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# **PREDICTING BETTER PLACE FOR SEAFOOD RESTAURANT**



# PREDICTING BETTER PLACE FOR CATEGORY RESTAURANT IS VALUABLE FOR STAKEHOLDERS

- Location selection is bigger problem for people who want to start new restaurant in this city.
- Our few customers want to start new seafood restaurant in Pune city but they don't know the better place to open restaurant.
- We need solution for such kind of problems, where we can compare similar locations and their nearby area Venus.
- Similar locations should be grouped and application should have functionality to display those location on map.
- Obviously new restaurant owners are will be interested in knowing such areas for better places where they can start category restaurant and get more profit and provide better service to nearby people with their delicious variety of food.

# DATA ACQUISITION AND CLEANING

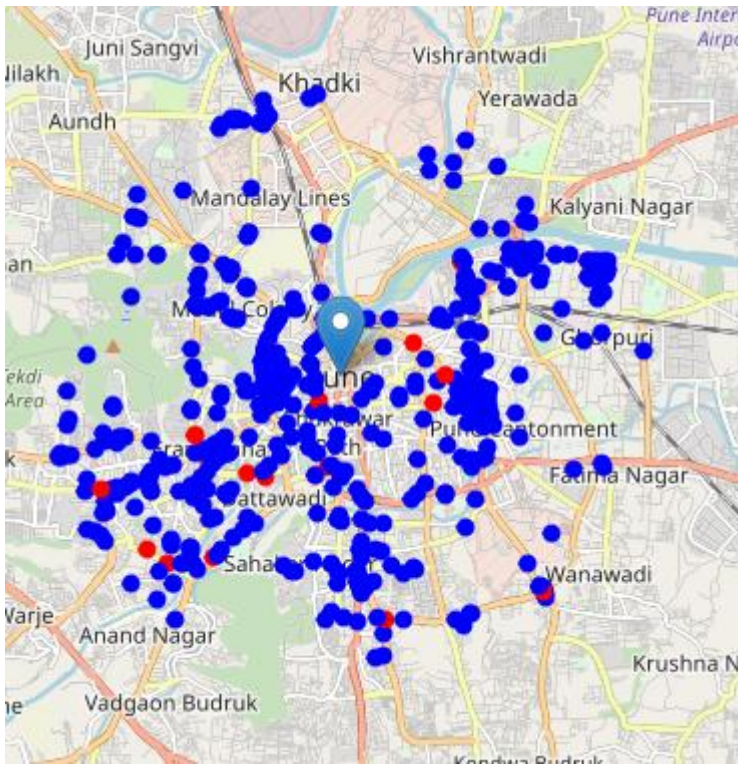
- We have location data available on Google maps.
- Foursquare is important data source for us. From Foursquare we will get all restaurant with their categories and their tips and rating information.
- Foursquare have all the updated data and we can access that data easily using foursquare APIs.
- Data downloaded or scraped from multiple sources were combined into one table.
- We want to go deep in restaurant data and other Venue data is not required so that is not useful for us so we need to filter out unwanted data from response dataset.

# EXPLORATORY DATA ANALYSIS

	Address	Latitude	Longitude	X	Y	Distance from center	Restaurants in area	Distance to Seafood restaurant
0	19, Bhagyoday Colony, Suvarn Colony, Hingne Bu...	18.487654	73.819275	7719770.39	3654053.926	8876.556780	1	946.581553
1	33, Sridhar Colony, Karve Nagar, Pune, Maharas...	18.485435	73.823663	7720670.39	3654053.926	8645.418455	3	888.899138
2	411051, 24/4/2, Late Narayanrao Kondiba Jagtap...	18.483215	73.828050	7721570.39	3654053.926	8503.720378	0	1429.838697
3	23/1/A, Anand Vihar Colony Rd, Mahadev Nagar, ...	18.480995	73.832437	7722470.39	3654053.926	8455.960044	0	1872.907960
4	2, Anand Vihar, Mahadev Nagar, Hingne Khurd, P...	18.478776	73.836823	7723370.39	3654053.926	8503.720378	0	2412.579822
5	Unnamed Road, Taljai Forest Area, Pune, Mahara...	18.476557	73.841208	7724270.39	3654053.926	8645.418455	0	3123.027148
6	Sr. No. 8/2+3, Plot No.10, Vivekanand Nagar, T...	18.474338	73.845593	7725170.39	3654053.926	8876.556780	0	3258.601411
7	20, Happy Colony, Kothrud, Pune, Maharashtra 4...	18.494981	73.813976	7718270.39	3654833.349	8750.384168	3	1356.523822
8	Rokdoba Super Market,mavale aali Chowk, Karve ...	18.492761	73.818364	7719170.39	3654833.349	8355.789794	0	550.104500
9	Vitthal Mandir Karvenagar, Karve Nagar, Pune, ...	18.490540	73.822753	7720070.39	3654833.349	8042.961089	3	360.944408

