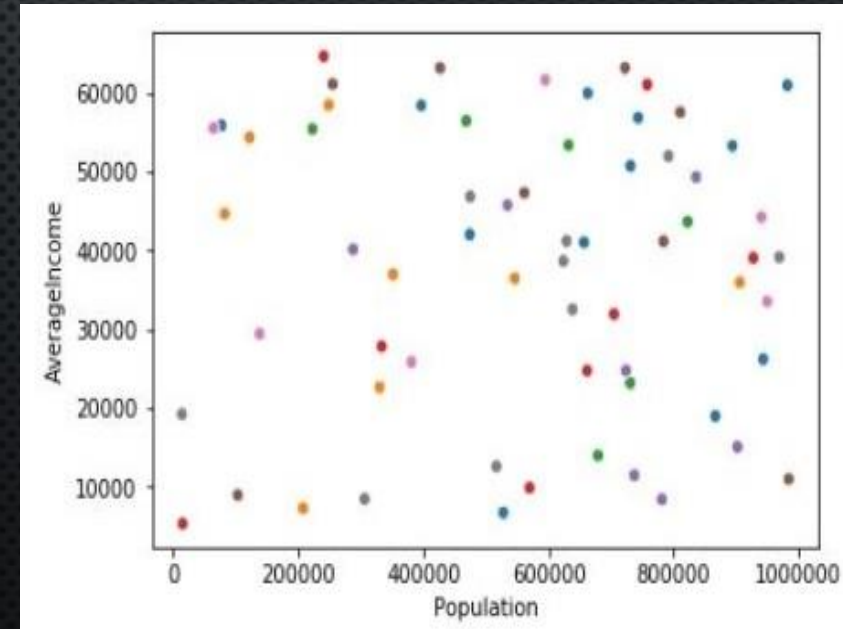


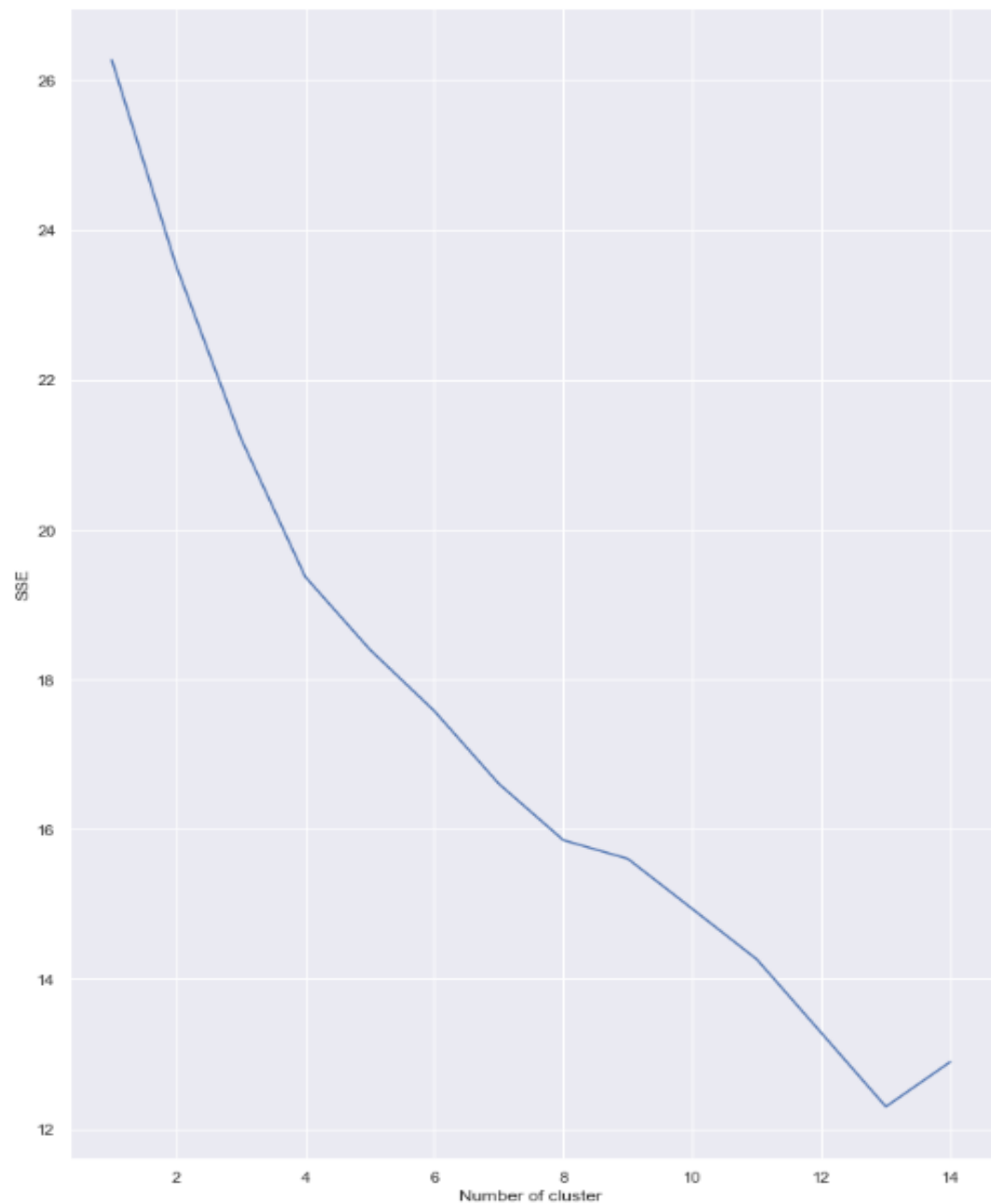


RESTAURANT RECOMMENDER SYSTEM

