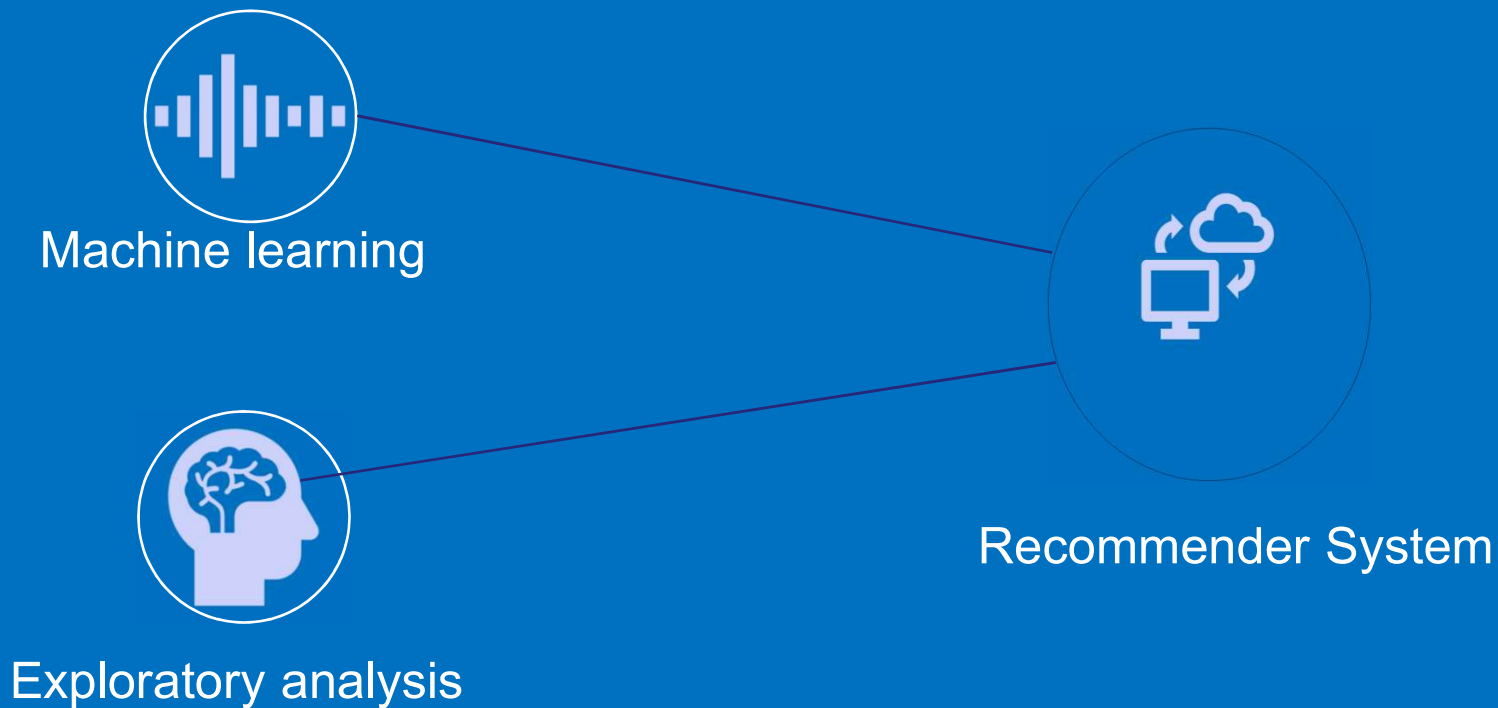




IBM Capstone Project

Project definition and Business Direction

Methodology



DATASET

	Borough	Neighborhoods	Latitude	Longitude	Population	City	AverageIncome
0	Central	Cantonment area	12.972442	77.580643	866377	Bangalore	18944.099792
1	Central	Domlur	12.960992	77.638726	743186	Bangalore	56837.022198
2	Central	Indiranagar	12.971891	77.641151	474289	Bangalore	41991.817435
3	Central	Jeevanbheemanagar	12.962900	77.659500	527874	Bangalore	6667.447632
4	Central	Malleswaram	13.003100	77.564300	893629	Bangalore	53270.063892
5	Central	Pete area	12.962700	77.575800	730999	Bangalore	50712.430215
