



EATERY RECOMMENDER FRAMEWORK IN BANGALORE

IBM COURSERA CAPSTONE PROJECT.

BY :- RAUNAK KUMAR SINGH

METHODOLOGY



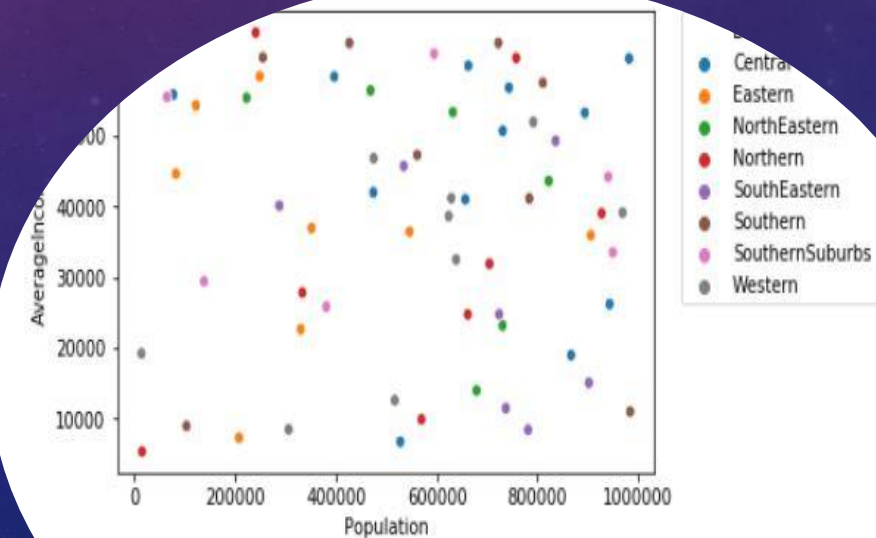
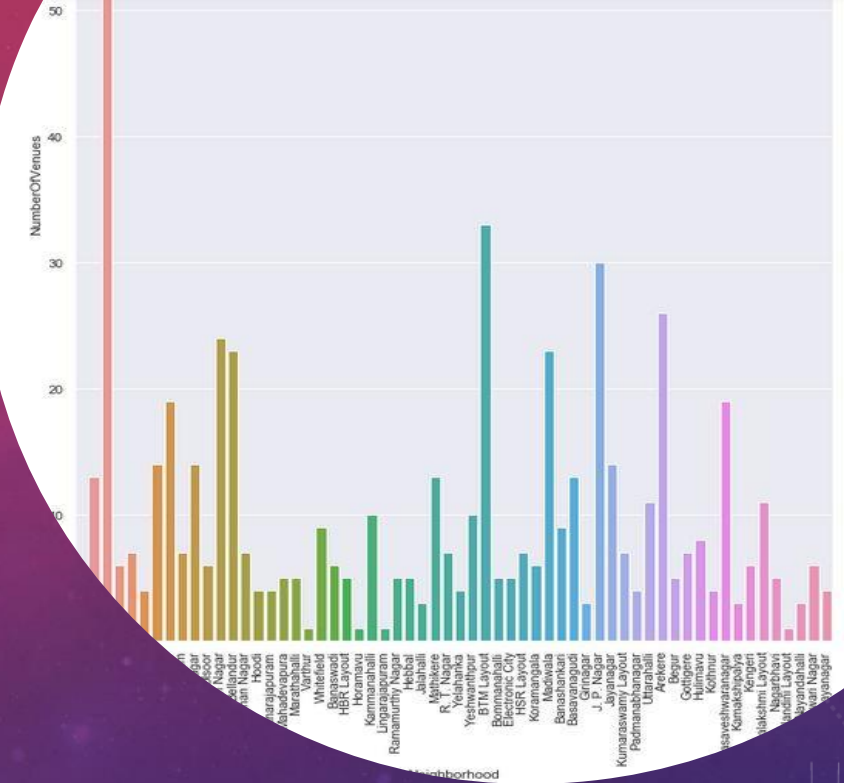
Machine learning