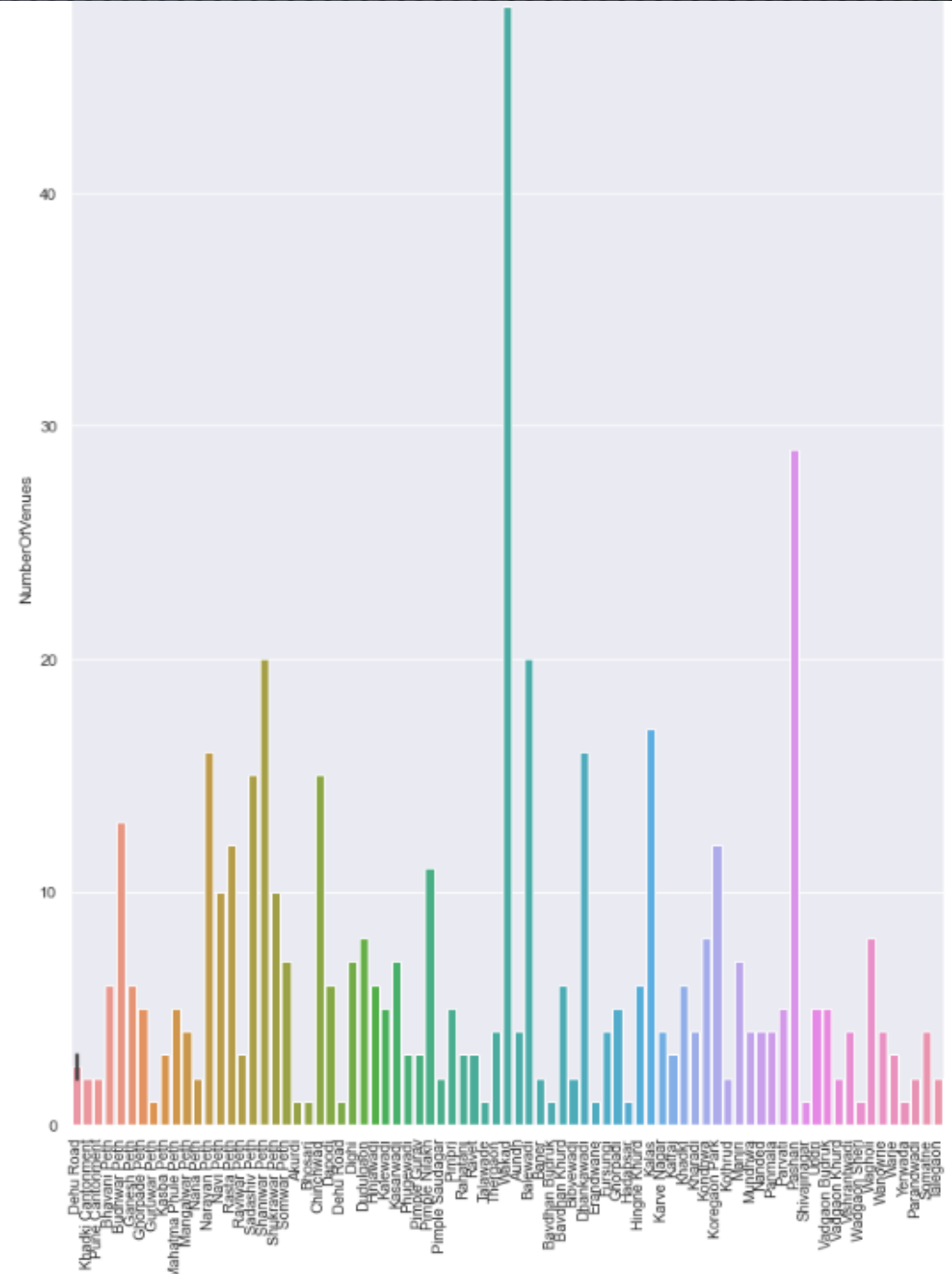
COURSERA DATA SCIENCE PROFESSIONAL CAPSTONE PROJECT.