6	Central	Rajajinagar	12.990100	77.552500	981362	Bangalore	60967.535874
7	Central	Sadashivanagar	13.006800	77.581300	662625	Bangalore	59943.541564
8	Central	Seshadripuram	12.993500	77.578700	396862	Bangalore	58407.090338
9	Central	Shivajinagar	12.985700	77.605700	77836	Bangalore	55850.962099

DATASET - SPLIT

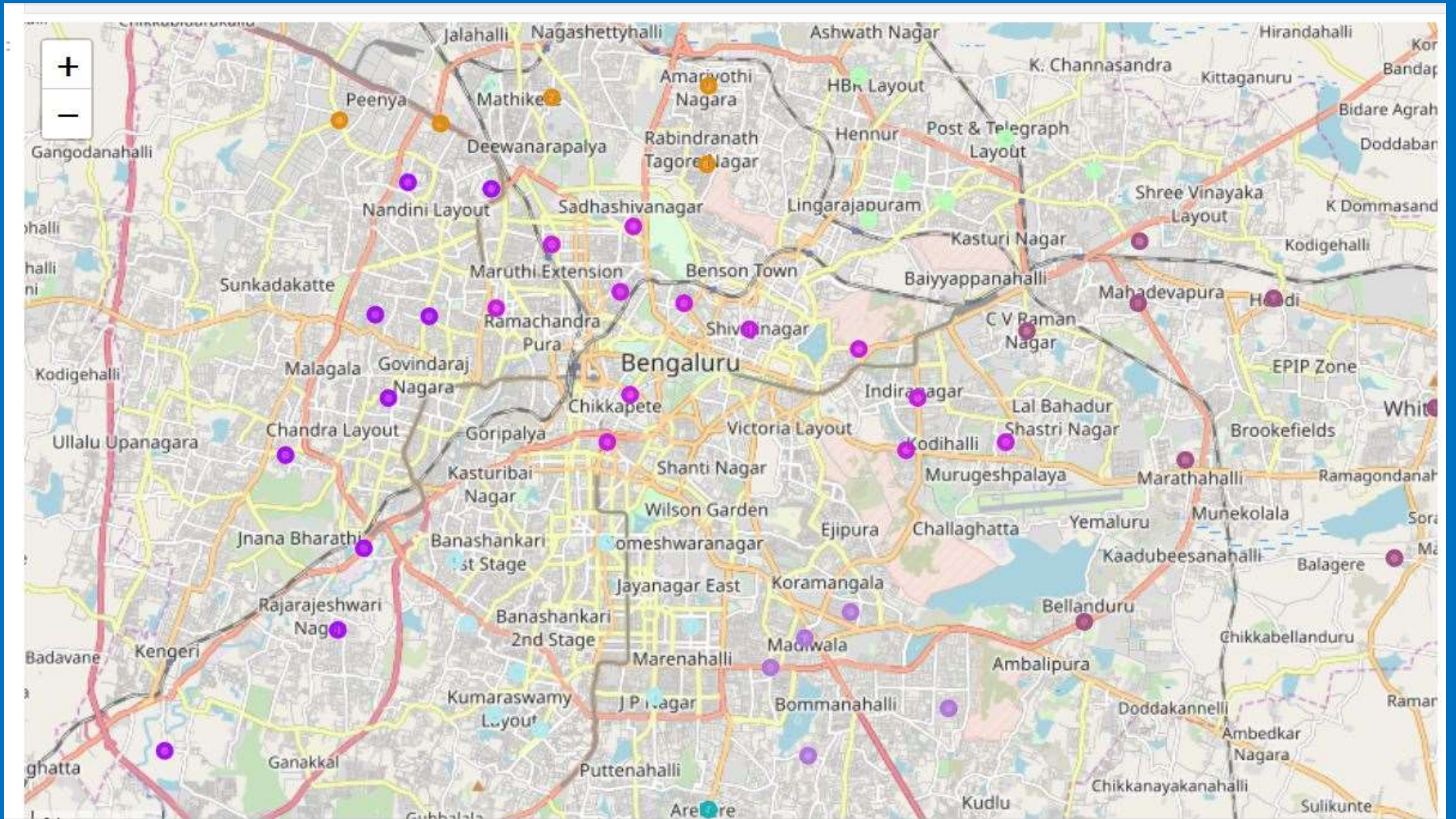
	Borough	Neighborhoods	Population	Normalized_population
0	Central	Cantonment area	866377	0.880810
1	Central	Domlur	743186	0.755567
2	Central	Indiranagar	474289	0.482190
3	Central	Jeevanbheemanagar	527874	0.536668
4	Central	Malleswaram	893629	0.908516