- The required data: location and number of restaurants in specific area.
- Area center to avg distance to Seafood restaurant
- Area distance from City Center

# SEAFOOD VS OTHER RESTAURANTS



- In Red Seafood Restaurants
- In Blue Other Category Restaurants

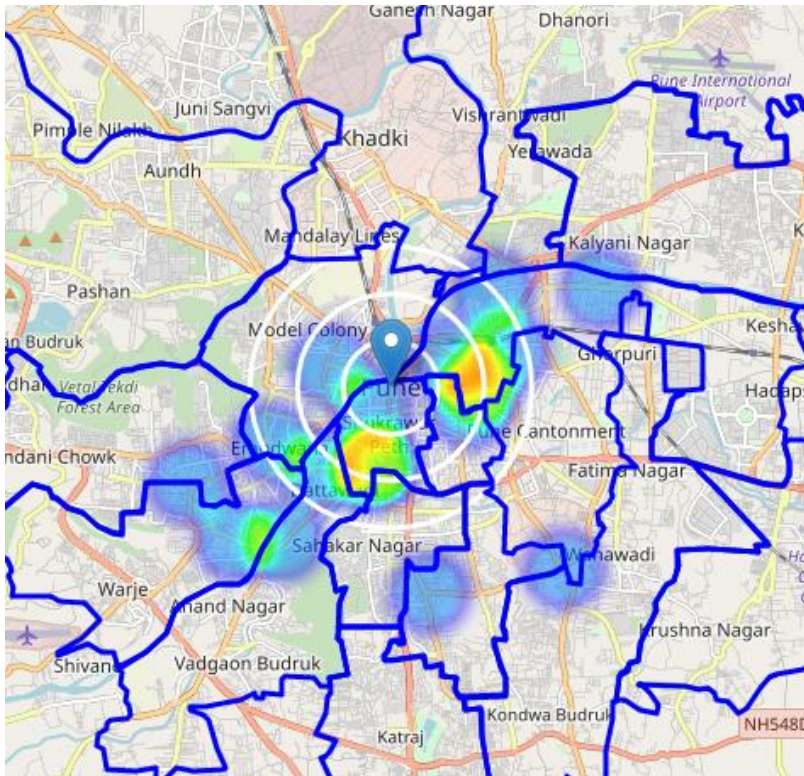
# ALL AREA RESTAURANTS ON HEAT MAP



Looks like a few pockets of low restaurant density closest to city center can be found **North from Pune Center.**

