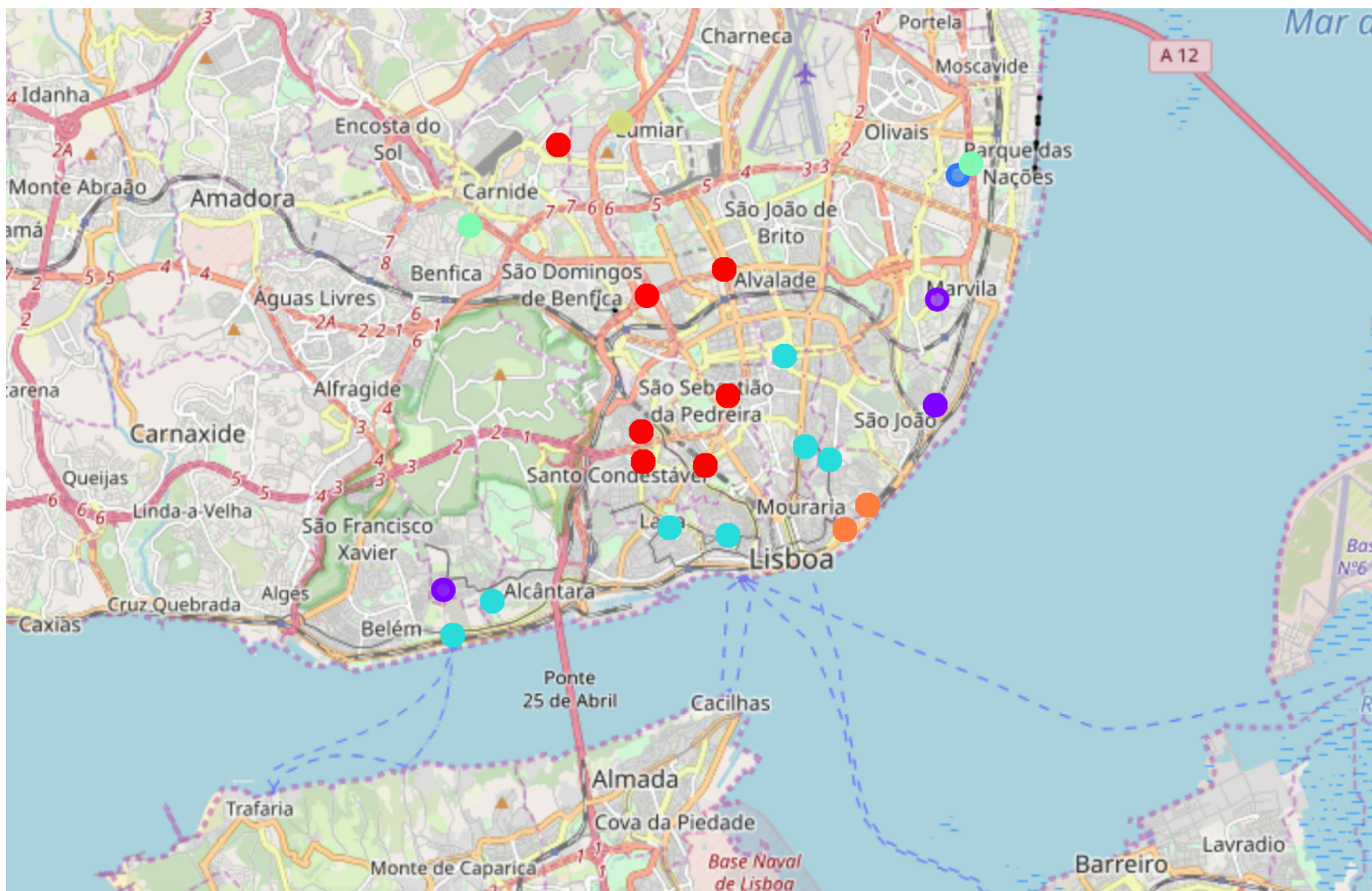


Fig 2: *k*-means cluster Analysis of Lisboa's neighborhoods's type of restaurants. ($k=7$)

CONCLUSIONS

- Both Lisboa and Porto are suitable places to open a vegetarian restaurant, there is still not much competition.
- In Lisboa there are 7 vegetarian restaurants, split for 3 clusters of neighborhoods (0, 3 and 6).
- Traditional portuguese food restaurants represent the vast majority of the restaurants in Lisboa.
- All clusters are very similar to each other, for that reason is best to choose a neighborhood in which there are no vegetarian restaurants (ex: Ajuda or Beato).