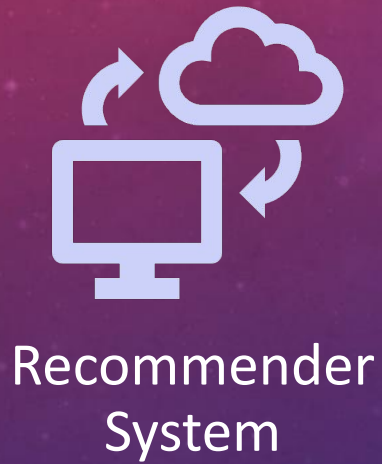




RESTAURANT RECOMMENDER SYSTEM

IBM CAPSTONE PROJECT.

METHODOLOGY



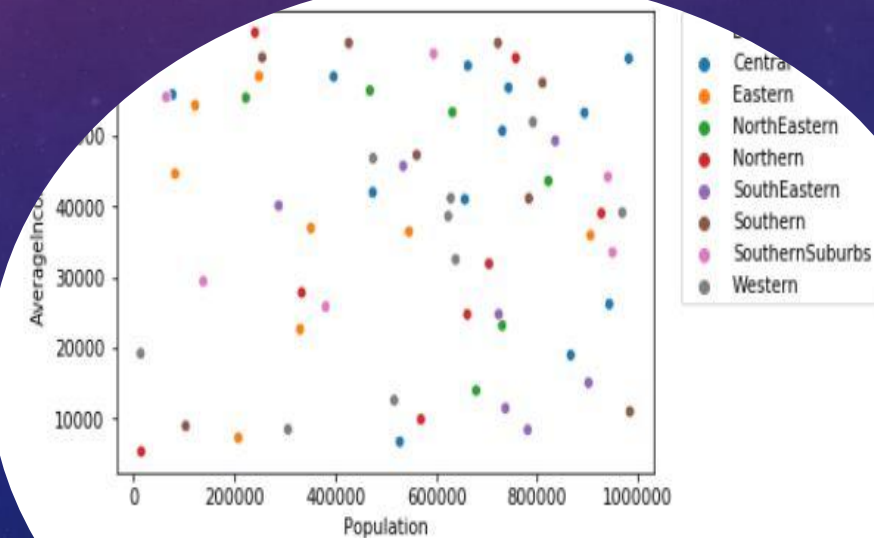
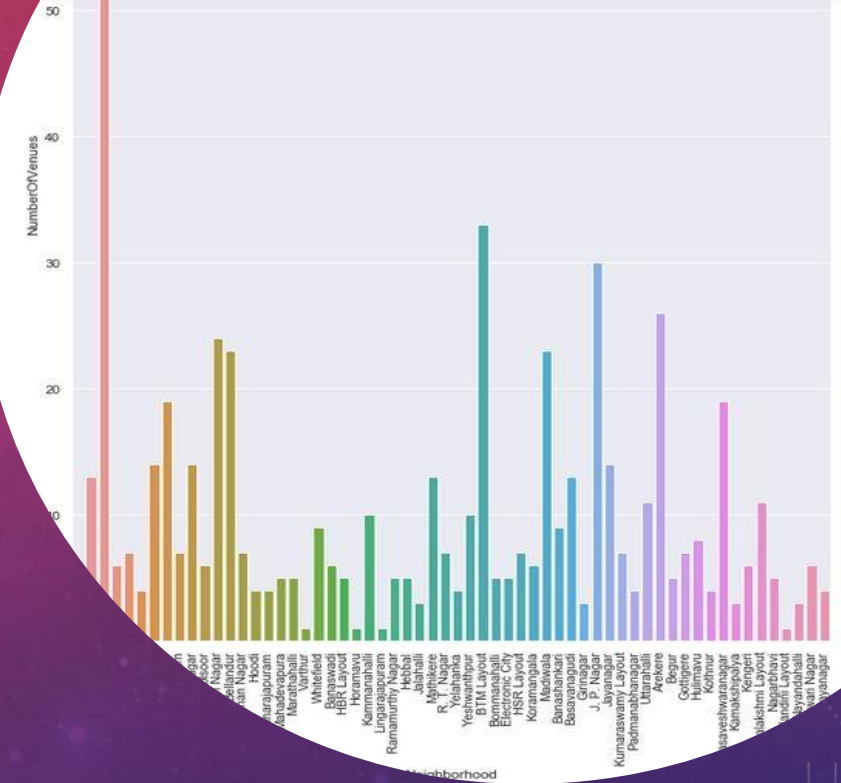
Machine learning