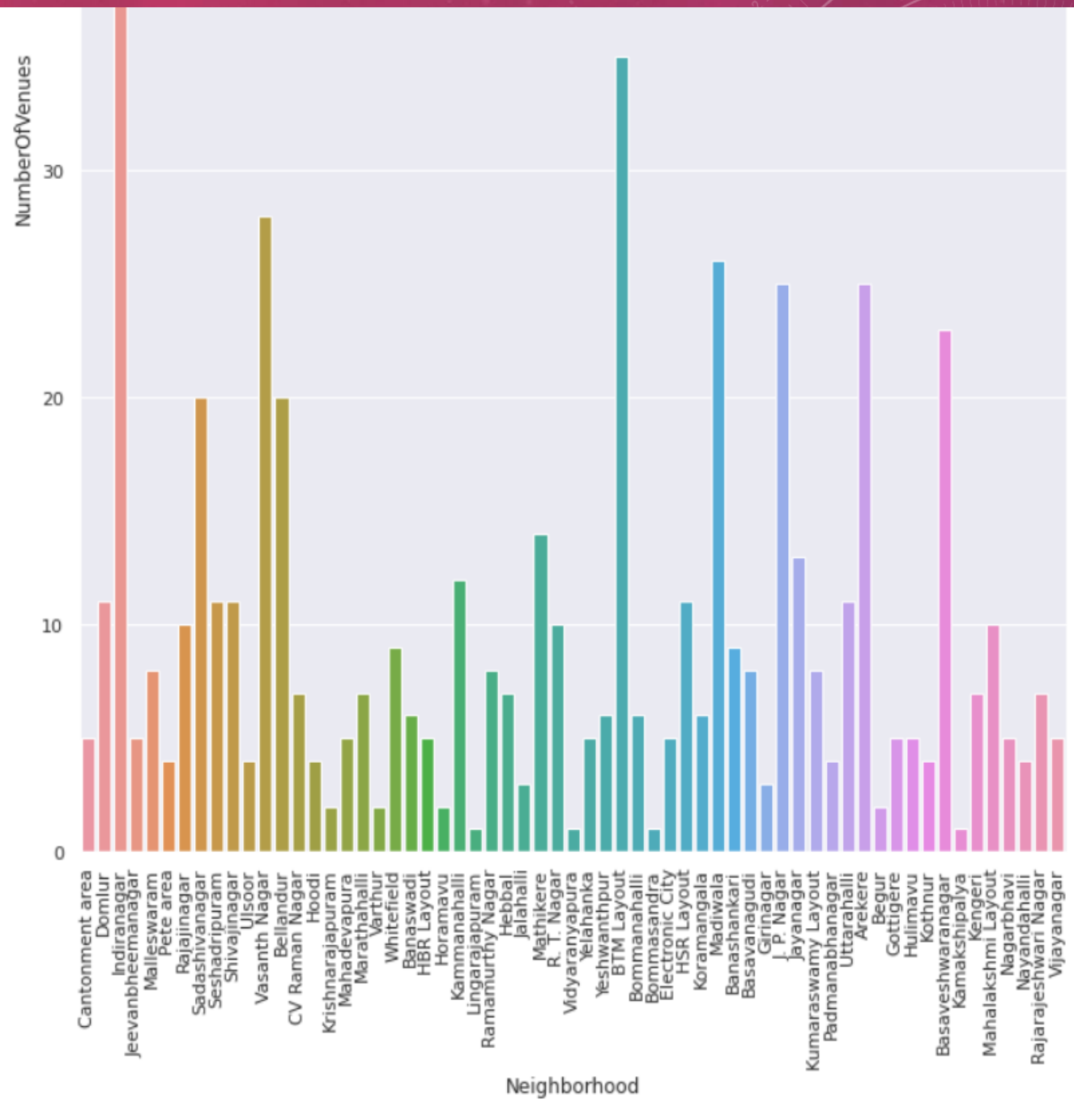