By population

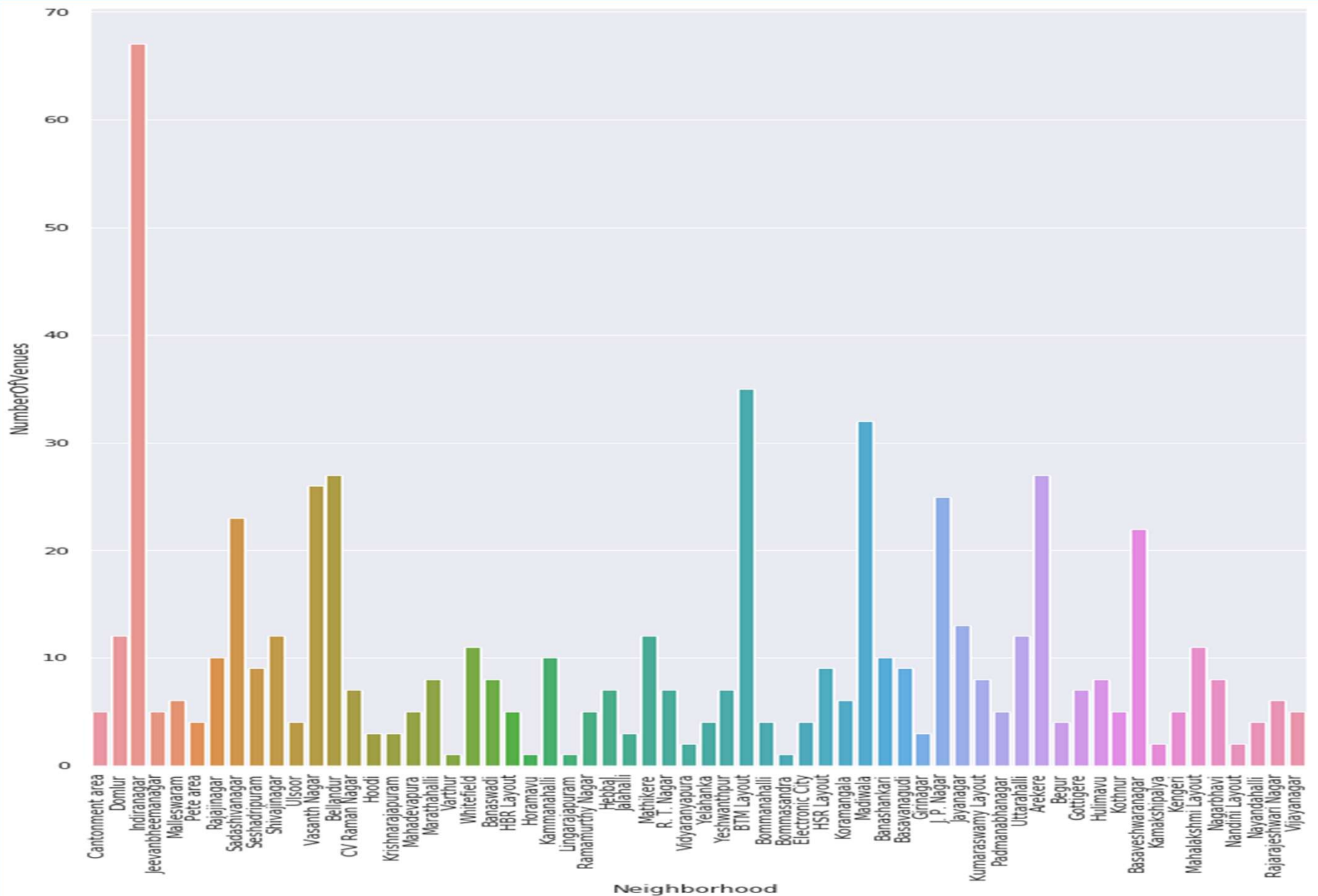
	Borough	Neighborhoods	AverageIncome	Normalized_income
0	Central	Cantonment area	18944.099792	0.293051
1	Central	Domlur	56837.022198	0.879225
2	Central	Indiranagar	41991.817435	0.649581
3	Central	Jeevanbheemanagar	6667.447632	0.103140
4	Central	Malleswaram	53270.063892	0.824047