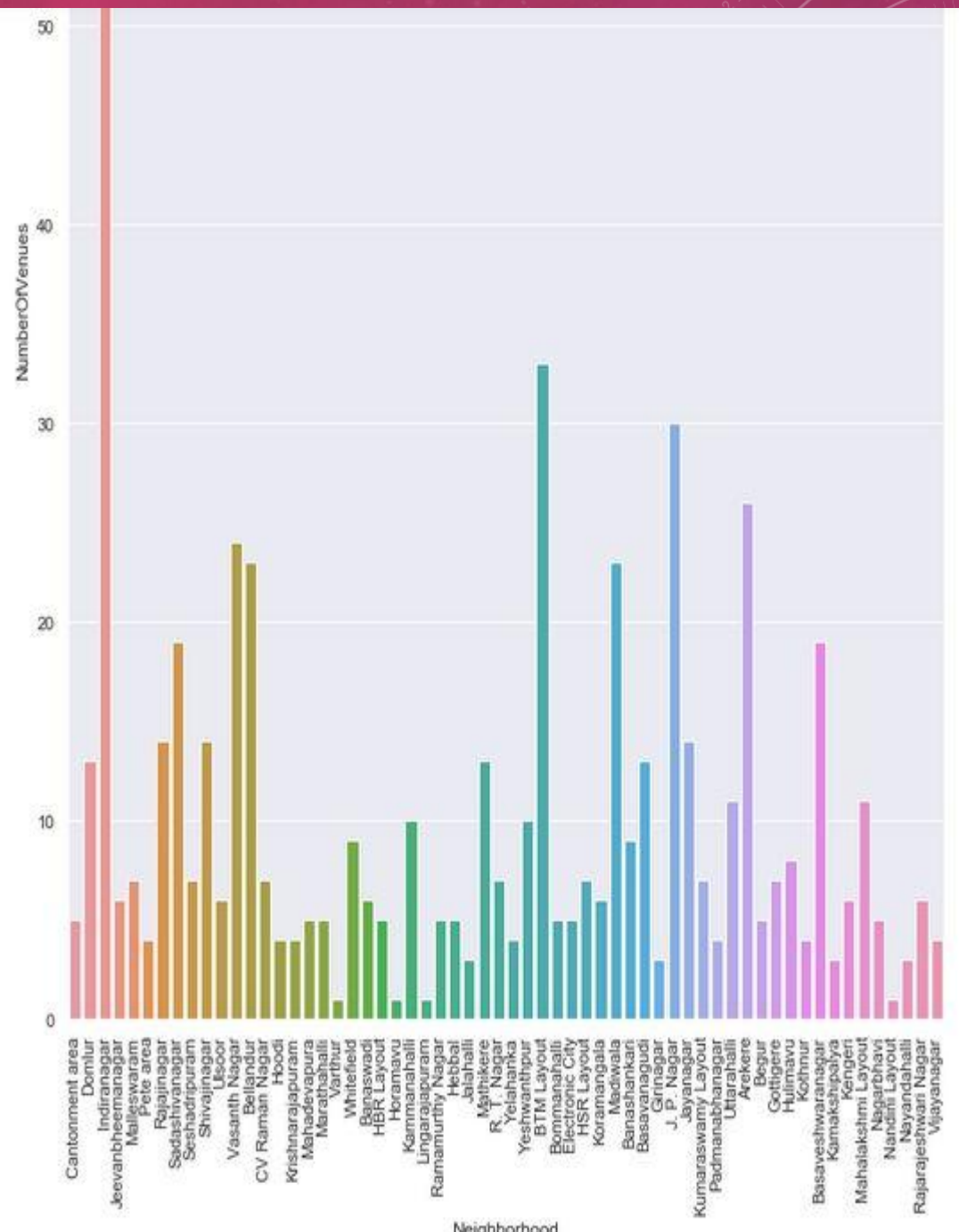
