By Eduardo Faria

CAPSTONE - FINDING THE BEST REGION FOR A RESTAURANT IN TORONTO

TABLE OF CONTENTS

- Introduction: Business Problem
- Data
- Methodology and Analysis
- Results and Discussion
- Conclusion

INTRODUCTION: BUSINESS PROBLEM

The objective of this project is to identify the best region (cluster / neighborhoods) to open a restaurant in Toronto. To find the best place, we will look for the region with the highest concentration of restaurants, which indicates a good area for this type of business. This information is important for the entrepreneur who wants to open a business to be successful and is directed to those who want to open a restaurant in Toronto.

DATA

- To solve that problem we will use the venue information obtained from Foursquare location data. From Foursquare we get information about the venues in each place for example coffee shop, restaurants, Gym.

- Then, the neighborhood information from Toronto available at wikipedia is used to segmented and clustered Toronto's neighborhoods:

  "https://en.wikipedia.org/wiki/List_of_postal_codes_of_Canada:_M”

- In the treatment of the data it has been used the libraries BeautifulSoup (scrap data from web), Geopy (get latitude and longitude), Folium (render maps), Sklearn KMeans(clustering) and, of course, numpy, pandas and matplotlib.

METHODOLOGY AND ANALYSIS

- In this project we will direct detecting areas of Toronto that have high restaurant density. We will limit our analysis to boroughs that contain the word Toronto.
- A map of Toronto Neighborhoods is plot with Folium Complete and simplified.
- In first step we have collected the venue data for each neighborhood of Toronto using Foursquare.
- After we check how many venues were returned for each neighborhood.
- Clustering technique using K-means is used to group the neighborhoods.
- The most common revenue for each cluster is found.
- Finaly we select the cluster with more restaurants in first more commom revenue.

RESULTS AND DISCUSSION

After performing the tasks listed above, we found that cluster 3 is the one with more concentration of restaurants as more common revenue, indicating that it is appropriated to open a restaurant.

RESULTS AND DISCUSSION

Neigborhoods:

0	Regent Park, Harbourfront
1	Queen's Park, Ontario Provincial Government
2	Garden District, Ryerson
3	St. James Town
5	Berczy Park
6	Central Bay Street
7	Christie
8	Richmond, Adelaide, King
9	Dufferin, Dovercourt Village
10	Harbourfront East, Union Station, Toronto Islands
11	Little Portugal, Trinity
12	The Danforth West, Riverdale
13	Toronto Dominion Centre, Design Exchange
14	Brockton, Parkdale Village, Exhibition Place
15	India Bazaar, The Beaches West
16	Commerce Court, Victoria Hotel
17	Studio District
20	Davisville North
22	High Park, The Junction South
23	North Toronto West
24	The Annex, North Midtown, Yorkville
25	Parkdale, Roncesvalles
26	Davisville

CONCLUSION

Purpose of this project is to identify the best region (cluster / neighborhoods) to open a restaurant in Toronto city.

To find the best place, we have collected the venue data for each neighborhood of Toronto using Foursquare. Then, checked how many venues were returned for each neighborhood. The clustering technique using K-means was used to group the neighborhoods and find the most common in each cluster. Finally we selected the cluster with more restaurants in first more common revenue.

The results as seen above show that the best place to open a restaurant in Toronto is indicated in Cluster 3, representing the neighborhoods listed in the section above.