By Average Income

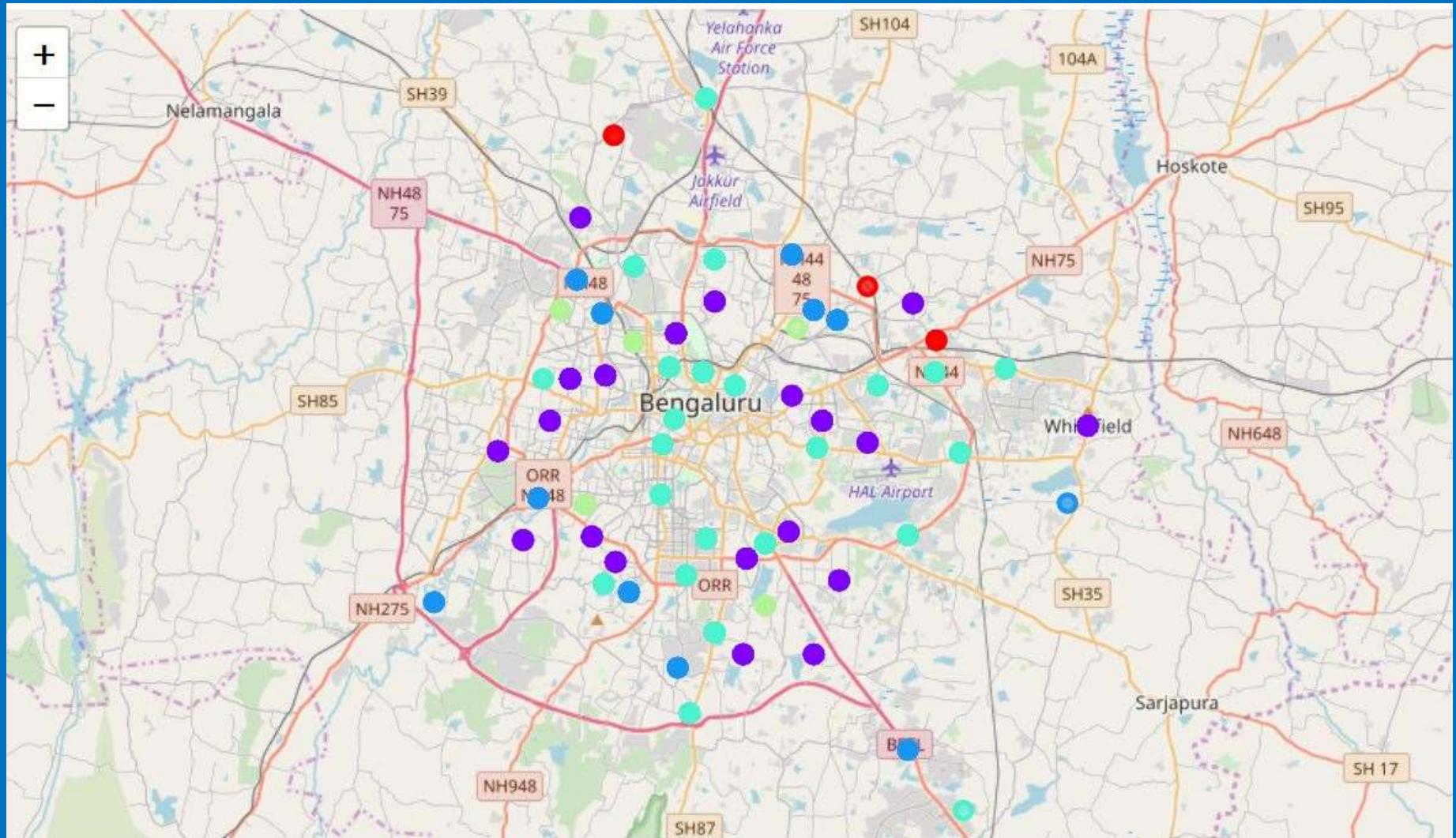
Bengaluru Map



Number of Venues Vs Neighborhood



Clustering of similar neighborhoods



Results

----- Arekere -----

	Venue	Frequency
0	Venue Category_Indian Restaurant	0.22
1	Venue Category_Sporting Goods Shop	0.15
2	Venue Category_Department Store	0.07
3	Venue Category_Mughlai Restaurant	0.04
4	Venue Category_Business Service	0.04

----- BTM Layout -----

	Venue	Frequency
0	Venue Category_Indian Restaurant	0.17
1	Venue Category_Ice Cream Shop	0.09
2	Venue Category_Snack Place	0.09
3	Venue Category_Chinese Restaurant	0.09
4	Venue Category_Sandwich Place	0.06

