

CLUSTER RESTAURANT CANDIDATE LOCATION



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RESTAURANT TYPE AT QUEENS

- There are many kinds of restaurants in Queens (New York) even different character at each area
- Creating and analyzing a cluster can help to find the best location for a certain type of restaurant.
- Our mission will be:
 - Analyze the current restaurant type
 - Cluster the different restaurant type in each cluster



DATA ACQUISITION

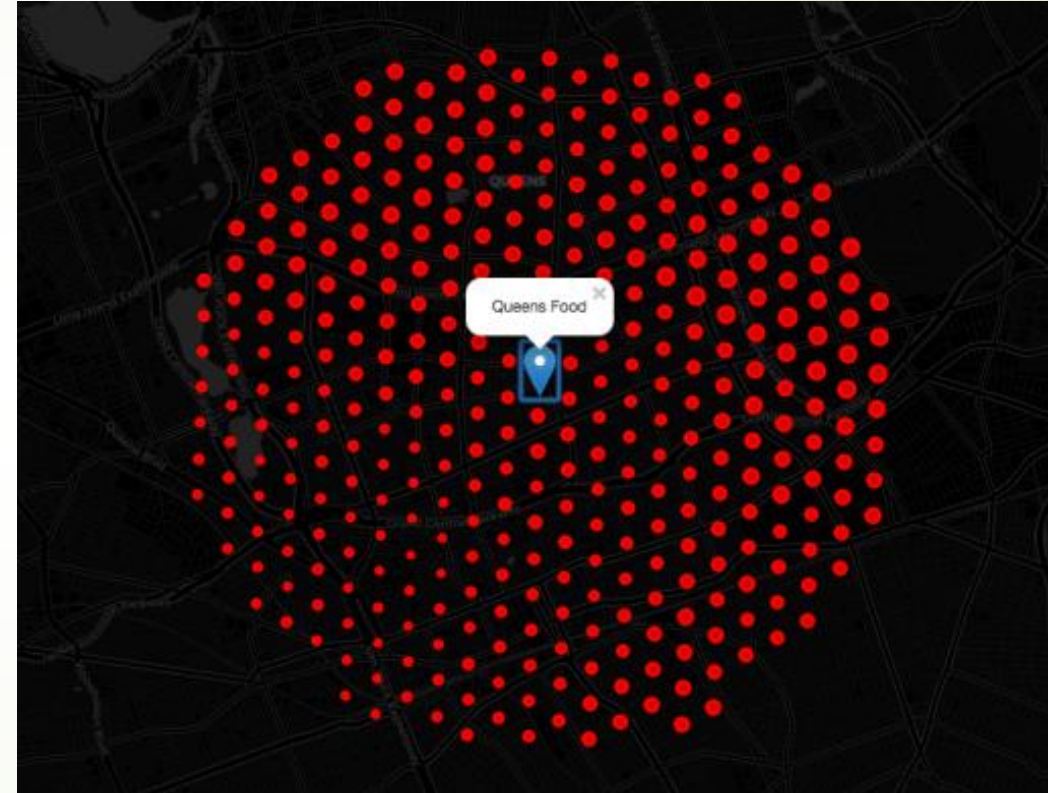
- ▶ Google API
 - ▶ Get Queens location
 - ▶ Get the candidate location geometry information
- ▶ Foursquare API
 - ▶ Get the restaurants and schools information
- ▶ Create candidate location
 - ▶ Calculate the 364 candidate location
- ▶ Data Flow
 - ▶ Get the Queens geometry info
 - ▶ Calculate candidate geometry info under certain conditions
 - ▶ Get detailed info through Foursquare API