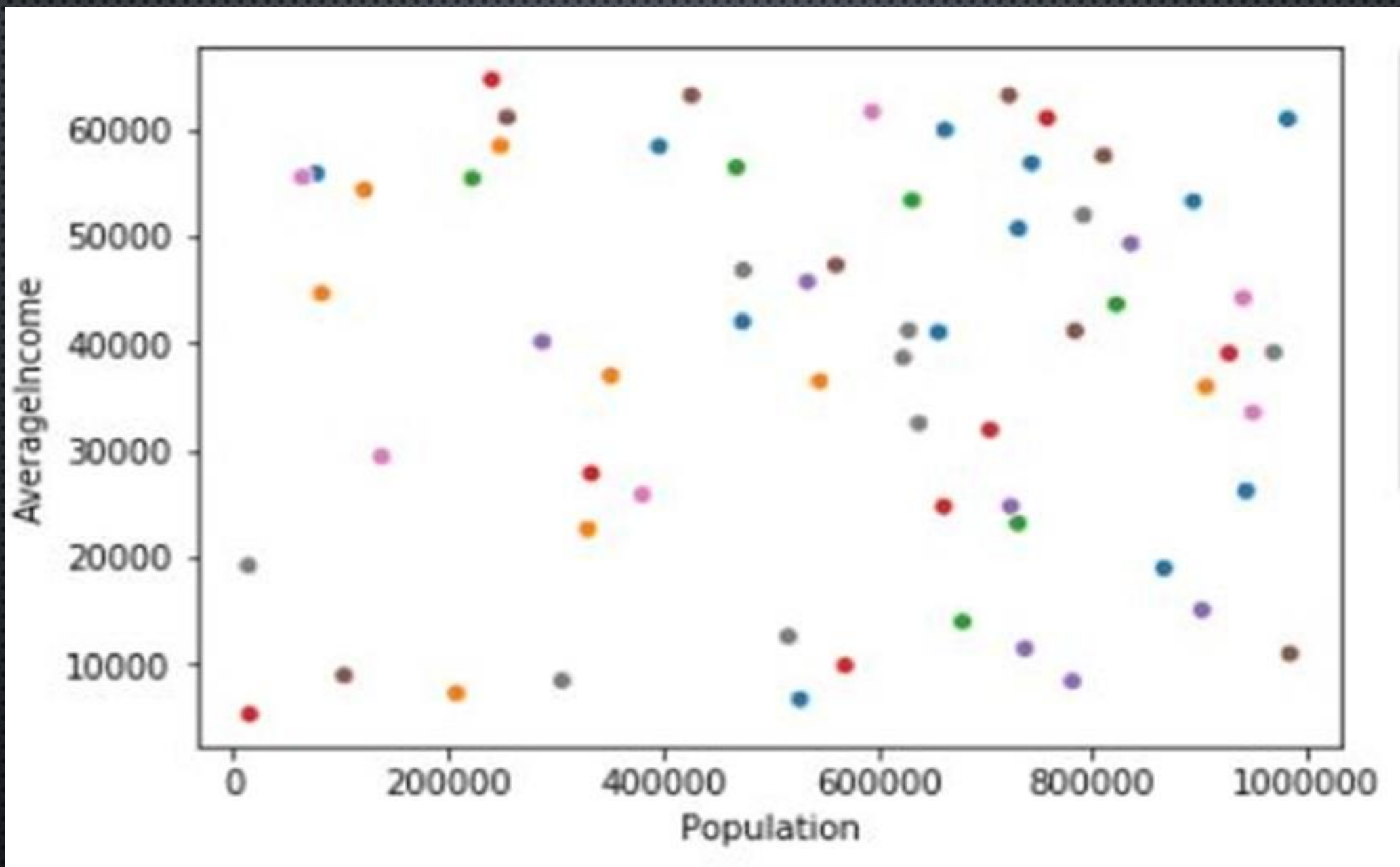
The diagram illustrates the integration of three analytical methods into a central Recommender System. On the left, a large circle contains an icon of a computer monitor with a cloud and two curved arrows forming a cycle above it, with the text "Recommender System" below. Three lines extend from the right side of this circle to three smaller circles on the right. The top circle contains a bar chart icon and the text "Machine learning". The middle circle contains a head profile with a brain icon and the text "Exploratory analysis". The bottom circle contains a pair of goggles icon and the text "Inferential analysis".