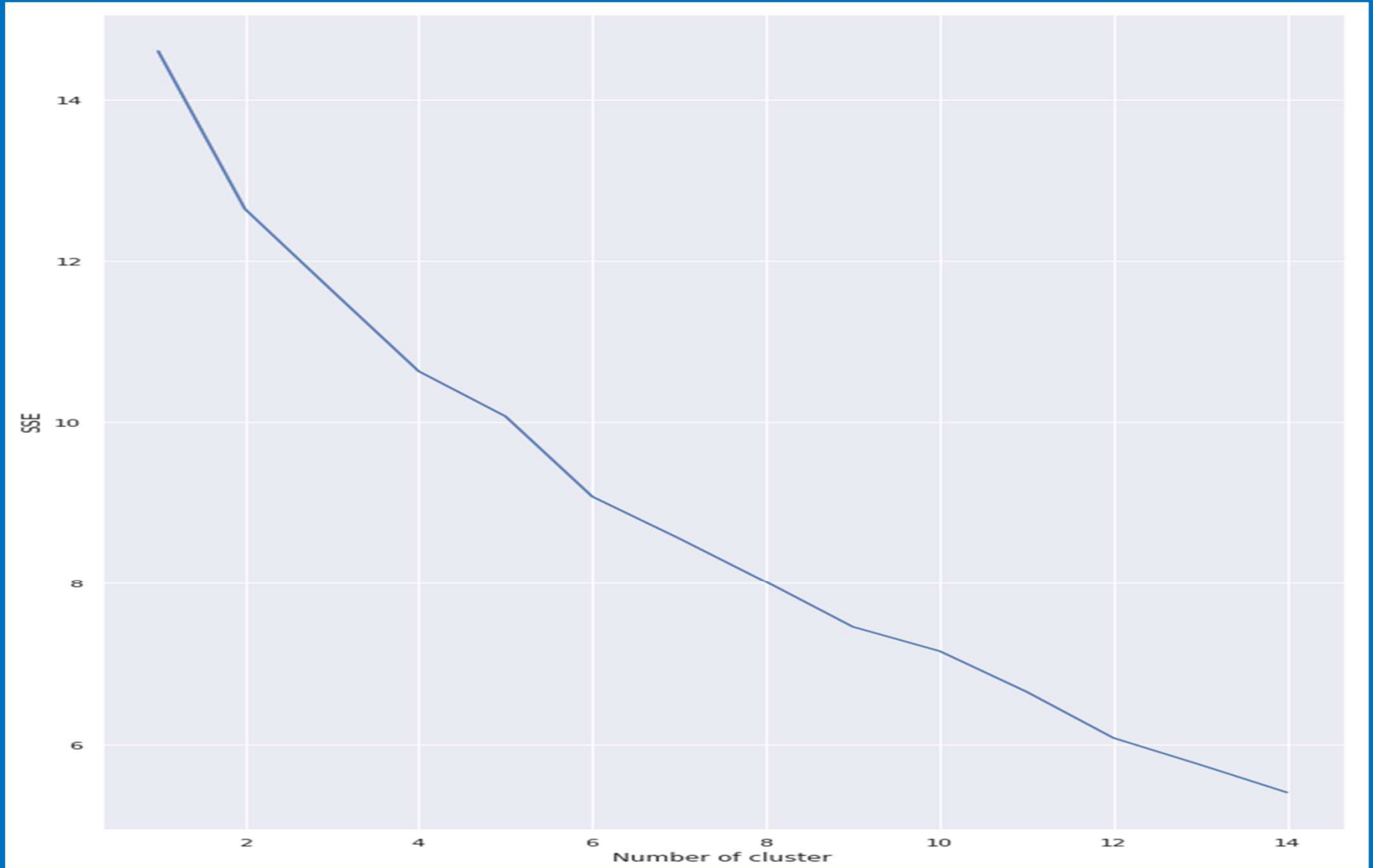
----- Banashankari -----

	Venue	Frequency
0	Venue Category_Clothing Store	0.2
1	Venue Category_Café	0.2
2	Venue Category_Indian Restaurant	0.1
3	Venue Category_Sporting Goods Shop	0.1
4	Venue Category_North Indian Restaurant	0.1

----- Banaswadi -----

	Venue	Frequency
0	Venue Category_Indian Restaurant	0.12
1	Venue Category_Kerala Restaurant	0.12
2	Venue Category_Pharmacy	0.12
3	Venue Category_Market	0.12
4	Venue Category_Grocery Store	0.12

Number of Clusters



Conclusion

	Neighborhoods	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	Ranking
0	Arekere	Venue Category_Indian Restaurant	Venue Category_Sporting Goods Shop	Venue Category_Department Store	[0.32959888840700646]
1	Basavanagudi	Venue Category_Indian Restaurant	Venue Category_Hookah Bar	Venue Category_Restaurant	[0.6589806874118266]
2	Bellandur	Venue Category_Indian Restaurant	Venue Category_Café	Venue Category_Pizza Place	[0.24491290943915342]
3	Bommasandra	Venue Category_Indian Restaurant	Venue Category_Women's Store	Venue Category_Food Court	[0.6018587777729211]
4	CV Raman Nagar	Venue Category_Pizza Place	Venue Category_Indian Restaurant	Venue Category_Park	[0.4565632537994482]
5	Cantonment area	Venue Category_Indian Restaurant	Venue Category_Seafood Restaurant	Venue Category_Bookstore	[0.6429726634818888]
6	Domlur	Venue Category_Indian Restaurant	Venue Category_Café	Venue Category_Pizza Place	[0.7855119911765059]
7	Gottigere	Venue Category_Indian Restaurant	Venue Category_Department Store	Venue Category_Women's Store	[0.4335297505147968]
8	Hebbal	Venue Category_Indian Restaurant	Venue Category_Market	Venue Category_Coffee Shop	[0.7824870224965725]
9	Hoodi	Venue Category_Indian Restaurant	Venue Category_Women's Store	Venue Category_Food Court	[0.39026982024788326]