

New Café in Ahmedabad

APRIL 22

Authored by: Your Name



Capstone Project - New Cafes in Ahmedabad

Introduction / business problem

Ahmedabad is a growing city of Gujarat state of county India.

In a city of Ahmedabad, there are many cafes to hangout but where should the business persons would want to set up new cafes in the city. If someone is looking to open a café restaurant, the question is, where would you recommend that they open it? The background of the problem is that in order for a café to be profitable, there must be enough customers, and in order to have enough customers, it is not worth setting up a café in the immediate proximity of existing ones.

“Finding the best place to open a cafe restaurant in Ahmedabad city”

Let's also make sure that audience is explicitly defined to be the local restaurant entrepreneurs in Ahmedabad, and they should care about this problem because the location of the new café has a significant impact on the expected returns.

Data Preparation

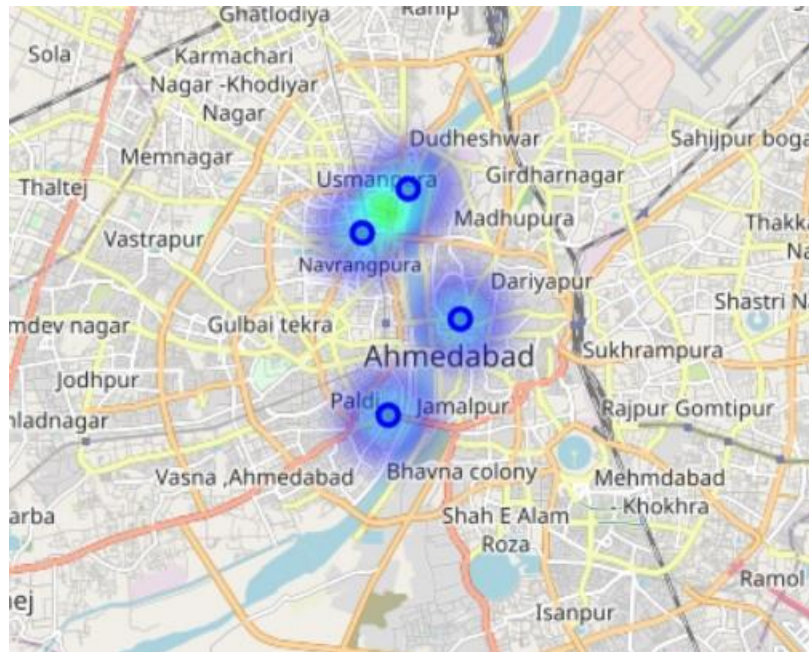
A description of the data: the data used to solve this problem is geolocation data collected from Foursquare. Adequate explanation and discussion, with examples, of the data is the following. Data is a single data frame, containing at least a location of the café. Explanation of the location data is a standard tuple (lat, lng), where lat stands for latitude and lng for longitude. Some other metadata like name, postal code and so on is also collected, but let us discuss that they are not absolutely necessary for the analysis. Example of the data:

	uid	name	shortname	address	postalcode	lat	lng
0	4bb964b053649c745b0448fb	House of MG	Hotel	Lal Darwaja	380001	23.027186	72.581621
1	4ce92a7bd99f721e35c1b473	Cafe Natrani	Café	Lal Darwaja	380013	23.047775	72.572577
2	59c8ec0f018cbb55bff55634	Chai Gate	Tea Room	Lal Darwaja	380007	23.012164	72.569281
3	4f5ca1ebe4b0090c0a9f4a2a	Cafe Court @ SCG	Café	Lal Darwaja	380014	23.040948	72.564642

Data will be used in the following way: by knowing the locations of already existing cafes, it's possible to apply unsupervised learning technique like kernel density estimation (KDE) to determine the area of influence of the existing cafes, and start up new café which is not in the area of influence.

