

BATTLE OF NEIGHBORHOODS

BANGALURU, KARNATAKA

BY

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BUSINESS PROBLEM

- SELECT THE BEST NEIGHBORHOOD TO LIVE TO BUILD A RESTAURANT ETC IN BANGALORE, KARNATAKA.
- UNDERSTANDING THE SIMILARITIES AND DIFFERENCES BETWEEN THE NEIGHBORHOODS USING UNSUPERVISED K-MEAN CLUSTERING ALGORITHM

OBJECTIVE

- COLLECTING NEIGHBORHOOD'S TOP TRENDING VENUES USING FOURSQUARE API(BEAUTIFUL SOUP, HTTP REQUEST)
- FORMING NEIGHBORHOOD CLUSTERS BASED ON VENUE CATEGORIES USING UNSUPERVISED K-MEAN CLUSTERING ALGORITHM(SKLEARN)
- IDENTIFYING AND UNDERSTANDING THE SIMILARITIES AND DIFFERENCES BETWEEN TWO CHOSEN NEIGHBORHOODS TO RETRIEVE MORE INSIGHTS AND TO CONCLUDE WITH EASE WHICH NEIGHBORHOOD WINS OVER OTHER.

PYTHON PACKAGES AND DEPENDENCIES

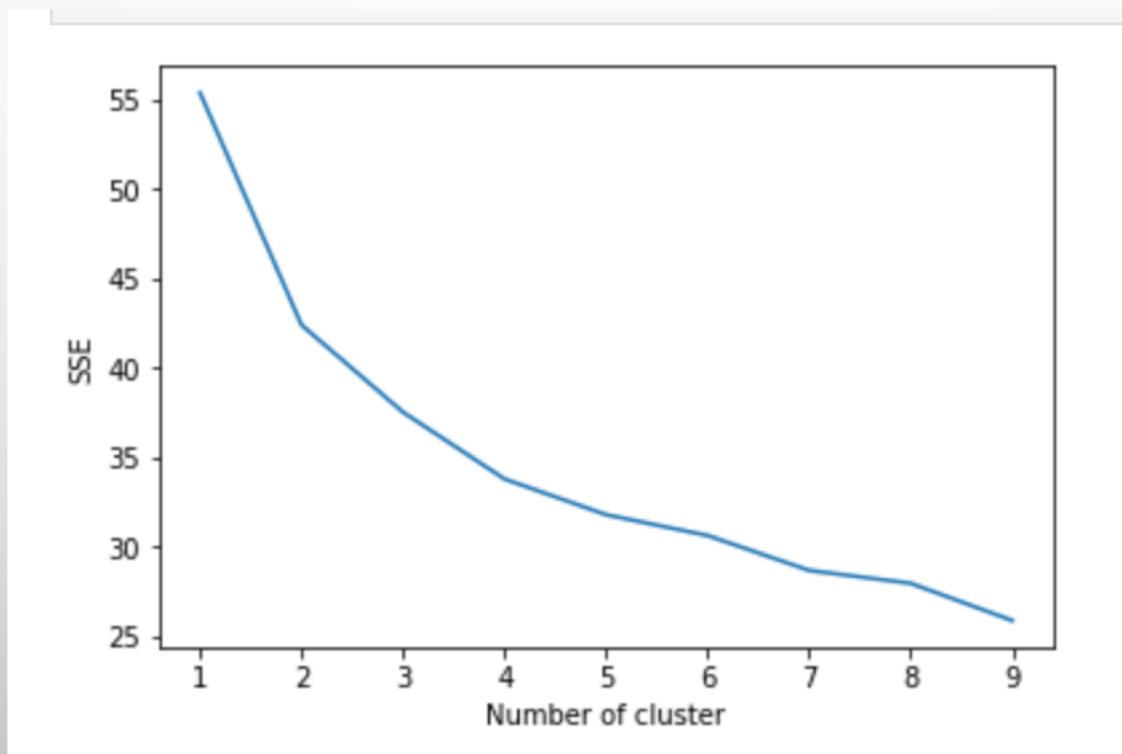
- PANDAS - LIBRARY FOR DATA ANALYSIS
- NUMPY - LIBRARY TO HANDLE DATA IN A VECTORIZED MANNER
- JSON - LIBRARY TO HANDLE JSON FILES
- GEOPY - TO RETRIEVE LOCATION DATA
- REQUESTS - LIBRARY TO HANDLE HTTP REQUESTS
- MATPLOTLIB - PYTHON PLOTTING MODULE
- SKLEARN - PYTHON MACHINE LEARNING LIBRARY
- FOLIUM - MAP RENDERING LIBRARY

