

# OPENING A NEW RESTAURANT IN MUMBAI

SHIBU JOHN

# INTRODUCTION

- Mumbai is the financial and cultural capital of India. It is home to Indians of all states and is also a tourist attraction.
- What is more intriguing than its coastal location is the plethora of cuisines it hosts.
- Be it vegetarian or non-vegetarian, the dishes in Mumbai boast of rich taste, fieriness and impressive flavors. The cuisine of Mumbai covers a large assortment of interesting, authentic dishes and zesty seafood dishes.
- The staple foods consumed by the residents of Mumbai include rice, aromatic fish curries, Indian bread (chapatis and rotis), vegetable curries, pulses and desserts. Coconuts, cashew nuts, peanuts and peanut oil are some of the major ingredients used in many of Mumbai's traditional dishes.

# BUSINESS MODEL

- To monopolise on the hunger pangs of its residents, Mumbai is a rather great location for someone looking to enter the restaurant business.
- But being so populated, the high competition is obvious.
- So it is sensible to analyse and settle for a location which would be most economically profitable.
- This project looks forward to help people make a data driven decision.

# DATA COLLECTION

The following data was collected for this project:

- Neighborhood data of Mumbai was scraped from:  
[https://en.wikipedia.org/wiki/List\\_of\\_neighborhoods\\_in\\_Mumbai](https://en.wikipedia.org/wiki/List_of_neighborhoods_in_Mumbai)
- Venue data for all neighbourhoods in Mumbai using Foursquare API.
- The geographical coordinates and longitude and latitude were found using the built in python functions.