DATA FLOW

	Address	Latitude	Longitude		X	Y	Distance from center
0	93-46 210th Pl, Queens Village, NY 11428	40.716520	-73.751049	-5.820665e+06	9.836718e+06		5992.495307
1	211-30 90th Ct, Jamaica, NY 11428	40.720054	-73.750895	-5.820065e+06	9.836718e+06		5840.376700
2	89-28 213th St, Queens Village, NY 11427	40.723589	-73.750740	-5.819465e+06	9.836718e+06		5747.173218
3	214-46 Whitehall Terrace, Jamaica, NY 11427	40.727124	-73.750586	-5.818865e+06	9.836718e+06		5715.767665
4	218-17 Grand Central Pkwy, Jamaica, NY 11427	40.730659	-73.750431	-5.818265e+06	9.836718e+06		5747.173218
5	220-24 Hartland Ave, Jamaica, NY 11427	40.734194	-73.750276	-5.817665e+06	9.836718e+06		5840.376700
6	220-72 77th Ave, Flushing, NY 11364	40.737730	-73.750122	-5.817065e+06	9.836718e+06		5992.495307

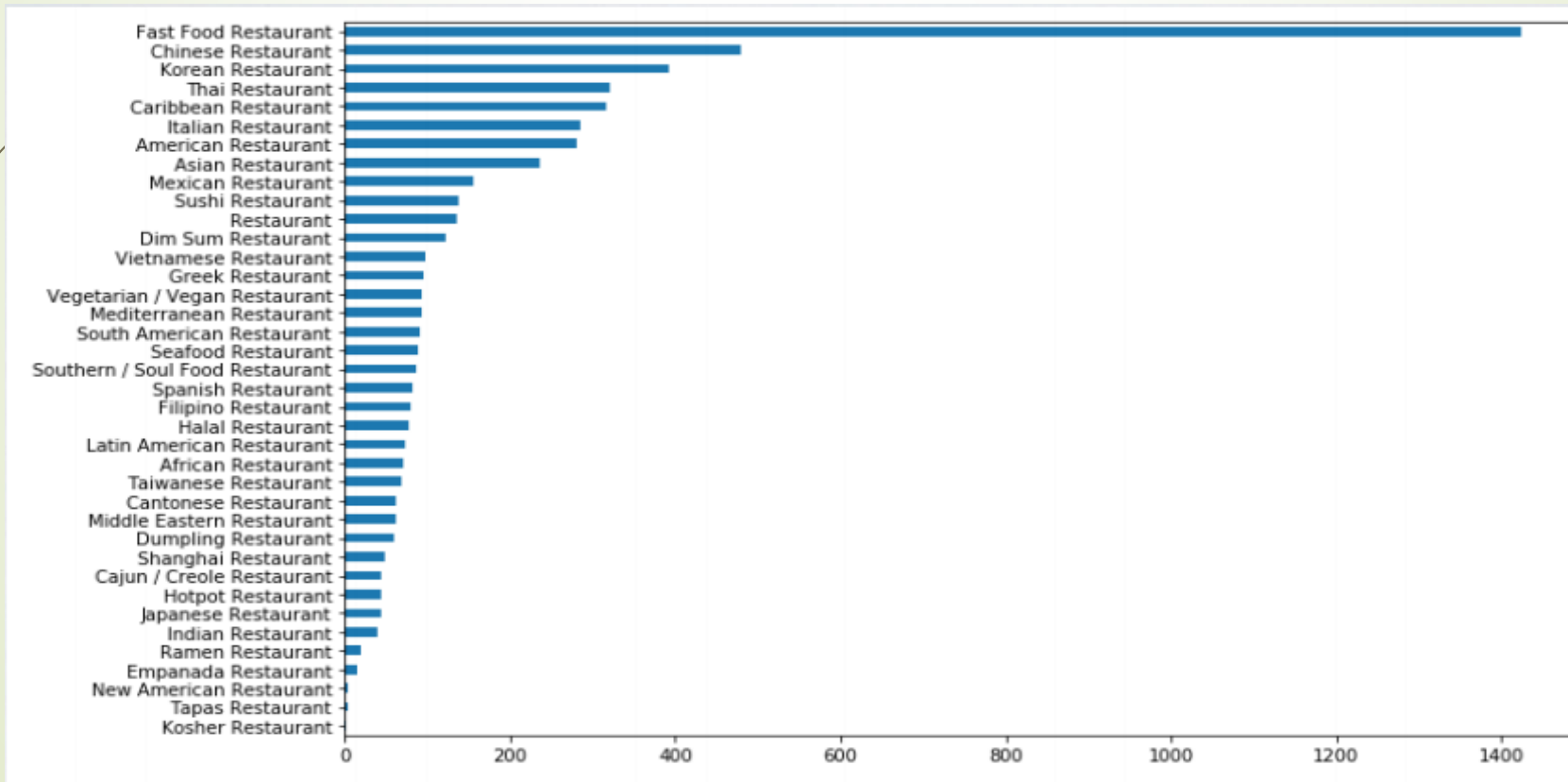
RESTAURANT INFORMATION

Restaurants
information is almost
uniform on each
candidate, so we
use the school
information for a
better analysis