Methodology

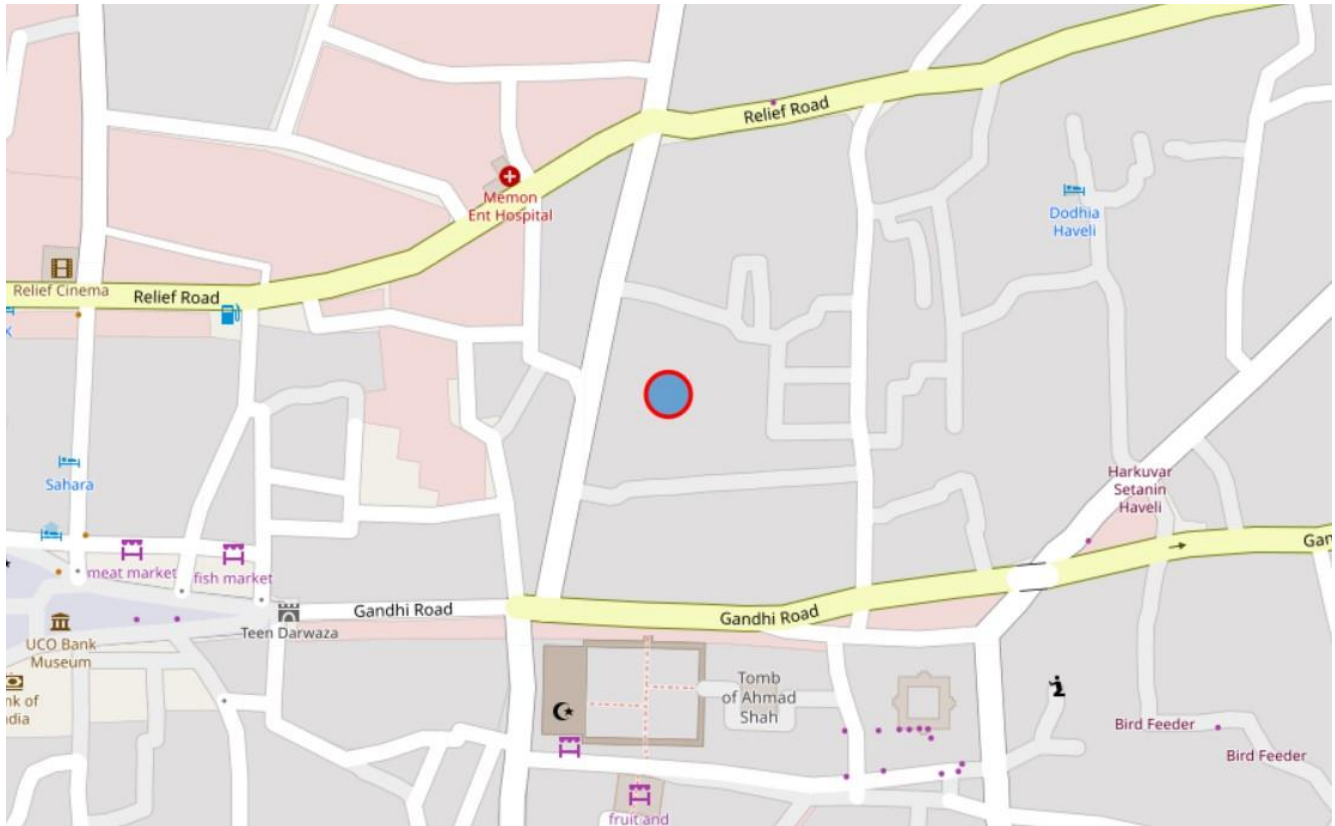
Heatmap-based kernel density estimation was used. Heatmap was already implemented as plugin for Folium, which was used to visualize data to map. Visualization is shown as below image.



Data visualization to the map of Ahmedabad, including heatmap based kernel density.

Result

Based on the preliminary results, one possible good location for the new café would be near Gandhi Road. Below is the image for the proposed location for a new café restaurant in Ahmedabad.



Conclusion

One possible good location for the new café would be near Gandhi Road.