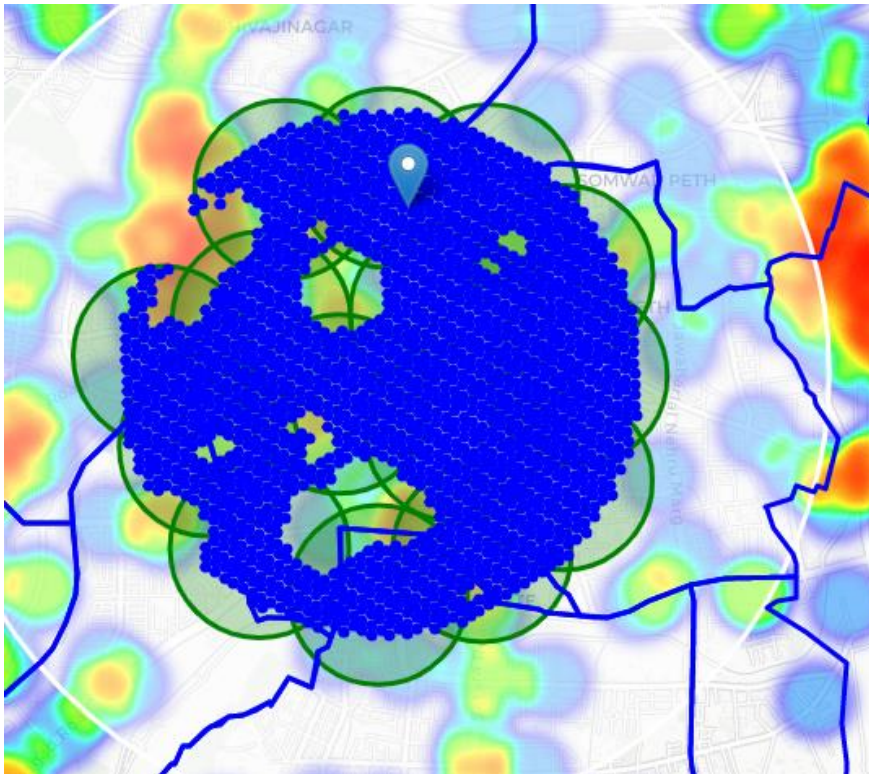


# SEAFOOD RESTAURANTS ON HEAT MAP



- This map is not so 'hot' (Seafood restaurants represent a subset of ~3% of all restaurants in Pune) but it also indicates higher density of existing Seafood restaurants directly South-east and West from Pune Center, with closest pockets of **low Seafood restaurant density positioned North, south-Weat and south from city center.**
- Based on this we will now focus our analysis on areas *North and south from pune center* - we will move the center of our area of interest and reduce it's size to have a radius of **2.5km**. This places our location candidates mostly in boroughs **Wakhad and Model Colony.**

# CLUSTERING DATA



- Clusters represent groupings of most of the candidate locations and cluster centers are placed nicely in the middle of the zones 'rich' with location candidates.
- Addresses of those cluster centers will be a good starting point for exploring the neighborhoods to find the best possible location based on neighborhood specifics.



# PROBLEM SOLVING

## Better address for Seafood Restaurants

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Addresses of centers of areas recommended for further analysis

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216-225, Maharana Pratap Singh Rd, Ganj Peth, Pune, Maharashtra 411002 => 3.0km from pune  
Balgandharv Rangamandir Premises, Shaniwar Peth, Pune, Maharashtra 411004 => 1.2km from pune  
180, Lal Bahadur Shastri Rd, Navi Peth, Sadashiv Peth, Pune, Maharashtra 411030 => 3.0km from pune  
247, Shukrawar Peth, Pune, Maharashtra 411002 => 2.2km from pune  
P216, Tulshibaug, Budhwar Peth, Pune, Maharashtra 411002 => 1.0km from pune  
705, Kasba Peth, Pune, Maharashtra 411011 => 0.8km from pune  
357, Ganesh Peth, Pune, Maharashtra 411011 => 1.6km from pune  
216, Thorale Madhavarao Peshve Path, Dandekar Pool, Municipal Colony, Pune, Maharashtra 411030 => 3.5km from pune  
297, VG Kothari Path, Narayan Peth, Pune, Maharashtra 411030 => 1.8km from pune  
1117, Sathe Colony, Shukrawar Peth, Pune, Maharashtra 411002 => 3.3km from pune  
Tilak Bridge, जयंतराव टिळक पूल, Shaniwar Peth, Pune, Maharashtra 411030 => 0.4km from pune  
1405, Krantiveer Vasudev Phadake Rd, Perugate, Sadashiv Peth, Pune, Maharashtra 411030 => 2.0km from pune  
Pune, Khilarewadi, Erandwane, Pune, Maharashtra 411004 => 2.7km from pune  
1750, Raviwar Peth, Pune, Maharashtra 411002 => 2.3km from pune  
Unnamed Road, Saras Baug, Pune, Maharashtra 411030 => 3.7km from pune

# CONCLUSION

- Built useful models to predict whether and how much a player will improve.
- Accuracy of the models has room for improvement.
- Ideas include:
  - stakeholders based on specific characteristics of neighborhoods
  - locations in every recommended zone, taking into consideration additional factors like attractiveness of each location