

COURSERA CAPSTONE



THE BATTLE OF THE NEIGHBOURHOODS

1. INTRODUCTION



- Toronto is the capital city of the province of Ontario and the largest city in Canada by population. Many IT companies are based in Toronto.
- Bangalore is the IT capital of India with an area of 710 km² covering over 295 localities.
- A fictional IT company based in Rosedale, Toronto needs to choose a location in Bangalore which are similar to Rosedale and a possible list of hotels or Food joint for their employees
- Therefore, the business problem is “Which areas of Bangalore are similar to Rosedale, Ontario? Can we have the names and locations of hotels and food joints in these locations where accommodation can arranged for their employees.

2. DATA

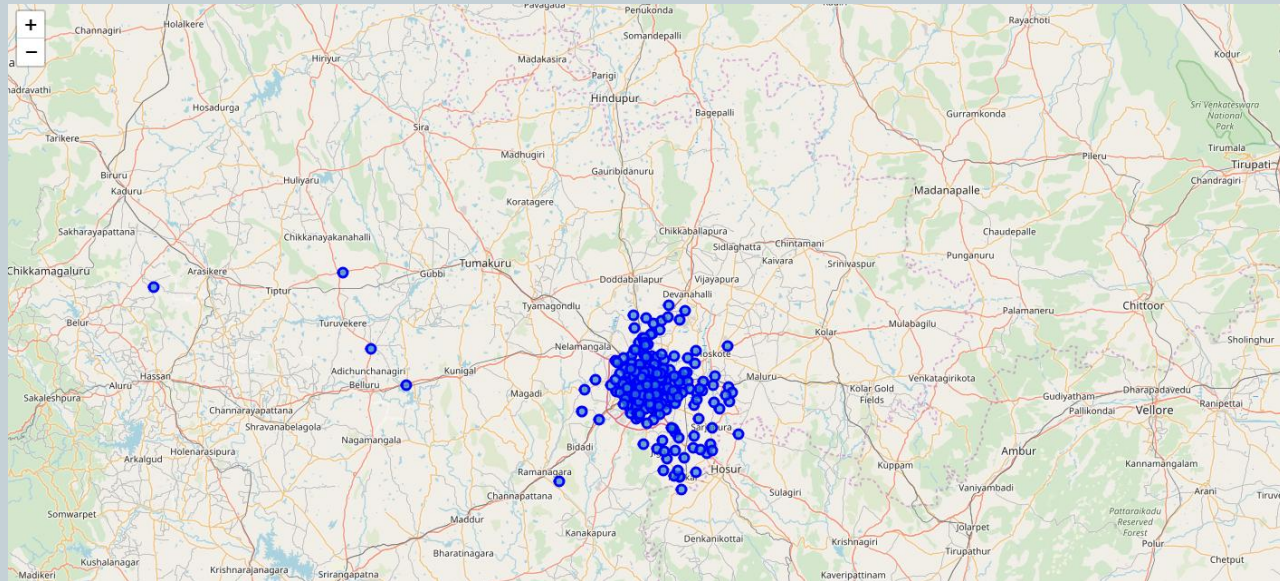


- Toronto neighborhood data to obtain a list of neighborhoods in Toronto along with latitude/longitude.
https://en.wikipedia.org/wiki/List_of_postal_codes_of_Canada:_M
- Bangalore neighborhood data to obtain a list of neighborhoods in Bangalore along with latitude/longitude
<https://www.mapsofindia.com/pincode/india/karnataka/bangalore/>
https://www.mapdevelopers.com/batch_geocode_tool.php
- Foursquare location data to search and explore the various types of venues and their categories available in each neighborhood.