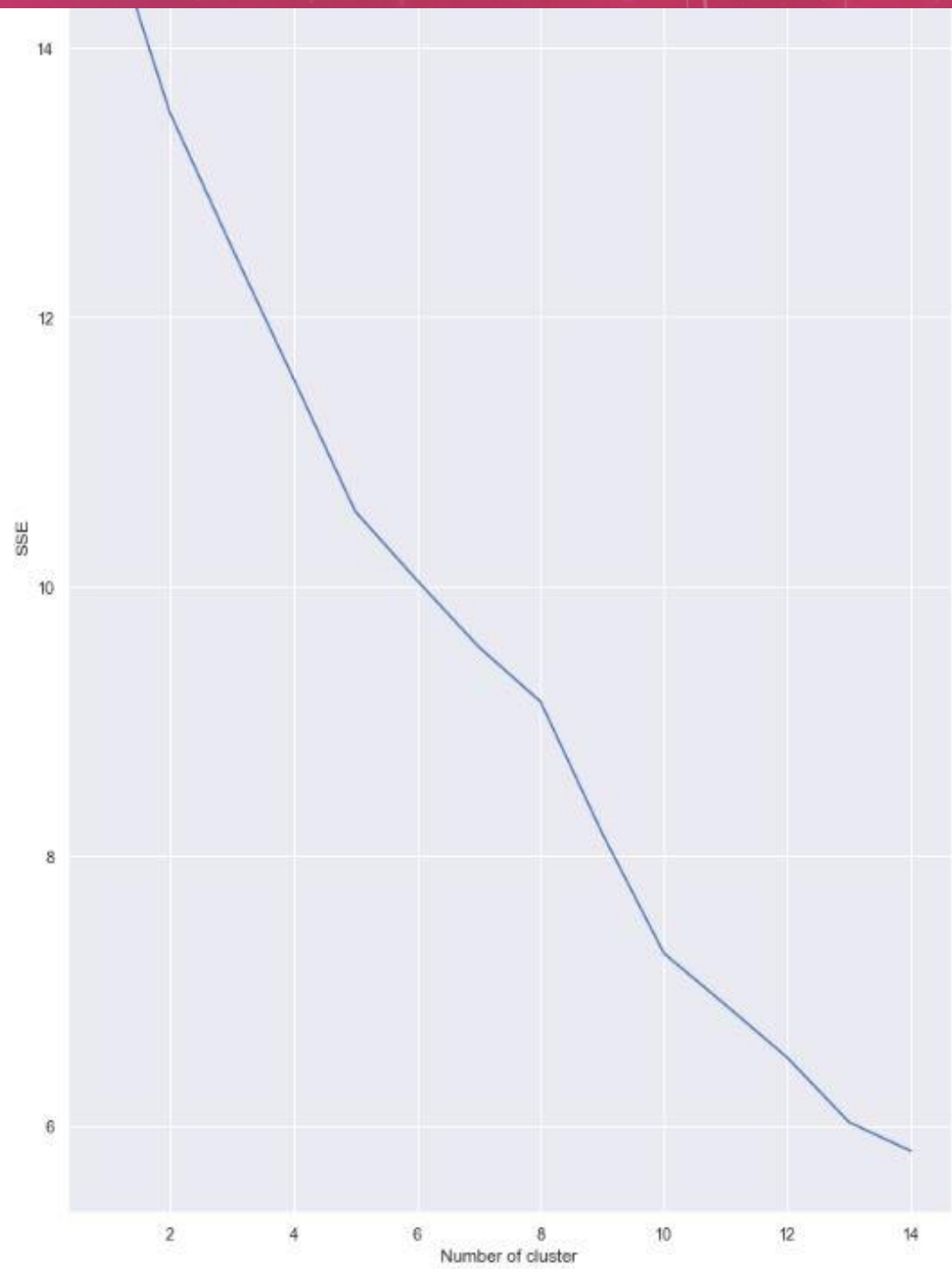