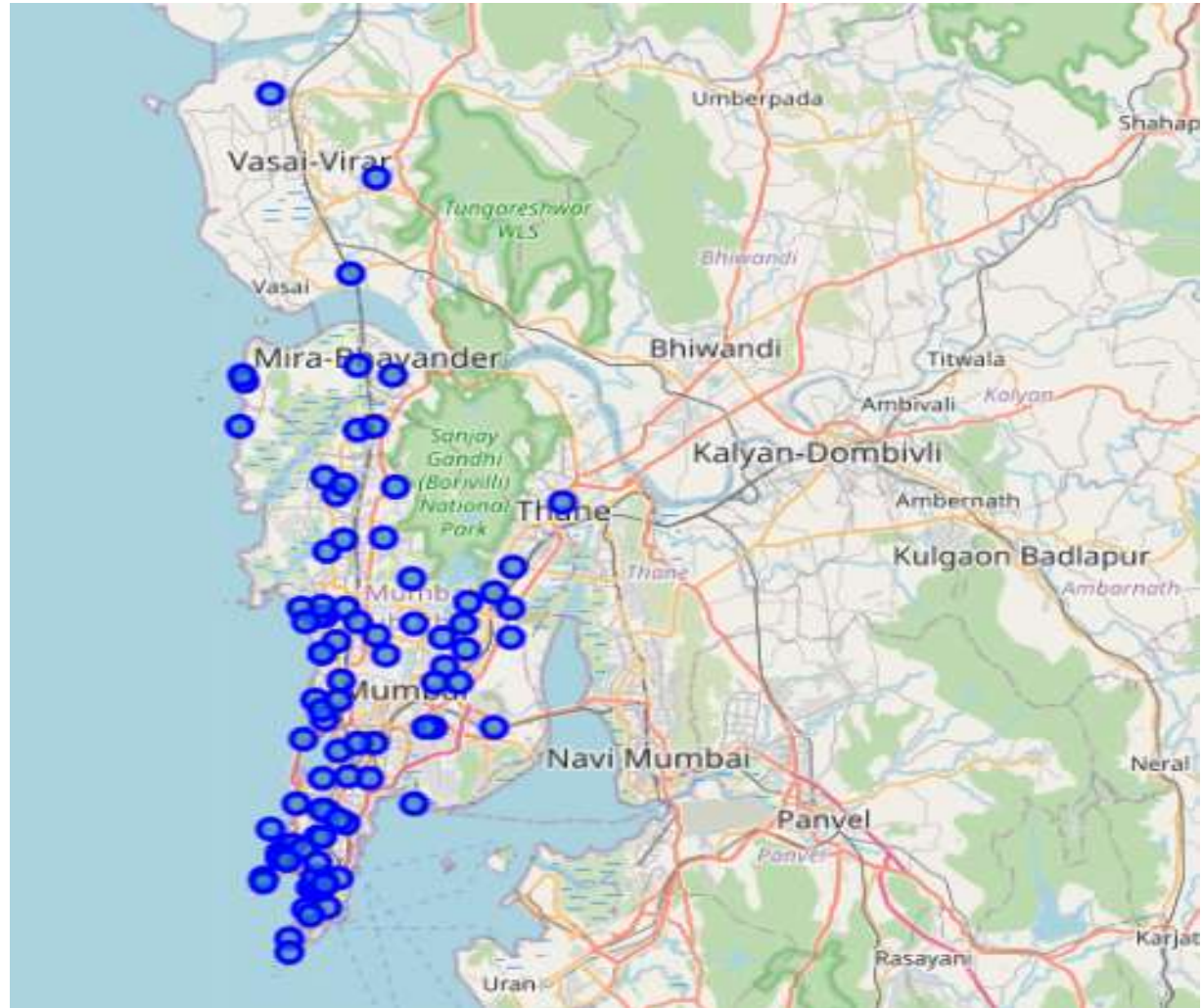
# METHODOLOGY

- The neighbourhood data was first cleaned and processed to make it usable.
- Then the dataframe with neighbourhoods with respective latitudes and longitudes was created.
- The area with maximum number of neighbourhoods was determined to be south Mumbai
- The venue recommendations were collected using Foursquare API.
- One-hot encoding was used to make the venue categories.
- The dataframe with the top 5 common venues was created.
- Clusters were formed using KMean clustering method.

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	Neighborhood	Location	Latitude	Longitude
0	Amboli	Western Suburbs	19.129300	72.843400
1	Chakala, Andheri	Western Suburbs	19.111388	72.860833
2	D.N. Nagar	Western Suburbs	19.124085	72.831373
3	Four Bungalows	Western Suburbs	19.124714	72.827210
4	Lokhandwala	Western Suburbs	19.130815	72.829270
5	Marol	Western Suburbs	19.119219	72.882743
6	Sahar	Western Suburbs	19.098889	72.867222
7	Seven Bungalows	Western Suburbs	19.129052	72.817018
8	Versova	Western Suburbs	19.120000	72.820000
9	Mira Road	Western Suburbs	19.284167	72.871111

First ten rows of the dataframe



Map of Mumbai City

	Location	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue
77	South Mumbai	Coffee Shop	Vegetarian / Vegan Restaurant	Ice Cream Shop	Hookah Bar	Gym

## Cluster 1

	Location	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue
0	Western Suburbs	Playground	Gym	Cocktail Bar	Hookah Bar	Gourmet Shop
1	Western Suburbs	Vegetarian / Vegan Restaurant	Asian Restaurant	Coffee Shop	Hookah Bar	Gym
7	Western Suburbs	Indian Restaurant	Bistro	Gym	Café	Pub
12	Western Suburbs	Boutique	Scenic Lookout	Chinese Restaurant	Performing Arts Venue	Gastropub
13	Western Suburbs	Gourmet Shop	Indian Restaurant	Snack Place	Bar	Burger Joint
15	Western Suburbs	Bakery	Bar	Fast Food Restaurant	Cheese Shop	Dessert Shop
17	Western Suburbs	Train Station	Hookah Bar	Coffee Shop	Hotel	Gym
25	Western Suburbs	Food Truck	Café	Vegetarian / Vegan Restaurant	Coffee Shop	Hookah Bar
26	Western Suburbs	Indian Restaurant	Bar	Chinese Restaurant	Arcade	Seafood Restaurant
30	Western Suburbs	Train Station	Men's Store	Middle Eastern Restaurant	Clothing Store	Vegetarian / Vegan Restaurant
31	Western Suburbs	Train Station	Platform	Hookah Bar	Gym	Gourmet Shop
44	Eastern Suburbs	Indian Restaurant	Fast Food Restaurant	Restaurant	Lounge	Department Store
54	South Mumbai	Street Food Gathering	Vegetarian / Vegan Restaurant	Cocktail Bar	Hookah Bar	Gym
57	South Mumbai	Jewelry Store	Vegetarian / Vegan Restaurant	Coffee Shop	Hookah Bar	Gym
59	South Mumbai	Department Store	Plaza	Vegetarian / Vegan Restaurant	Cocktail Bar	Hookah Bar
62	South Mumbai	Seafood Restaurant	Vegetarian / Vegan Restaurant	Cocktail Bar	Hookah Bar	Gym
63	South Mumbai	Coffee Shop	Music Store	Bakery	Multiplex	Café
65	South Mumbai	Vegetarian / Vegan Restaurant	Restaurant	Cocktail Bar	Fast Food Restaurant	Juice Bar
67	South Mumbai	Bakery	Boutique	Vegetarian / Vegan Restaurant	Coffee Shop	Hookah Bar
69	South Mumbai	Snack Place	Vegetarian / Vegan Restaurant	Cocktail Bar	Hookah Bar	Gym
74	South Mumbai	Shopping Mall	Italian Restaurant	Movie Theater	Sandwich Place	Diner
75	South Mumbai	Café	Pizza Place	Vegetarian / Vegan Restaurant	Coffee Shop	Hookah Bar
76	South Mumbai	Vegetarian / Vegan Restaurant	Food & Drink Shop	Fast Food Restaurant	Ice Cream Shop	Hookah Bar
79	South Mumbai	Airport Lounge	Ice Cream Shop	Smoke Shop	Vegetarian / Vegan Restaurant	Fast Food Restaurant
89	South Mumbai	Concert Hall	Vegetarian / Vegan Restaurant	Ice Cream Shop	Hookah Bar	Gym