3. METHODOLOGY

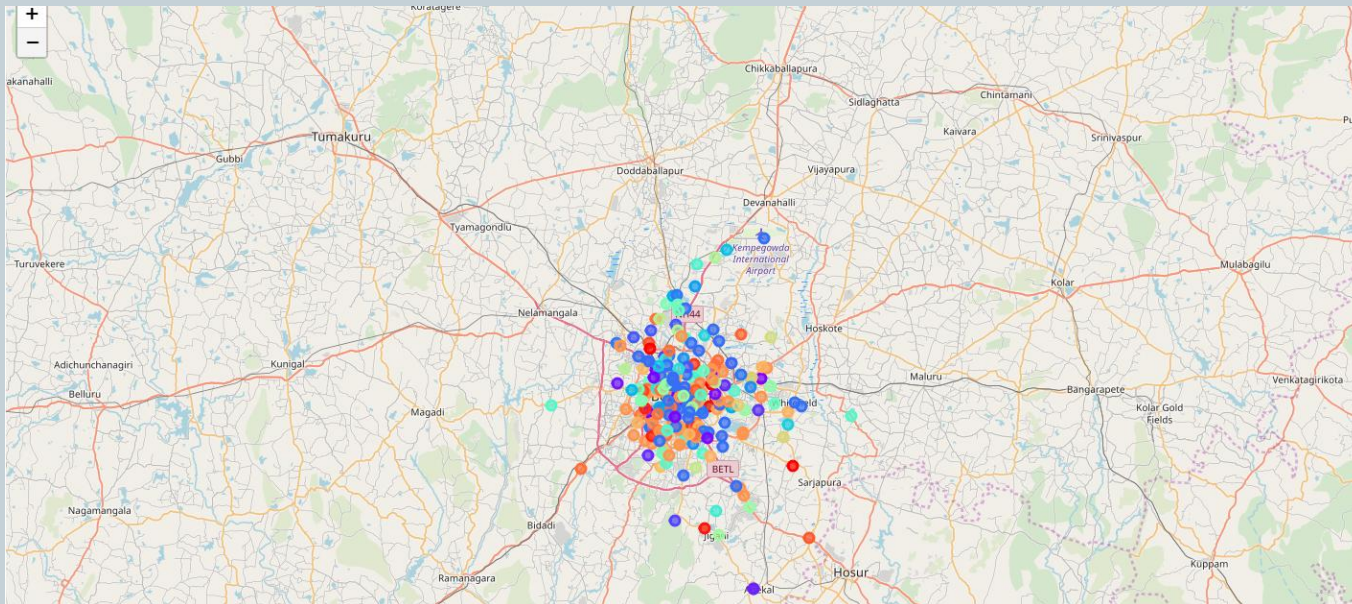


- Neighborhood and geolocation data is merged into required format for processing.
- The Bangalore dataset is analysed and the 295 localities are visualized using the folium library.



K- Means Clustering

- The original neighborhood (Rosedale, Toronto) and the 295 localities are grouped into 70 clusters on the basis of their shared characteristics and features using K-means algorithm.



4. RESULTS



- The cluster of 51 Bangalore neighborhoods which have similar features and characteristics as Rosedale, Toronto are obtained.
- Foursquare was able to come out with only 1 hotel which was similar to Rosedale.

Out[104]:

	name	location
0	VK Foods	{'address': 'Yeshwantpur', 'crossStreet': 'APM...

5. DISCUSSION



- The clustering analysis done was useful at classifying the neighborhoods with similar features; however it is not a perfect solution.
- Other factors and data sources, demographic and socio-economic features data, detailed information related to the search can be considered for further refinement.
- No algorithm can predict an accurate analysis of the neighborhoods in consideration as an actual visit and stay at the places.

6. CONCLUSION



- The neighborhoods in Bangalore that are similar to Rosedale, Toronto are found along with a possible list of 1 food joint in these areas.
- This info can be used by the IT company to arrange for nearby accommodation for their employees.
- This project can be replicated for different neighborhoods and cities in order to find similar neighborhoods.
- Further expansion using different datasets and taking more factors into consideration to provide more accurate analysis.