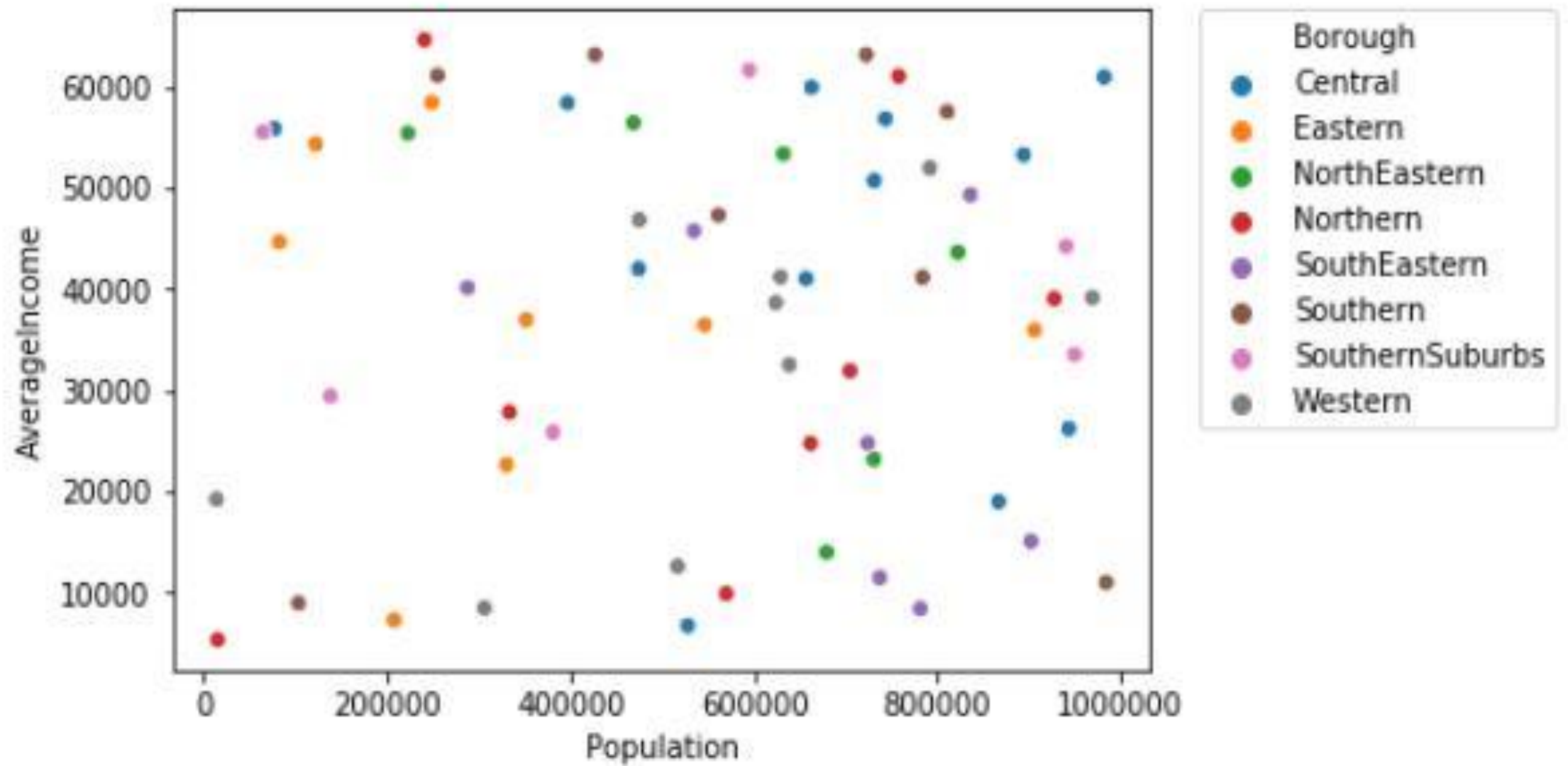
Exploratory analysis



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 |

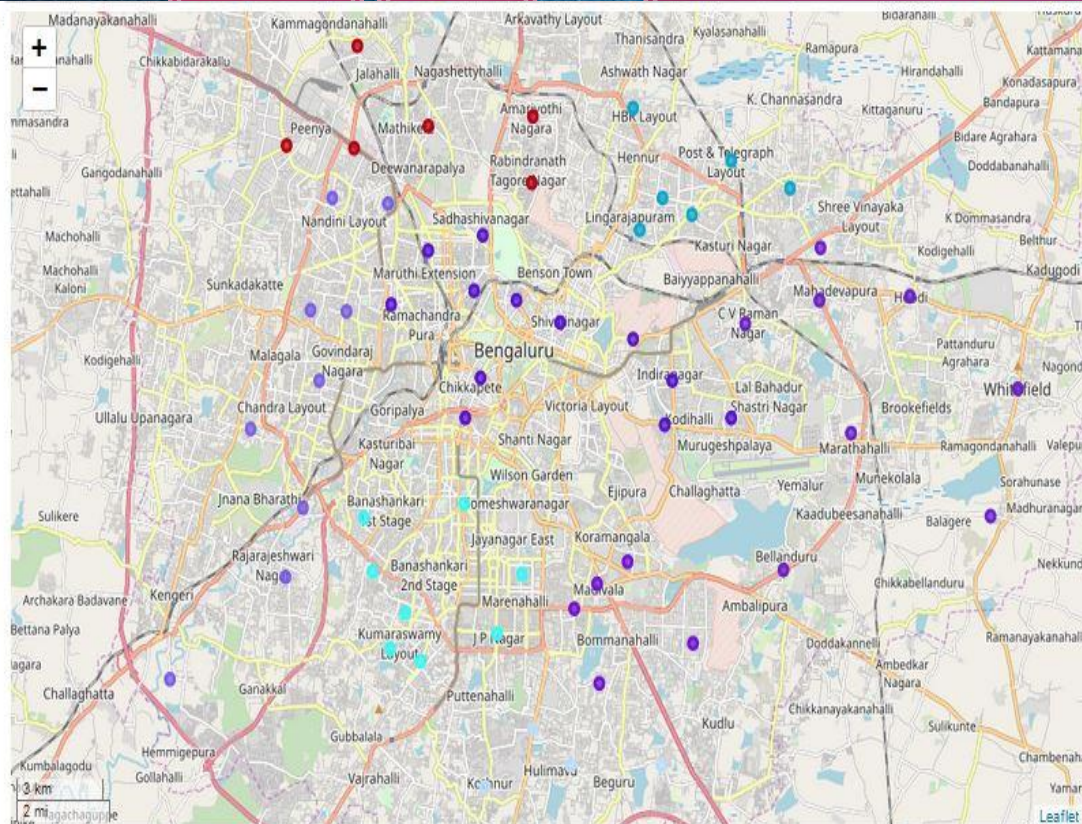
| | Neighborhood | Borough | Neighborhood Latitude | Neighborhood Longitude | Venue | Venue Latitude | Venue Longitude | Venue Category |
|---|-----------------|---------|-----------------------|------------------------|------------------|----------------|-----------------|--------------------|