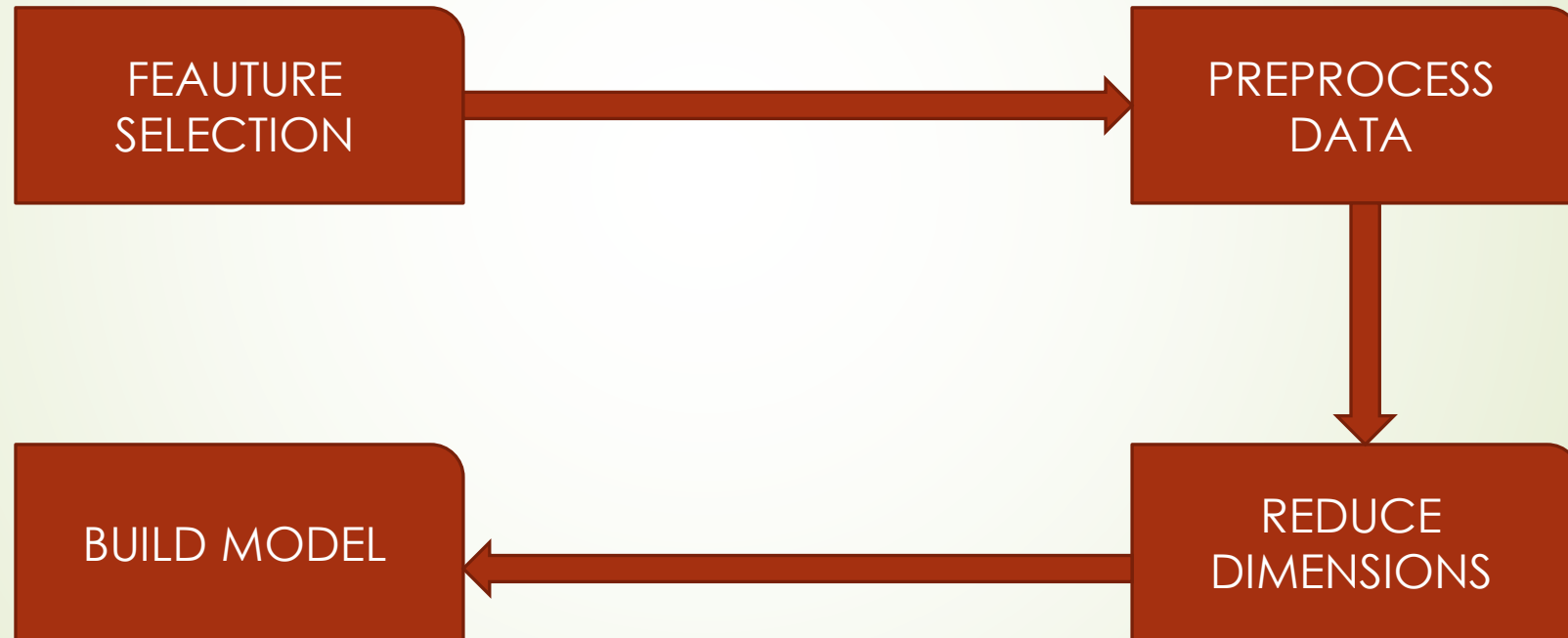


RESTAURANT NUMBER

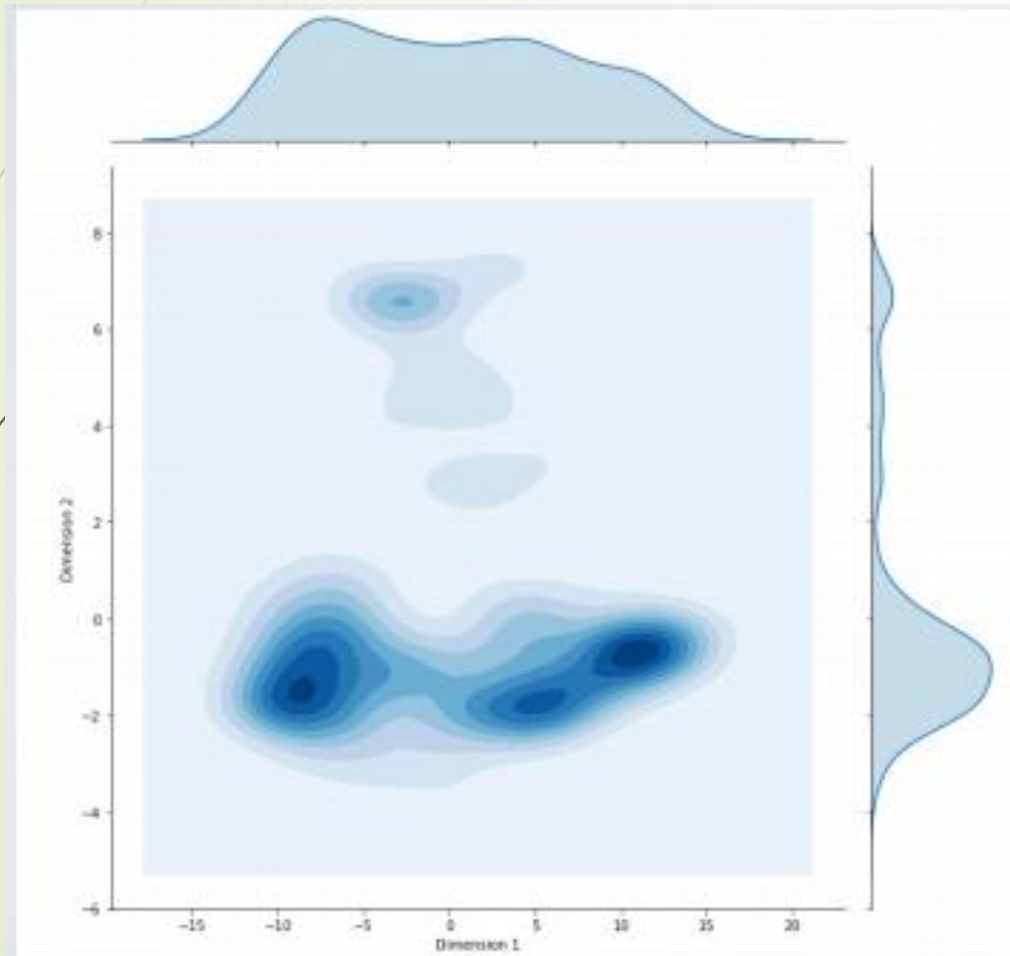
- In this graphic we can observe that the Top 3 restaurants are
 - Fast Food Restaurant
 - Chinese Restaurant
 - American Restaurant