WORK FLOW

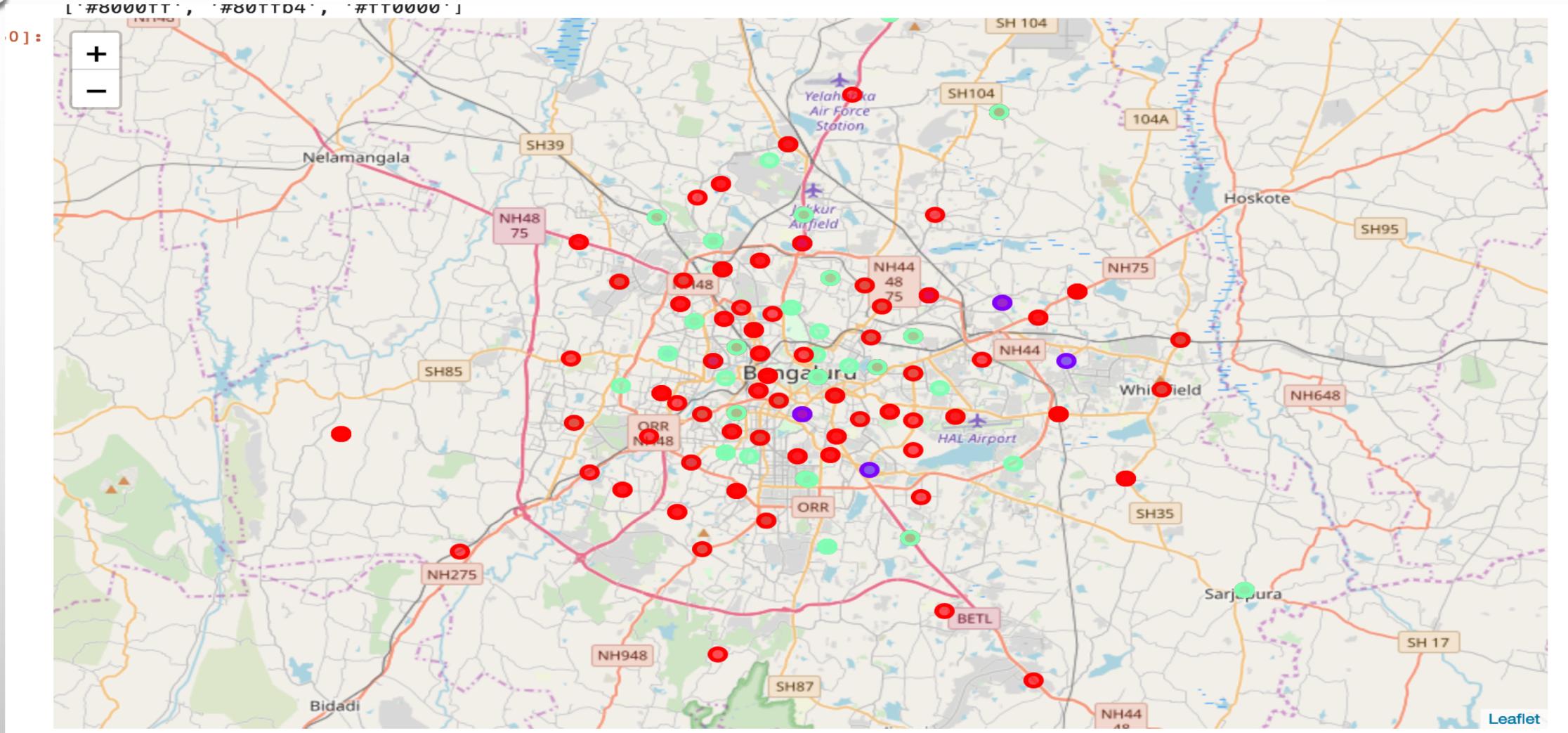
- DATA COLLECTION AND DATA WRANGLING
- TOP TRENDING PLACES EXTRACTION AND CLUSTERING
- DECISION MAKING BASED ON THE CLUSTERED NEIGHBORHOODS

Elbow Method

The idea behind **elbow method** is to run k-means clustering on a given dataset for a range of values of k and for each value of k, calculate sum of squared errors (SSE). After that, plot a line graph of the SSE for each value of k.



Neighborhood Clusters



NEIGHBORHOOD VENUES

[67] :

Location	Brigade Road	Lalbagh West
Pincode	560001	560004
State	Karnataka	Karnataka
District	Bangalore	Bangalore
Latitude	12.9766	12.9438
Longitude	77.5993	77.5738
Cluster Labels	2	0
1st Most Common Venue	Lounge	Indian Restaurant
2nd Most Common Venue	Indian Restaurant	Café
3rd Most Common Venue	Italian Restaurant	Fast Food Restaurant
4th Most Common Venue	Mexican Restaurant	Sandwich Place
5th Most Common Venue	Ice Cream Shop	Ice Cream Shop
6th Most Common Venue	Pub	Bakery
7th Most Common Venue	Plaza	Restaurant
8th Most Common Venue	Pizza Place	Smoke Shop
9th Most Common Venue	Breakfast Spot	Farmers Market
10th Most Common Venue	Hotel	Road

CONCLUSION

THIS ANALYSIS CONCLUDES THAT COMPARED TO BELLEVUE ,

FOR THE PURPOSE OF THIS PROJECT WE ASSUMED EACH CLUSTER AS FOLLOW:

- CLUSTER 1: BANGALORE: RESTAURANT AND TOURISM
- CLUSTER 2: BANGALORE: RESIDENTIAL AND SHOPPING
- CLUSTER 3: BANGALORE: RESIDENTIAL

THANK YOU