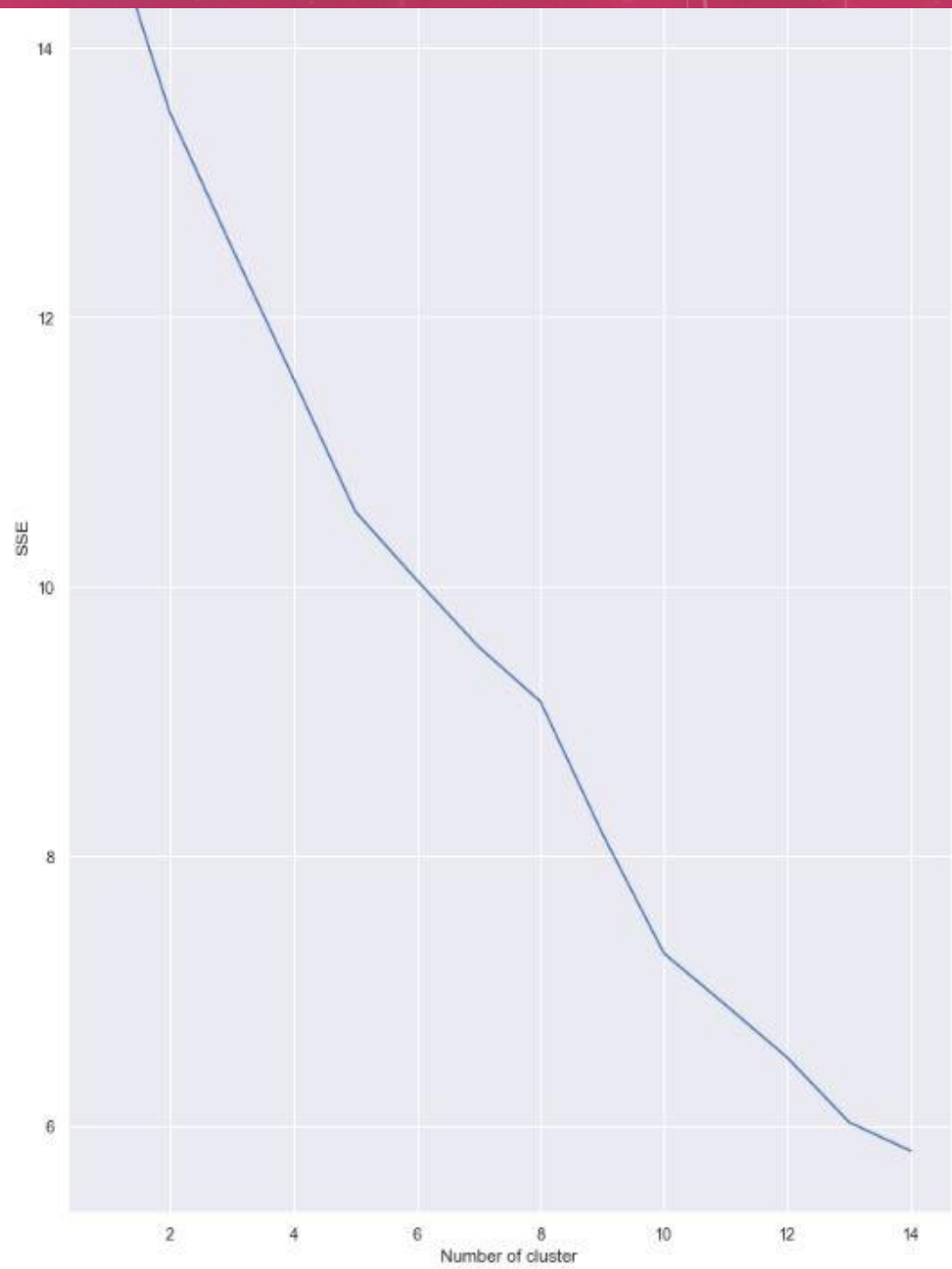