The optimal value for cluster is 5 from the graph





DATASETS

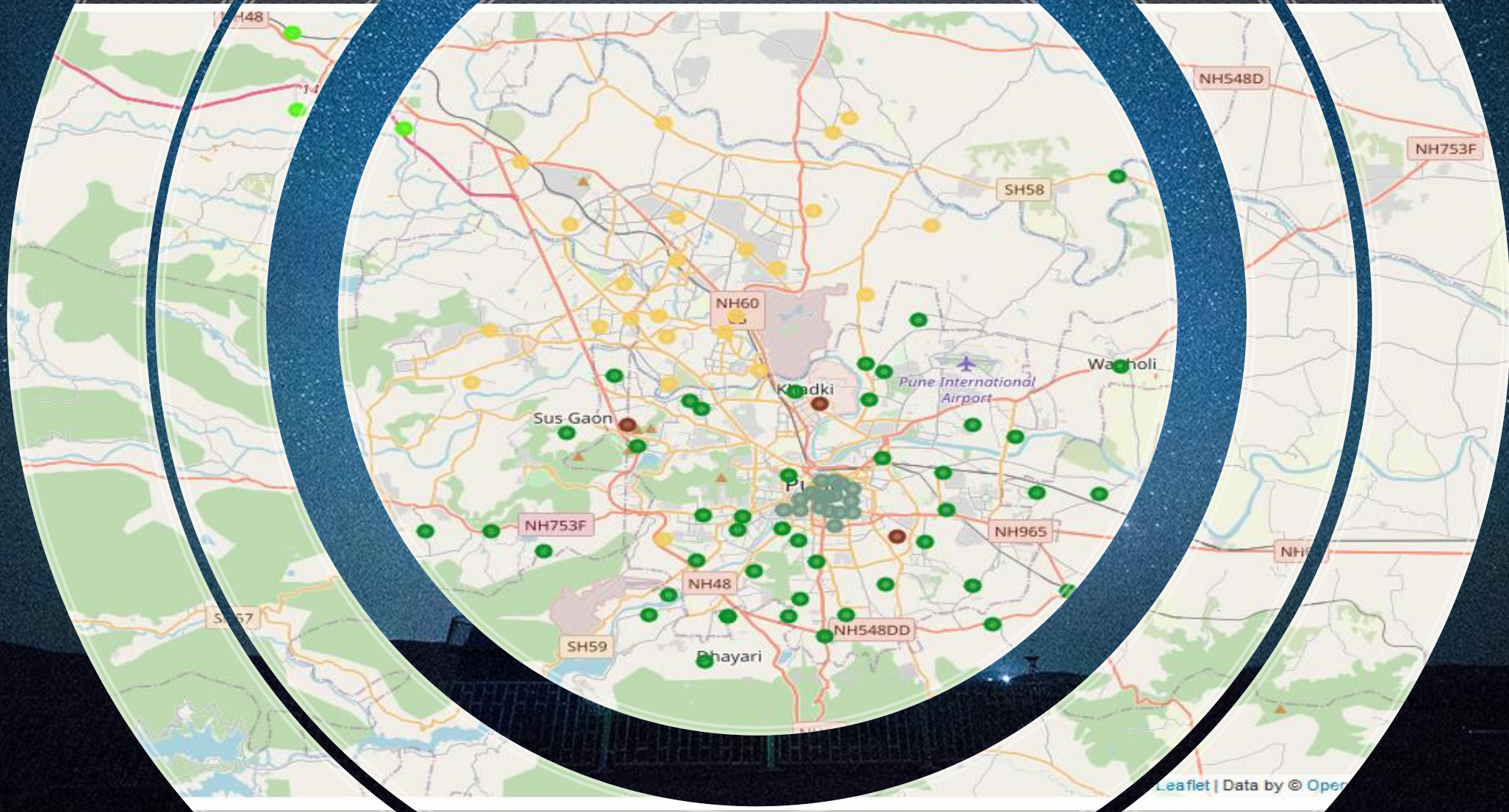
	Neighbourhoods	Borough	Neighborhood Latitude	Neighborhood Longitude	Venue	Venue Latitude	Venue Longitude	Venue Category
0	Aundh	Pune Municipal Corporation	18.55813	73.807281	Starbucks	18.556595	73.809153	Coffee Shop
1	Aundh	Pune Municipal Corporation	18.55813	73.807281	Crosswords	18.556177	73.809131	Bookstore
2	Aundh	Pune Municipal Corporation	18.55813	73.807281	Naturals Icecream	18.556192	73.809169	Ice Cream Shop
3	Aundh	Pune Municipal Corporation	18.55813	73.807281	Taareef	18.556077	73.809120	Indian Restaurant
4	Aundh	Pune Municipal Corporation	18.55813	73.807281	Westend mall	18.561814	73.807220	Shopping Mall

