COURSERA-IBM Capstone Project
For IBM Applied Capstone

Choosing the Right neighborhood area depending on people's criterias

Written by

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1-Business Problem definition

- Many people want to rent or buy a house in Toronto, but they want to choose neighborhoods with particular caracteristics (some wants to be close to restaurants, others away from cinemas and high noise areas…)
- The objective: Locate the right neighborhoods areas matching the criterias of the future house buyers.
- The question will be- how can we choose the best neighborhoods that will fit the criterias of the future habitants of Toronto?

2-Datas

Requirements

- List of Toronto Neighborhoods
- Latitude and Longitude of all neighborhoods an Boroughs
- Venue datas , specially relative of restaurants, etc…

Sources

- https://en.wikipedia.org/wiki/List_of_postal_codes_of_Canada:_M
- Geocoder for Longitude and Latitude
- Foursquare API

3-Methods used

- Web scrapping of wikipedia Page
- Transform to Dataframe and cleaning
- Use of Geocoder(or csv file) to import Longitude and Latitude
- Use of foursquare API to get datas of places,restaurants,etc…
- Group datas and filter
- Perform K-Means clustering on neighborhoods
- Use folium to visualize the clusters

4-Results and Discussion

- The results will show clusters of neighborhoods depending on the number of restaurants for exemple and other parameters
- Regarding those clusters it will bé easy to categorize future clients, by directing them directly to neighborhoods depending on their choices
- So there will be clusters of low density shops and restaurants and those of high density places,

5-Conclusion

- Choosing the right home regarding our criterias can be very challenging, thats why use of data analysis and machine learning can made the choice of neighborhoods very easy and with high precision

- The model used will have to be updated regularly to fit the correct predictions, to avoir errors on deciding the right neighborhood.