| 0 | 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 |

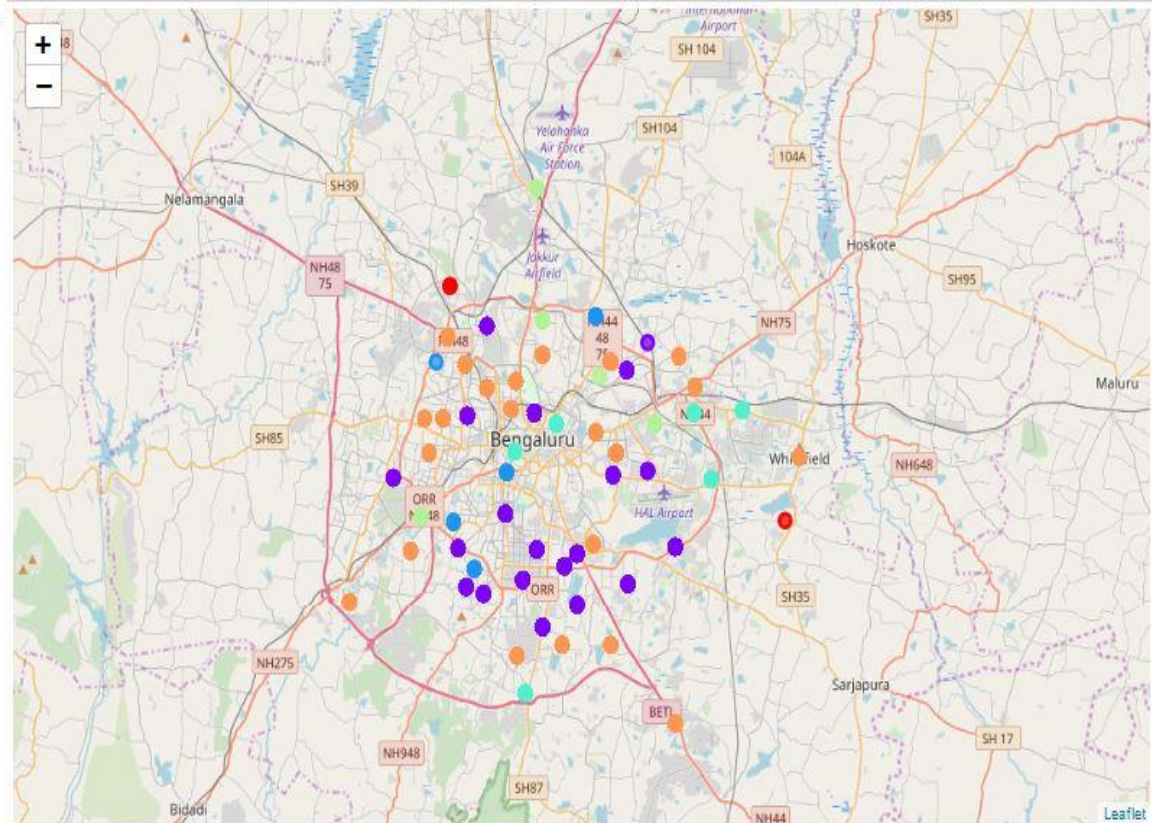
| Borough | Neighborhoods | Latitude | Longitude |
|---------|-------------------|-----------|-----------|
| Central | Cantonment area | 12.972442 | 77.580643 |
| Central | Domlur | 12.960992 | 77.638726 |
| Central | Indiranagar | 12.971891 | 77.641151 |
| Central | Jeevanbheemanagar | 12.962900 | 77.659500 |
| 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