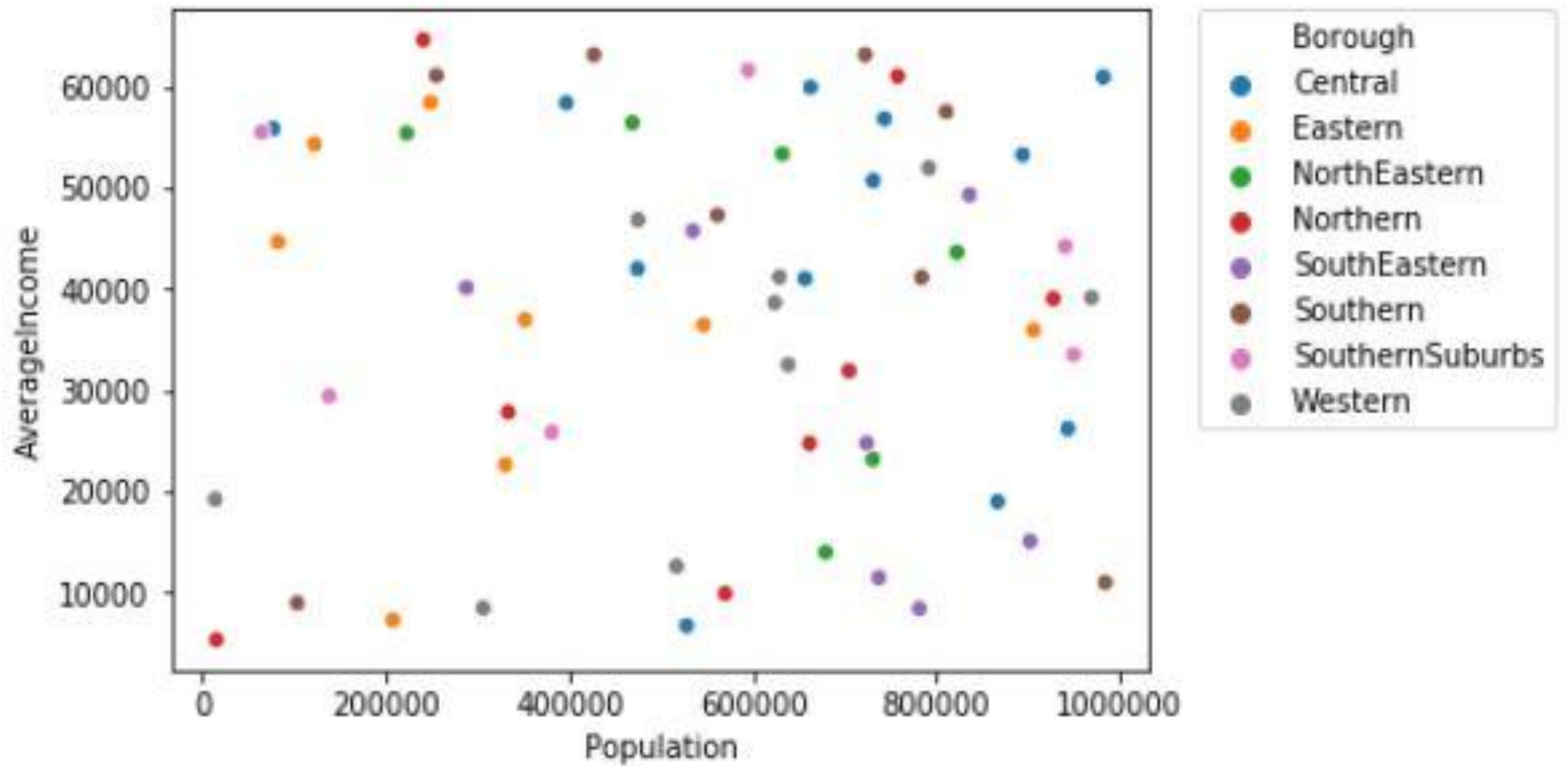
Exploratory analysis



Inferential analysis







DATASETS

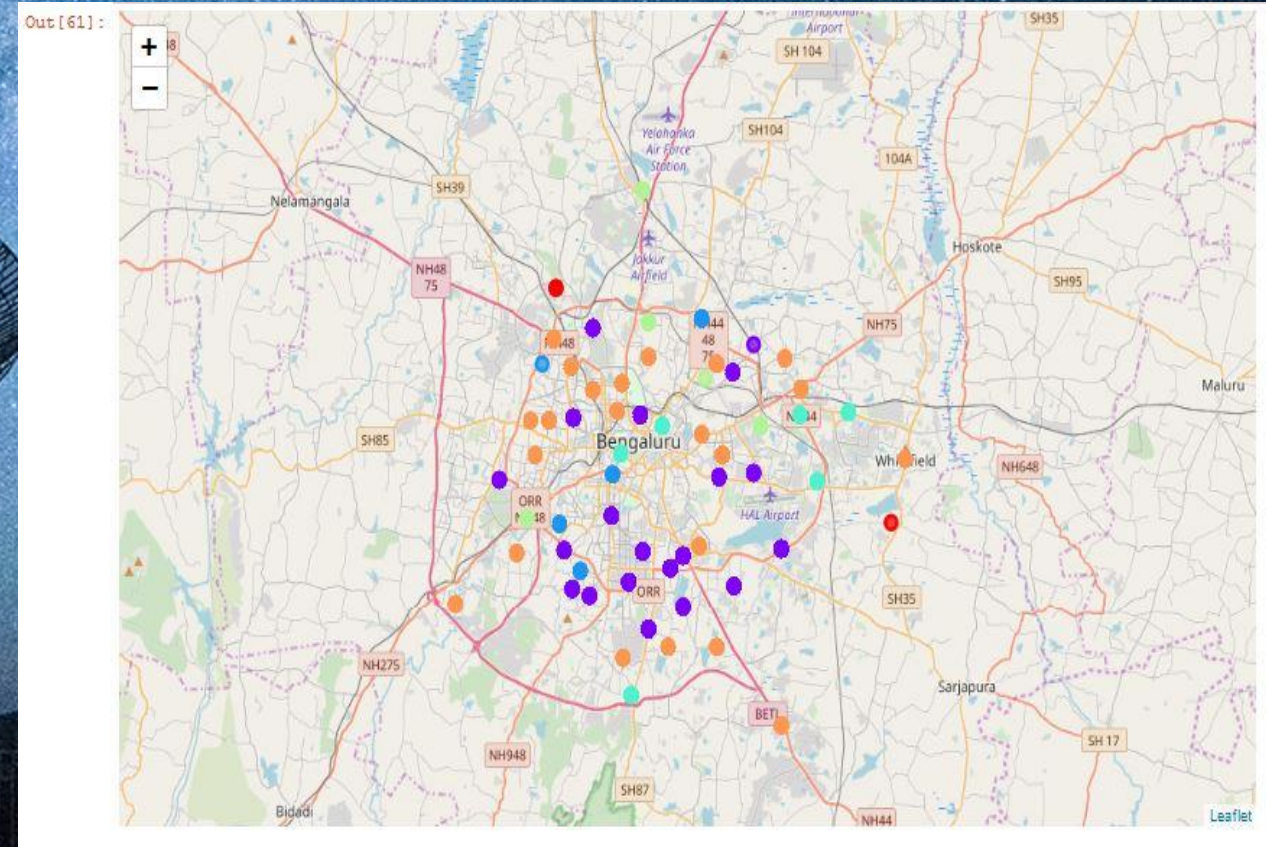
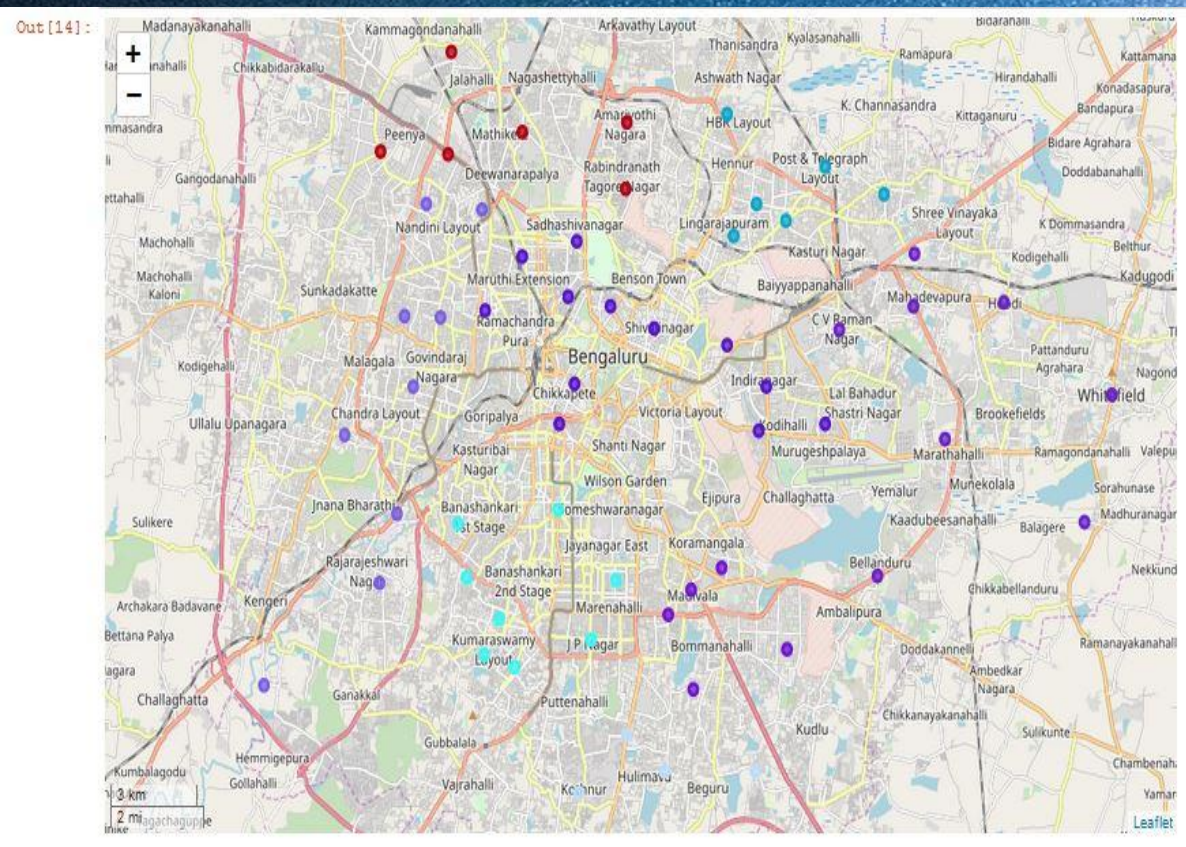
| | Borough | Neighborhoods | Population | Normalized_population |
|---|---------|-------------------|------------|-----------------------|
| 0 | Central | Cantonment area | 866377 | 0.880810 |
| 1 | Central | Domlur | 743186 | 0.755567 |
| 2 | Central | Indiranagar | 474289 | 0.482190 |
| 3 | Central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