## Cluster 2



	Location	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue
11	Western Suburbs	Bus Station	Vegetarian / Vegan Restaurant	Coffee Shop	Hookah Bar	Gym
46	Eastern Suburbs	Restaurant	Bus Station	Vegetarian / Vegan Restaurant	Coffee Shop	Hookah Bar
49	Harbour Suburbs	Restaurant	Vegetarian / Vegan Restaurant	Cocktail Bar	Hookah Bar	Gym

### Cluster 1

	Location	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue
9	Western Suburbs	Indian Restaurant	Ice Cream Shop	Hookah Bar	Gym	Gourmet Shop
14	Western Suburbs	Indian Restaurant	Bakery	Cupcake Shop	Coffee Shop	Hookah Bar
27	Western Suburbs	Indian Restaurant	Platform	Food Truck	Hookah Bar	Gym
34	Western Suburbs	Indian Restaurant	Bar	Market	Coffee Shop	Hookah Bar
39	Eastern Suburbs	Indian Restaurant	Multiplex	Coffee Shop	Hookah Bar	Gym
48	Harbour Suburbs	Indian Restaurant	Gastropub	Diner	Ice Cream Shop	Hookah Bar
55	South Mumbai	Indian Restaurant	Ice Cream Shop	Hookah Bar	Gym	Gourmet Shop
87	South Mumbai	Indian Restaurant	Dessert Shop	Lounge	Hotel	Asian Restaurant
90	South Mumbai	Indian Restaurant	Market	Cheese Shop	Coffee Shop	Hookah Bar

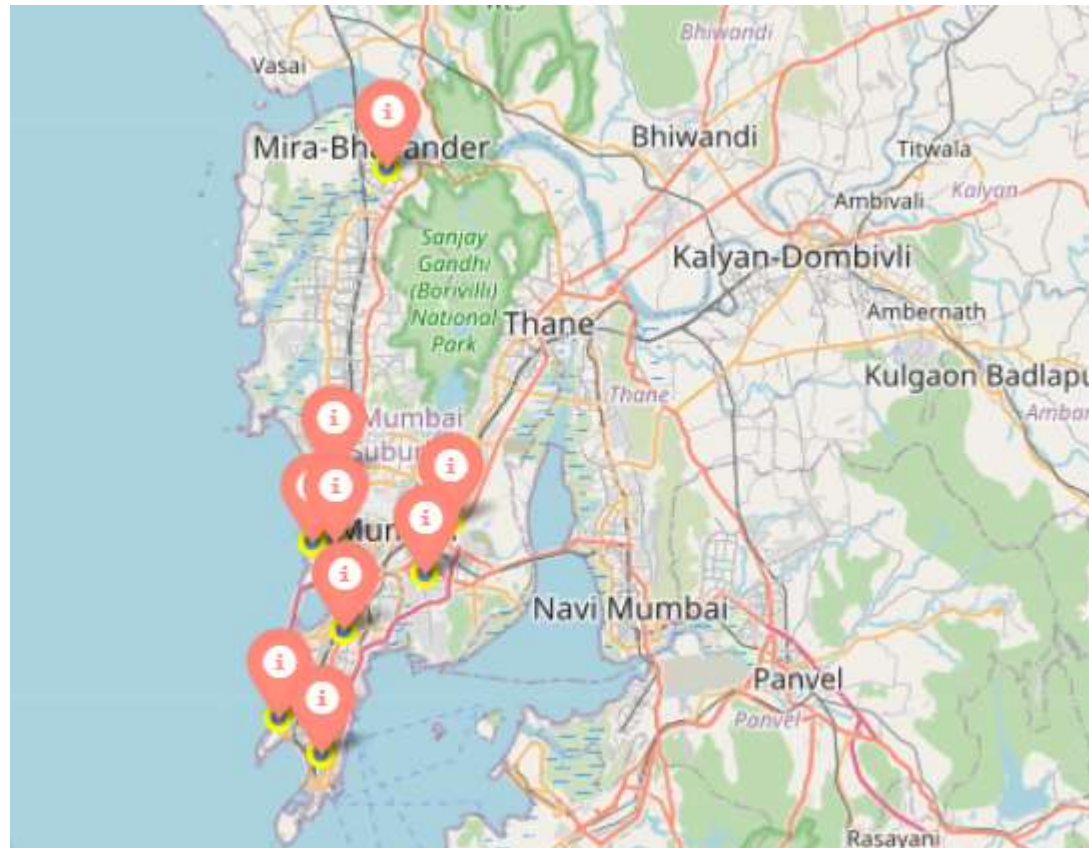
### Cluster 4

	Location	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue
73	South Mumbai	Fast Food Restaurant	Vegetarian / Vegan Restaurant	Ice Cream Shop	Hookah Bar	Gym

### Cluster 5

# RESULT

- The most recommended region was found out to be cluster 4



# CONCLUSION

- The data for the neighbourhoods of Mumbai were successfully analysed.
- We could find the most suitable region in Mumbai where it would be feasible to open a restaurant.
- Cluster 4 shows the most promising result.