



CAPSTONE PROJECT - THE BATTLE OF NEIGHBOURHOODS

Finding best place for opening
new Restaurant

FINDING BEST PLACE FOR OPENING NEW RESTAURANT

Every business client want to expend his business, by opening new branch and offices . The decision of opening new branch/office could be taken based on some criteria.

In this project we are trying to solve the Business problem for owner who wish to open new branch in foreign country and he has no much idea which city he should prefer then other whenever contactor is offering him two or more choice. We took one case study as given below

THERE ARE FEW CRITERIA HE MIGHT HE WILL PREFER THE LOCATION:-

There are few criteria he might he will prefer the location:-

What is the total population and per capita income in these cities?

No of population whose origin from Indian subcontinent in these cities

How many Indian restaurants are present in that area?

No of tips for any venue shows Indian cuisine demand in that area.

STEPS FOLLOWED

- Gather data from different source using web scraping
- Analysis data by viewing and remove useless columns
- Removing null and NA values from dataset
- Renaming Columns name if required
- Calculate parameter like per capita income, population density etc.
- Compare two city and choose the best one
- Gather foursquare.com data to get near by palaces
- Find if Indian restaurant are present near to famous places
- Check rating of these restaurant

DATASET USED

To solve this, dataset is required, demographic data of Toronto and New York. Based on demographic data we can identify the migrants community from Indian subcontinent in both the city. Based on this we can identify the city which suitable for client.

We have taken data from two different source

"https://en.wikipedia.org/wiki/New_York_City#Demographics" and "https://en.wikipedia.org/wiki/New_York_City#Race_and_ethnicity" for nework city data and

<https://en.wikipedia.org/wiki/Toronto> and [https://en.wikipedia.org/wiki/Demographics of Toronto](https://en.wikipedia.org/wiki/Demographics_of_Toronto)

DATA CLEANING

To clean data the following steps are used

1. Removing NA/ NULL value rows/columns
2. Removing duplicate columns
3. Renaming column

21:

city	country	crossStreet	distance	formattedAddress	labeledLatLngs	lat	lng	neighborhood	postalCode	state	id
New York	United States	89th & 90th St	1318	[1724 2nd Ave (89th & 90th St), New York, NY 1...	[{"label": "display", "lng": -73.9500878568410...	40.780206	-73.950088	NaN	10128	NY	56ed855a498ef3bb022352c3
New York	United States	between W 56th St and W 57th St	2423	[940 8th Ave (between W 56th St and W 57th St)...	[{"label": "display", "lng": -73.9834302510149...	40.765834	-73.983430	Theater District	10019	NY	54f9f0e6498e4e163ca8937a
New York	United States	btwn Lexington & 3rd Ave.	2649	[157 E 55th St (btwn Lexington & 3rd Ave.), Ne...	[{"label": "display", "lng": -73.9688984193861...	40.759122	-73.968898	NaN	10022	NY	4bbf743cba9776b09428ffc8
New York	United States	Park avenue	2658	[53rd street (Park avenue), New York, NY 10022...	[{"label": "display", "lng": -73.9722560833372...	40.759469	-73.972256	NaN	10022	NY	4c6ec437c52437042cf42beb
Long Island City	United States	NaN	4262	[27-18 Queens Plz S, Long Island City, NY 1110...	[{"label": "display", "lng": -73.9392605699454...	40.749976	-73.939261	NaN	11101	NY	50a287a7e4b0033f830f06db

DESCRIBING DATASET

distance		
count	30.000000	3
mean	1938.800000	4
std	1238.753445	
min	828.000000	4
25%	1232.500000	4
50%	1389.000000	4
75%	2142.250000	4
max	5653.000000	4

This giving the description like total no of restaurant with limit in this case 30nos, mean distance it of all restaurants is 1.9 km approx. std div 1.2 km means there quite distance between two Indian restaurants. And 22 out of 30 resaturants lies near to ceneral park

FOURSQUARE DATA

Foursquare data is required to find of venues and famous hotel/place in the city and the place where restaurants can be opened.

Example : we want to search a place in Toronto we can use following query

```
https://api.foursquare.com/v2/venues/search?client_id=*****&client_secret=****&ll=40.73,-70.01&query=indianrestaurant
```

Then we need to find number of Indian restaurants near famous venue.

```
https://api.foursquare.com/v2/venues/trending?client_id=*****&client_secret=****&v=201705&ll=40.73,-74.01
```

```
https://api.foursquare.com/v2/venues/search?client_id=*****&client_secret=****&ll=40.73,-70.01&query=indianrestaurant
```

What is the rating given to these restaurants based tips. This will give us the idea whether it is suitable to open Indian restaurants.

```
https://api.foursquare.com/v2/venues/uniqueID/tips?client_id=***&client_secret=***&v=201705
```

DISTRIBUTION RESTAURANTS NEAR CENTRAL PARK MANHATTAN



FEEDBACK FOR RESAURANT

	text	agreeCount	disagreeCount	id
0	They serve coffee!!!!!!	1	0	5accc98c0313204c9d7ec157
1	The linguine with clams is on point 🍝	1	0	5accbe3a911fc423730f3ed3
2	Quick, cheap lunch that tastes good! Way shorter line than Chipotle, too.	2	0	5acbec70a0215b732e264fe8
3	You're not a real New Yorker until you've shame-ordered Insomnia Cookies for delivery at 3am	1	0	5acbbd4eb1538e45373b07f5
4	Good for you yet still tasty! Clean green protein is my go-to after I hit the gym 🍌	2	0	5acbbcd01235808d5d6dc75
5	Burger game strong 🍔	1	0	5ab575fb6bdee65f759da8c1
6	Great burgers & fries! Also, this place is exactly what it's like when you go to a bar in the Southwest. Source: I'm from Arizona.	2	0	5ab5575d73fe2516ad8f363b
7	Açaí bowl + peanut butter + whey protein = 🍌🍌🍌	1	0	5ab42db53c858d64af2688a4
8	Highly underrated and way less crowded than Central Park!	3	0	5ab42c396f706a29f53ad1a8
9	Way easier to navigate than the Met proper, plus the Met Breuer focuses on modern art. If I only have a limited amount of time to spend in a museum, I would rather go here than anywhere else!	6	0	5ab42b987dc9e17930e5ff5b
10	Get the açai bowl with peanut butter after your work out and thank me later 🍌	1	0	5ab42aca2a7ab6333652b266

CONCLUSION

Purpose of this project was to identify an area of opening new Indian restaurant which is closer to centre with in order to search optimal location. By calculating restaurant density distribution from Foursquare data we have first identified general boroughs. Final decision on optimal restaurant location will be made by stakeholders based on specific characteristics of neighbourhoods and locations in every recommended zone.

So far the recommendation is given based population density, per captia income, restaurant density and community in that area. In future selection may based on air quality , road and other environment factors.