Out [14]:



Out [61]:



RESULTS AND CONCLUSION

| ----- Arekere ----- | | |
|---------------------|------------------------------------|-----------|
| | Venue | Frequency |
| 0 | Venue Category_Indian Restaurant | 0.16 |
| 1 | Venue Category_Sporting Goods Shop | 0.16 |
| 2 | Venue Category_Pizza Place | 0.08 |
| 3 | Venue Category_Department Store | 0.08 |
| 4 | Venue Category_Mughlai Restaurant | 0.04 |

| ----- BTM Layout ----- | | |
|------------------------|----------------------------------|-----------|
| | Venue | Frequency |
| 0 | Venue Category_Indian Restaurant | 0.20 |
| 1 | Venue Category_Snack Place | 0.09 |
| 2 | Venue Category_Coffee Shop | 0.09 |
| 3 | Venue Category_Ice Cream Shop | 0.09 |
| 4 | Venue Category_Bakery | 0.06 |

| ----- Banashankari ----- | | |
|--------------------------|----------------------------------|-----------|
| | Venue | Frequency |
| 0 | Venue Category_Indian Restaurant | 0.22 |
| 1 | Venue Category_Café | 0.22 |
| 2 | Venue Category_Shoe Store | 0.11 |
| 3 | Venue Category_Pizza Place | 0.11 |
| 4 | Venue Category_Breakfast Spot | 0.11 |

| [89]: | Neighborhoods | 1st Most Common Venue | 2nd Most Common Venue | 3rd Most Common Venue | Ranking |
|-------|-----------------|---------------------------------------|----------------------------------|-----------------------------|-----------------------|
| 0 | Arekere | Venue Category_Sporting Goods Shop | Venue Category_Indian Restaurant | Venue Category_Pizza Place | [0.32959888840700646] |
| 1 | Electronic City | Venue Category_Furniture / Home Store | Venue Category_Bus Stop | Venue Category_Outlet Store | [0.5423513638809381] |
| 2 | HBR Layout | Venue Category_Road | Venue Category_Café | Venue Category_Coffee Shop | [0.7540959810582033] |

The background is a gradient of deep purple and blue, filled with numerous out-of-focus circular light spots (bokeh) in various sizes and colors. Overlaid on this are several faint, white, semi-transparent geometric elements. On the left side, there is a large circular scale with tick marks and numbers ranging from 140 to 260. Several concentric circles and arcs are scattered across the image, some with small arrowheads indicating a direction. The overall aesthetic is modern and technical.

THANK YOU!