| | Neighborhood | Borough | Neighborhood Latitude | Neighborhood Longitude | Venue | Venue Latitude | Venue Longitude | Venue Category |
|---|-----------------|---------|-----------------------|------------------------|------------------|----------------|-----------------|--------------------|
| 0 | Cantonment area | Central | 12.972442 | 77.580643 | Hotel Fishland | 12.975569 | 77.578592 | Seafood Restaurant |
| 1 | Cantonment area | Central | 12.972442 | 77.580643 | Sapna Book House | 12.976355 | 77.578461 | Bookstore |
| 2 | Cantonment area | Central | 12.972442 | 77.580643 | Vasudev Adigas | 12.973707 | 77.579257 | Indian Restaurant |
| 3 | Cantonment area | Central | 12.972442 | 77.580643 | Adigas Hotel | 12.973554 | 77.579161 | Restaurant |
| 4 | Cantonment area | Central | 12.972442 | 77.580643 | Kamat Yatrivas | 12.975985 | 77.578125 | Indian Restaurant |

| | 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 |

| Borough | Neighborhoods | Latitude | Longitude |
|---------|-------------------|-----------|-----------|
| Central | Cantonment area | 12.972442 | 77.580643 |
| Central | Domlur | 12.960992 | 77.638726 |
| Central | Indiranagar | 12.971891 | 77.641151 |
| Central | Jeevanbheemanagar | 12.962900 | 77.659500 |
| Central | Malleswaram | 13.003100 | 77.564300 |
| Central | Pete area | 12.962700 | 77.575800 |
| Central | Rajajinagar | 12.990100 | 77.552500 |
| Central | Sadashivanagar | 13.006800 | 77.581300 |
| Central | Seshadripuram | 12.993500 | 77.578700 |
| Central | Shivajinagar | 12.985700 | 77.605700 |

MAPPING AND CLUSTERING



RESULTS AND CONCLUSION

----- Arekere -----

| | Venue | Frequency |
|---|------------------------------------|-----------|
| 0 | Venue Category_Indian Restaurant | 0.23 |
| 1 | Venue Category_Sporting Goods Shop | 0.15 |
| 2 | Venue Category_Pizza Place | 0.08 |
| 3 | Venue Category_Department Store | 0.08 |
| 4 | Venue Category_Liquor Store | 0.04 |

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

| | Venue | Frequency |
|---|--|-----------|
| 0 | Venue Category_Indian Restaurant | 0.18 |
| 1 | Venue Category_Snack Place | 0.09 |
| 2 | Venue Category_Ice Cream Shop | 0.09 |
| 3 | Venue Category_Pizza Place | 0.06 |
| 4 | Venue Category_Vegetarian / Vegan Restaurant | 0.06 |

----- Banashankari -----

| | Venue | Frequency |
|---|--|-----------|
| 0 | Venue Category_Indian Restaurant | 0.22 |
| 1 | Venue Category_Café | 0.22 |
| 2 | Venue Category_Men's Store | 0.11 |
| 3 | Venue Category_North Indian Restaurant | 0.11 |
| 4 | Venue Category_Clothing Store | 0.11 |

Out [211] :

| | Neighborhoods | 1st Most Common Venue | 2nd Most Common Venue | 3rd Most Common Venue | Ranking |
|---|-------------------|----------------------------------|---------------------------------------|-------------------------------------|----------------------|
| 0 | Basaveshwaranagar | Venue Category_Ice Cream Shop | Venue Category_Indian Restaurant | Venue Category_Fast Food Restaurant | [0.6426377807870477] |
| 1 | Begur | Venue Category_Indian Restaurant | Venue Category_Indian Sweet Shop | Venue Category_Food Court | [0.7361321887351776] |
| 2 | Electronic City | Venue Category_Outlet Store | Venue Category_Furniture / Home Store | Venue Category_Bus Stop | [0.5423513638809381] |

The background is a gradient of deep purple and blue, filled with numerous out-of-focus circular light spots (bokeh) in various shades. Overlaid on this are several faint, white geometric patterns: concentric circles, arcs, and a large circular scale with numerical markings from 140 to 260. Some of these patterns have small arrows indicating a direction of movement or rotation.

THANK YOU!

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