CLUSTER FLOW

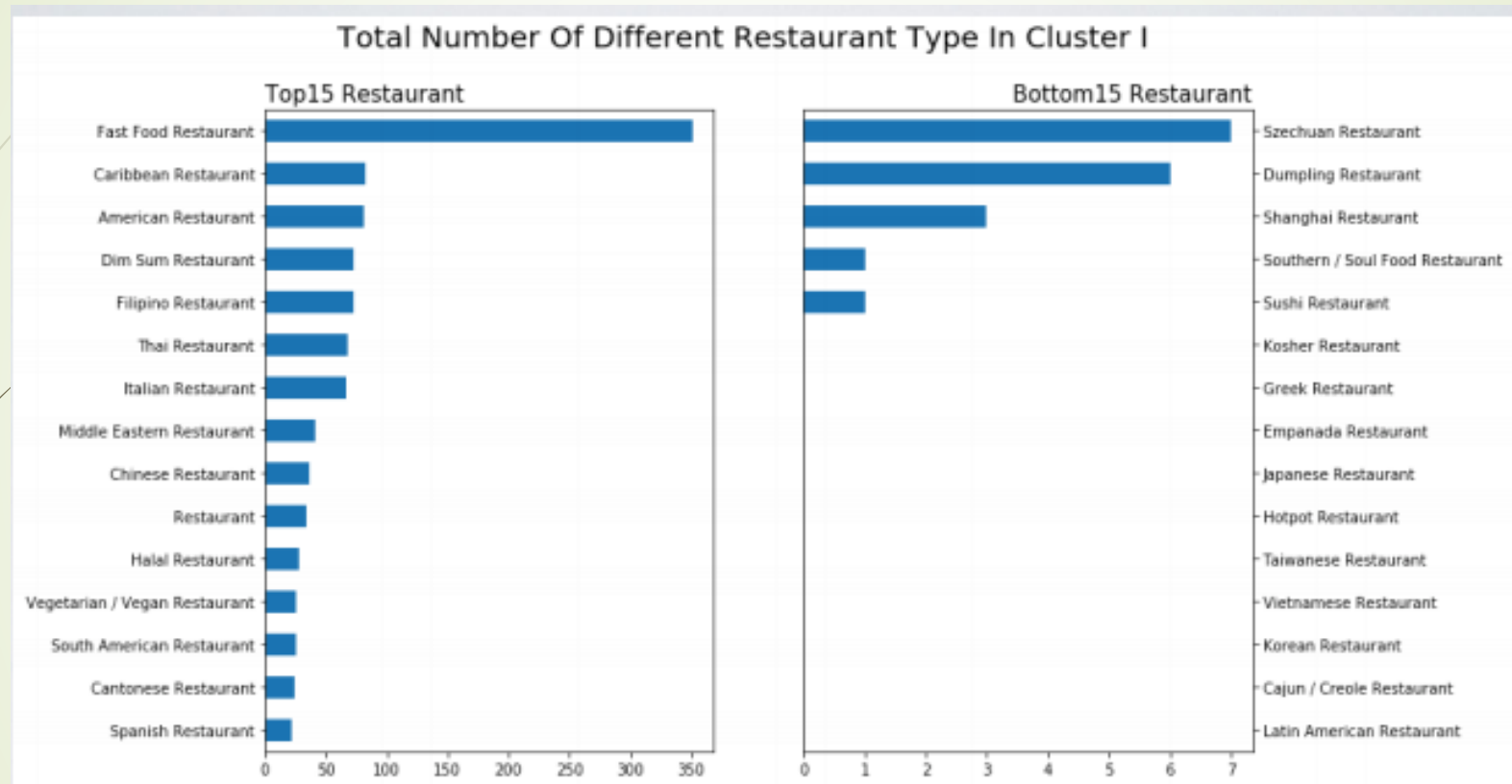


PCA RESULTS



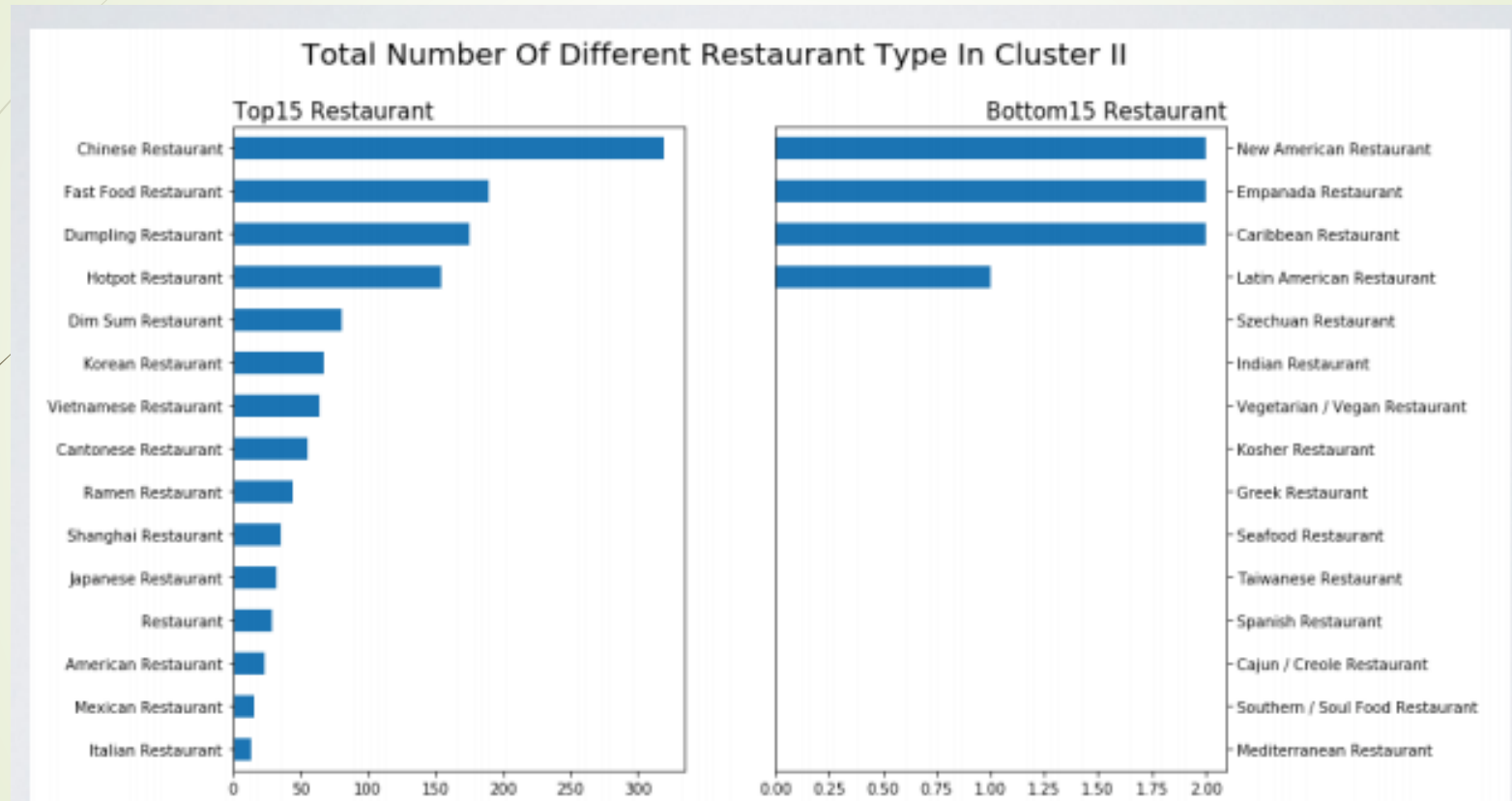
Analyzing the main two components of KDE visualization we discover that there are four clusters.