	Borough	Neighbourhoods	Average Income	Normalized_income
0	Pune Municipal Corporation	Ambegaon	21554.136889	0.719445
1	Pune Municipal Corporation	Aundh	14995.002708	0.500511
2	Pune Municipal Corporation	Baner	29959.393522	1.000000
3	Pune Municipal Corporation	Bavdhan Khurd	14971.799874	0.499736
4	Pune Municipal Corporation	Bavdhan Budruk	14986.677169	0.500233

	Borough	Neighbourhoods	Population	Normalized_population
0	Pune Municipal Corporation	Ambegaon	54791	0.646692
1	Pune Municipal Corporation	Aundh	17899	0.211260
2	Pune Municipal Corporation	Baner	84725	1.000000
3	Pune Municipal Corporation	Bavdhan Khurd	83399	0.984349
4	Pune Municipal Corporation	Bavdhan Budruk	24639	0.290811

	Borough	Neighbourhoods	Latitude	Longitude
0	Pune Municipal Corporation	Ambegaon	19.144350	73.729103
1	Pune Municipal Corporation	Aundh	18.558130	73.807281
2	Pune Municipal Corporation	Baner	18.562120	73.802544
3	Pune Municipal Corporation	Bavdhan Khurd	18.472270	73.884640
4	Pune Municipal Corporation	Bavdhan Budruk	18.456620	73.844100
5	Pune Municipal Corporation	Balewadi	18.574739	73.770889
6	Pune Municipal Corporation	Shivajinagar	18.526110	73.844131
7	Pune Municipal Corporation	Bibvewadi	18.483370	73.855614
8	Pune Municipal Corporation	Bhugaon	18.488890	73.741562
9	Pune Municipal Corporation	Bhukum	18.498380	73.719390

MAPPING AND CLUSTERING



RESULTS AND CONCLUSION

----- Akurdi -----			
		Venue	Frequency
0		Venue Category_Snack Place	1.0
1		Venue Category_Kids Store	0.0
2		Venue Category_Performing Arts Venue	0.0
3		Venue Category_Multiplex	0.0
4		Venue Category_Multicuisine Indian Restaurant	0.0

----- Aundh -----			
		Venue	Frequency
0		Venue Category_Indian Restaurant	0.17
1		Venue Category_Dessert Shop	0.10
2		Venue Category_Coffee Shop	0.06
3		Venue Category_Bakery	0.06
4		Venue Category_Restaurant	0.06

----- Balewadi -----			
		Venue	Frequency
0		Venue Category_Asian Restaurant	0.25
1		Venue Category_Indian Restaurant	0.25
2		Venue Category_Restaurant	0.25
3		Venue Category_Tea Room	0.25
4		Venue Category_ATM	0.00

----- Baner -----			
		Venue	Frequency
0		Venue Category_Dessert Shop	0.10
1		Venue Category_Indian Restaurant	0.10
2		Venue Category_Bakery	0.10
3		Venue Category_Sports Bar	0.05
4		Venue Category_Sandwich Place	0.05

	Neighbourhoods	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	Ranking
0	Aundh	Venue Category_Indian Restaurant	Venue Category_Dessert Shop	Venue Category_Bakery	[0.33080879075424324]
1	Balewadi	Venue Category_Asian Restaurant	Venue Category_Tea Room	Venue Category_Restaurant	[0.42512908930448313]
2	Bhavani Peth	Venue Category_ATM	Venue Category_Furniture / Home Store	Venue Category_Diner	[0.37385876153498023]

The background is a dark, textured surface with a fine halftone dot pattern. Scattered across the entire area are numerous circles of varying sizes and colors, primarily in shades of teal, green, and purple. These circles have a soft, out-of-focus appearance, creating a bokeh effect. The overall composition is abstract and modern.

THANK YOU!

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