



Predicting Location for South Asian Restaurant

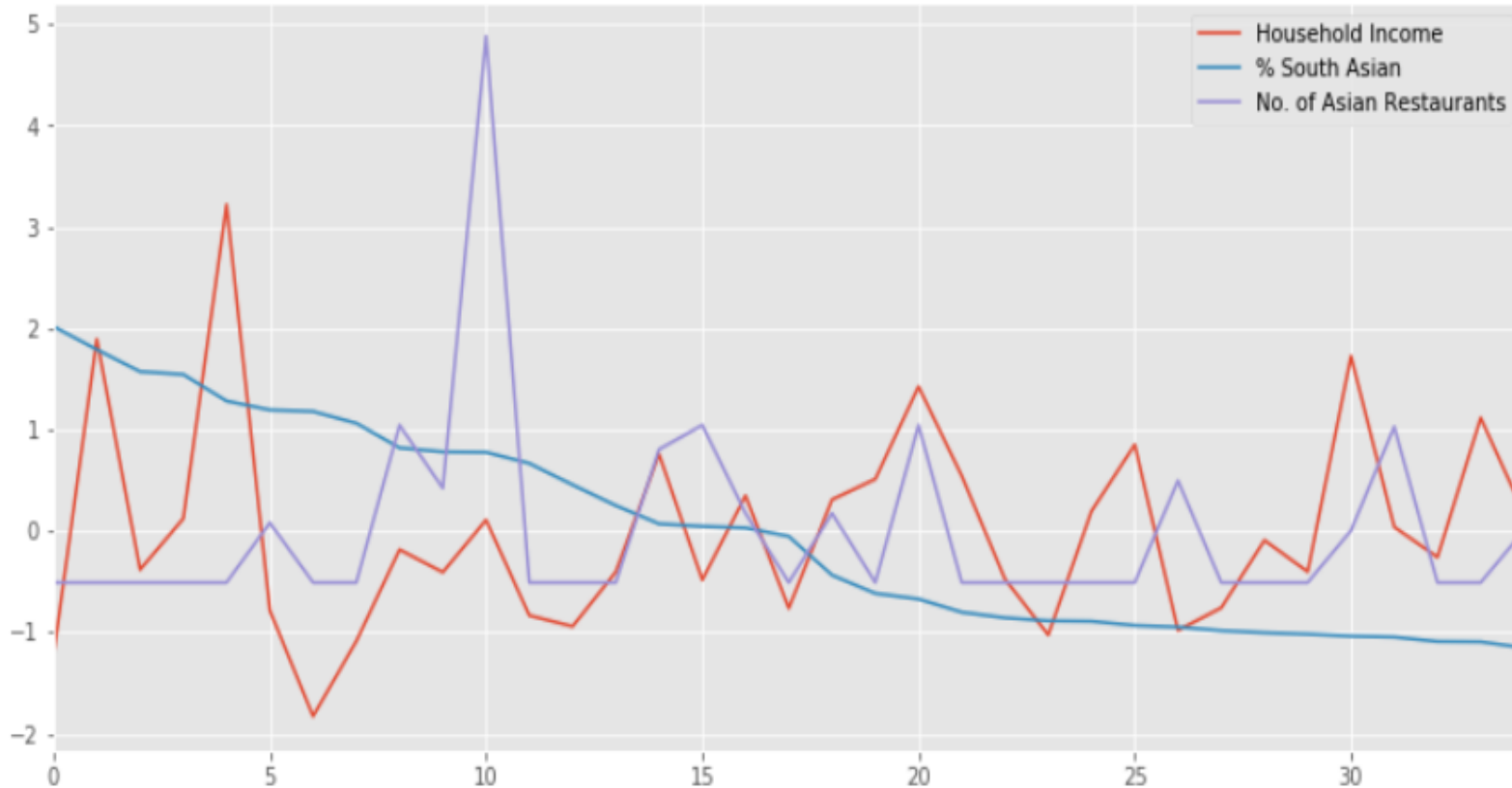
Predicting optimum location is useful for New Restaurants

- ▶ New Restaurants don't need to face lot of competition due to optimum location
- ▶ They can have huge customer base.
- ▶ Due to low competition and huge customers they can enjoy profitability
- ▶ As the location can have high income population it ensures profitability and low competition ensures sustainability

Data Acquisition and Cleaning

- ▶ For this Location data is Extracted from Foursquare API
- ▶ Location data of Neighbour was extracted from Wikipedia page
- ▶ Toronto Data is available on its Toronto open data Portal
- ▶ All the data was merge and data other than location, population , Restaurant Data was Drop or Ignored

It was found that the given data don't have any direct correlation as shown below



From above graph it looks like there is no direct relationship between any factors mention above.

- ▶ K-means Clustering was used as data don't have any direct correlation
- ▶ Using K-means we get following clusters

[30]:

	Latitude	Longitude	Pop 20 - 29 years	Household Income	% South Asian	Asian Restaurant
Cluster Label						
0	43.745658	-79.276954	3577.500000	43578.500000	0.331405	0.002968
1	43.702599	-79.432629	2098.000000	62473.200000	0.050023	0.002000
2	43.755066	-79.256359	3040.714286	55544.285714	0.153940	0.024745
3	43.756303	-79.565963	1740.000000	53272.000000	0.289143	0.105263
4	43.690869	-79.453492	2109.000000	47284.300000	0.051145	0.002961
5	43.795611	-79.177425	4330.000000	80052.500000	0.397641	0.000000

K-means Cluster Result

Cluster	Household Income	%South Asian pop.	Asian Restaurant
0	Low	High	Low
1	High	Low	Low
2	Medium	Medium	Medium
3	Medium	High	High
4	Low	Low	Low
5	Very High	High	No

Results:-

- ▶ From data Extracted Cluster 2 and 5 are good location start Restaurant
- ▶ Cluster 2 has little competition but it will easy to setup restaurant as it already has few restaurant.
- ▶ Cluster 5 don't have any competition but its unknown that how will customer react to New Asian Restaurant but after few time it enjoy huge profits