CLUSTER 1 REPORT



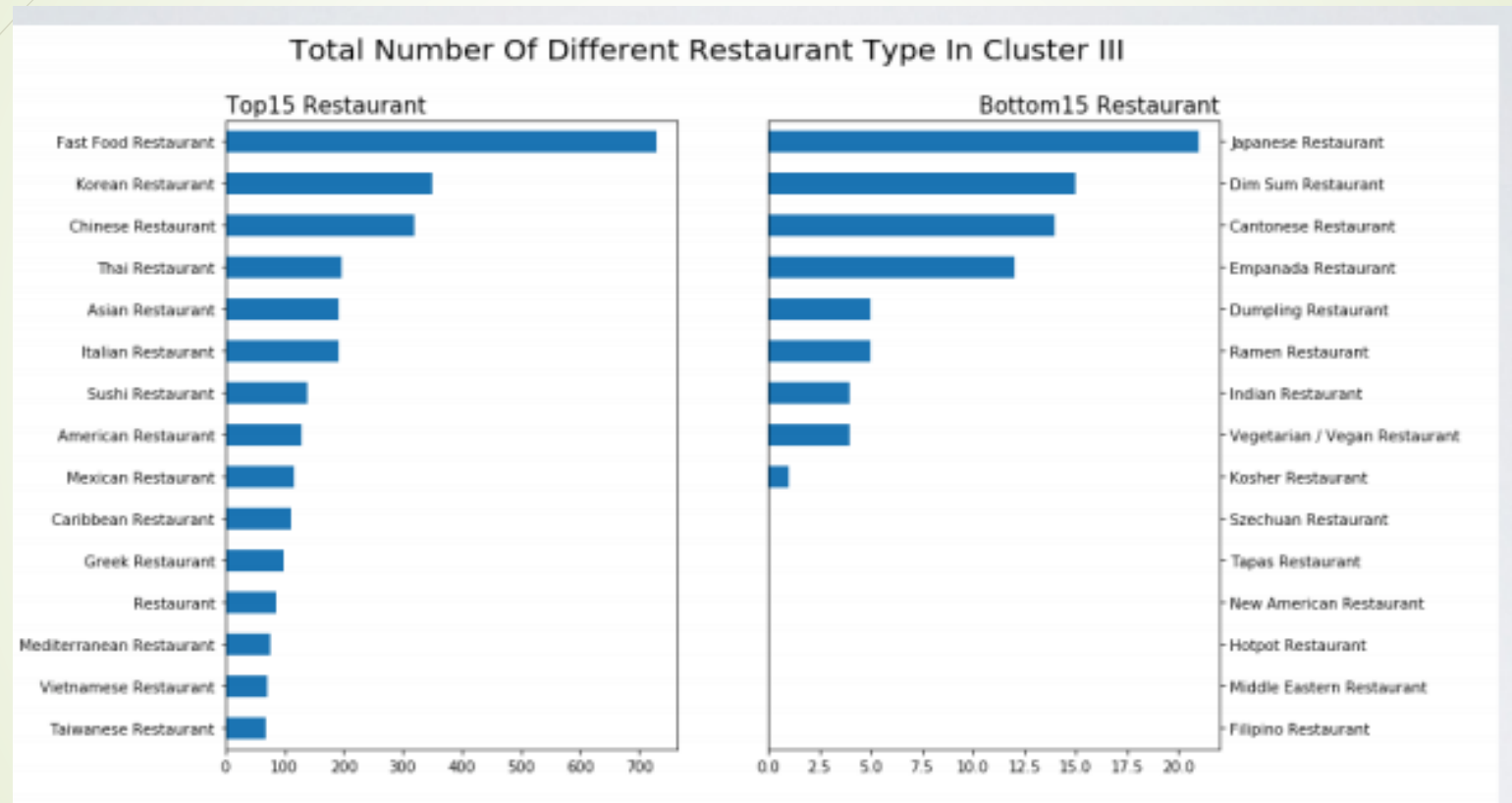
Fast Restaurant is main Type
Wester Restaurant have the largest market
Eastern Restaurants have the least market

