

NYC, TORONTO, PARIS...

WHERE DO YOU WANT TO MOVE NEXT?



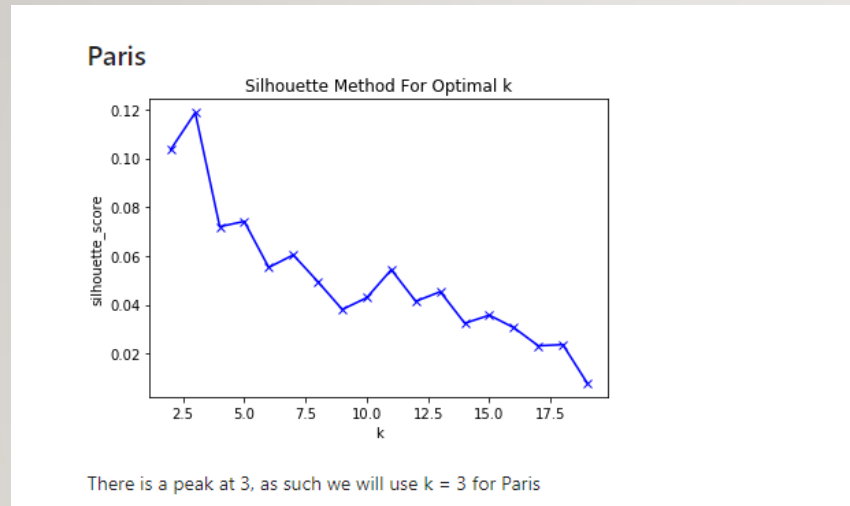
KNOWING SIMILARITY, DIFFERENCES AND STYLES OF CITIES IS VALUABLE FOR SOMEONE LOOKING TO MOVE

- Different people like different things about cities:
 - Food,
 - Nightlife,
 - Outdoors
- Being able to compare cities and highlight their main attributes would be a valuable tool for people looking to move in a new city

DATA ACQUISITION AND CLEANING

- New York Data:
 - Link to the dataset: https://geo.nyu.edu/catalog/nyu_2451_34572
- Toronto Data:
 - Link to the list of postal codes, neighborhoods and boroughs
 - List of coordinates were provided as separate excel file
- Paris Data:
 - Link to the list of neighborhoods and postal codes:
https://en.wikipedia.org/wiki/List_of_postal_codes_of_Canada:_M
 - List of coordinates were provided as separate excel file

USING THE SILHOUETTE METHOD TO DETERMINE THE RIGHT K FOR K-MEAN CLUSTERING



- Identify the peaks in the graph and then chose the appropriate k.
- Choosing the right k was not only based on the peaks in the graph but also on the reasonableness.
- For example, for Paris, I could have chosen a higher k (5 for example) but I had to take into account that there are only 20 neighborhoods in Paris.
- As such, I chose the smallest number I found. Same goes for the other two cities.
- Had I chosen to look at NYC overall and not just the borough of Manhattan, I would probably have chosen a higher k than 4 if the peaks were the same.

RESULTS CAN BE INTERPRETED AS FOLLOWS

NYC

Cluster number 1: Italian-Mexican Restaurants

Cluster number 2: Italian Restaurants

Cluster number 3: Mexican Restaurants and Bakeries

Cluster number 4: Parks and Bookstores (the Zen Neighborhood)

Toronto

Cluster number 1: Coffee shops and Cafes (student neighborhood)

Cluster number 2: Parks, Playgrounds and Yoga Studios (young parent's neighborhood)

Cluster number 3: Baseball Fields and Yoga Studios (active neighborhood)

Cluster number 4: Garden (the green neighborhood)

Paris

Cluster number 1: French Restaurants and Hotels (tourist neighborhood)

Cluster number 2: French Restaurants and Bars (party neighborhood)

Cluster number 3: Bakery (morning neighborhood).

RESULTS CAN BE INTERPRETED AS FOLLOWS

Similarity between the cities:

- NYC and Paris are very food-oriented
- Toronto and NYC seem to be green cities as parks are common venues for both.

Differences between the three cities:

- Hotels are more present in the most common venues in Paris compared to Toronto and NYC
- That food in NYC is more diverse than in Paris. In Paris, most common venues are French Restaurants.
- Bars are more common venues in Paris compared to Toronto and NYC

CONCLUSION

- In this study, I analyzed similarity and differences between three cities: NYC (reduced to the Borough of Manhattan), Toronto, and Paris.
- I built a classification model to predict cluster neighborhoods in those three cities in order to make it easy to compare those based on venues (as referenced and detailed in Foursquare).
- These models can be useful in helping someone decide which city would be a better fit for them based on personal tastes.
- For example, if you are into French food, you'd better live in Paris (that was expected but one never knows...).
- If you like international cuisine, and Italian food in particular, you'd better go live in NYC.
- And if you are into coffee shops, move to Toronto!