CLUSTER 2 REPORT



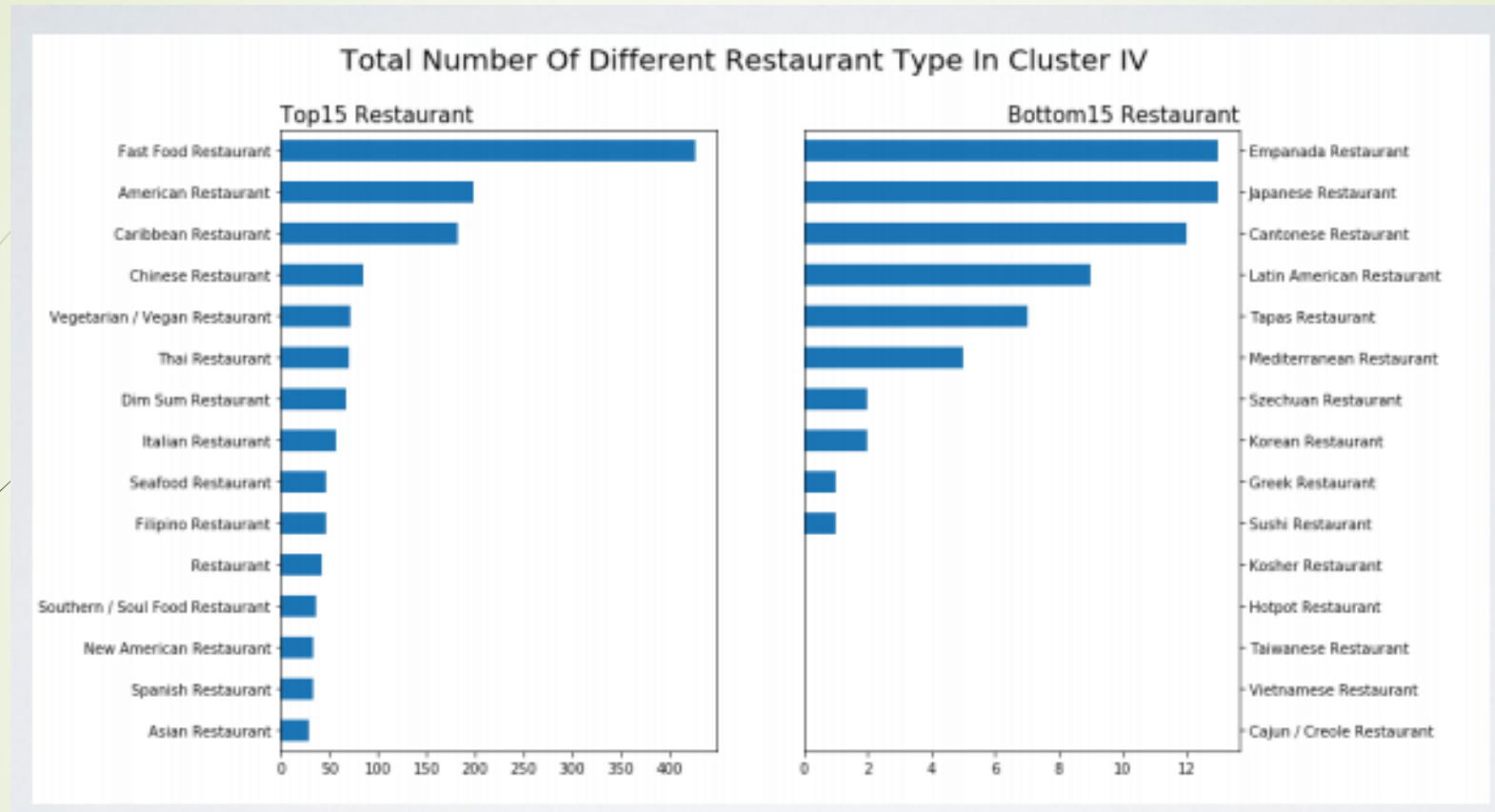
Chinese Restaurant is main Type
Asian Restaurants have the largest market
Western restaurants have the least market

CLUSTER 3 REPORT



Fast Food Restaurant is main Type
Asian Restaurants and Western Restaurant have both the largest market
Th candidate location is a Good choice to open an Asian Restaurant

CLUSTER 4 REPORT



Fast Food Restaurant is main Type

The candidate location has a mixture restaurant type

Asian Restaurants and Western restaurants have the same importance. In this particular case, the candidate location is a Good choice to open an Asian restaurant although open an southeastern Asian restaurant is not very recomendable.