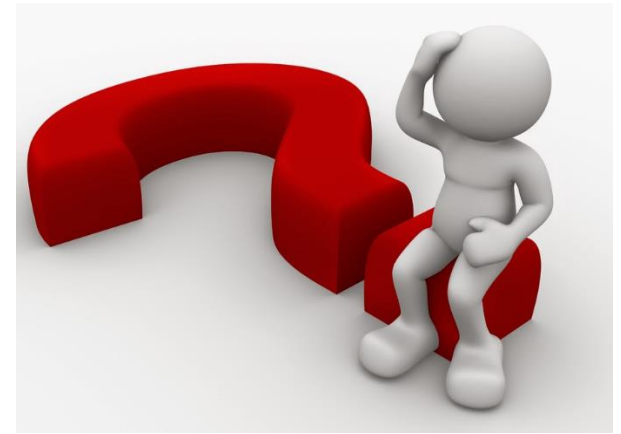


# Opening new Indian restaurant in Atlanta: An exploration of neighborhoods in Atlanta, Georgia, USA



# Business Problem

- **population of Indian Americans in Atlanta is going up.**
- **Indian cuisines are distinctive from other foods primarily because of their spicy taste.**
- **Entrepreneur who is interested in opening a new Indian restaurant might want to do research on:**
  - the distribution of Indian restaurant
  - quality and types of the cuisine they serve
  - price of the foods
  - neighborhoods where Indian people prefer to live
  - their outing and eating habit
  - companies where Indian people work
  - number of Indian students who are attending in the universities
  - Crime rate in the neighborhoods
- **The goal of the project is to recommend an appropriate neighborhood for the successful startup of an Indian restaurant.**



# Target Audience

- **The targeted audience of this project is business entrepreneurs or investors who are planning to invest in restaurant business.**
- **Data analysis from this project might be very useful for the Indian business investors who are investing in other sectors that target Indian populations**
- **This project provides the indirect information about the neighborhoods where most of the Indian people live.**
- **The information generated on Indian communities will be helpful for the Indian organizations who are working to build their communities better.**



# Data source and extraction methodology

## Source

### ➤ List and geographical coordinates of neighborhoods:

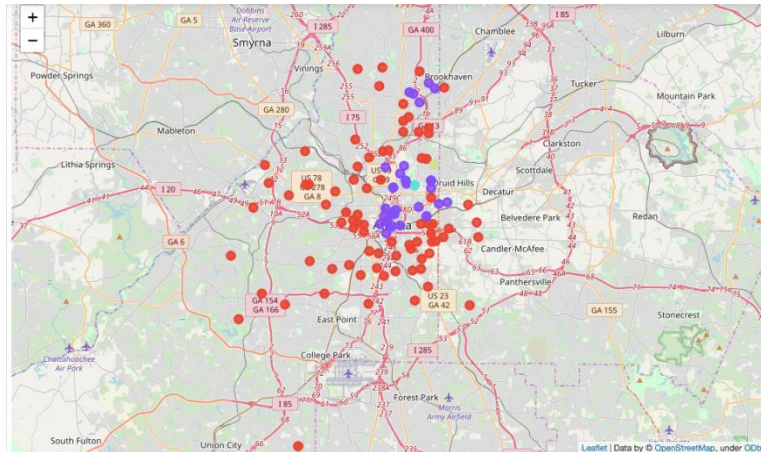
- Wikipedia page [https://en.wikipedia.org/wiki/Category:Neighborhoods\\_in\\_Atlanta](https://en.wikipedia.org/wiki/Category:Neighborhoods_in_Atlanta)
- Python geopy.geocoder
- <https://foursquare.com/developers/apps> (Foursquare API)
- <https://en.wikipedia.org/wiki/Atlanta> (Atlanta information)

## Methodology:

- A list of 123 neighborhoods was extracted from Wikipedia page using web-scraping packages BeautifulSoup4 and python-requests.
- Python geopy.geocoder package was used to search the longitude and latitude of the neighborhoods in Atlanta.
- Foursquare API was used to extract the venue data of a particular neighborhood in Atlanta.
- data cleaning and data wrangling was done, which makes the data ready for visualization and clustering.
- Folium package was used for the map visualization.
- machine learning technique k-means clustering was used to cluster the extracted list of Indian restaurants into four different clusters.

# Results

- ❖ Out of 123 neighborhoods in Atlanta, only 41 neighborhoods have Indian restaurants.
- ❖ Most of the Indian restaurants are concentrated in cluster 0 and cluster 1. Those areas are located in downtown, east, and north side of the city center.
- ❖ Clusters 2 and 3 have only a few Indian restaurants.
- ❖ Based on the observations, it seems opening a new Indian restaurant in cluster 2 and 3 would face less competition as compared to cluster 0 and 1.



In the picture above, red color represents cluster 0, purple color belongs to cluster 1, light yellow cluster 2, and cyan color represents cluster 3.

# Discussions

- Clusters 0 and 1 have most of the Indian restaurants, one might think that these areas have high competition as compared to clusters 2 and 3.
- The distribution of the population is one major factor. The majority of the Indian communities might be in cluster 0 and 1. If most of them are living in cluster 0 and 1, it makes sense to have the majority of restaurants in those areas.
- Opening of a restaurant in cluster 2 and 3 might be a blunder mistake if Indian populations are not living in those neighborhoods.
- Location of companies where the majority of the Indians work. It is better to open a restaurant in nearby neighborhoods where Indian peoples work. If they work in cluster 0 and 1, but you opened a restaurant in clusters 2 or 3, then chances are high that your business will fail.
- The crime rate in the neighborhoods also plays a vital role when you think of starting a new business.
- Nearby universities also play an important role while determining a suitable spot for a successful restaurant business.

# Conclusion

- Cluster 0 and 1 have the highest number of neighborhoods that contains Indian restaurants.
- Clusters 2 and 3 have only a few Indian restaurants.
- If the Investor only makes a decision based on competition faced by the restaurant, then probably opening a new Indian restaurant in cluster 2 or 3 is a good idea.
- But there are other factors that play a vital role. Population distribution, the crime rate in neighborhoods, number of students in universities, location of the universities.
- It would be better for an investor to look into other factors and research other aspects also before making any decision about their future investment.

# Future work

- K-means cluster analysis can also be done on Indian population distribution in the Atlanta.
- Crime data can be searched and analyzed to divide the neighborhoods based on the number of crimes.
- A simple search of the location of universities in Atlanta city and the tentative number of Indian students on those universities can be explored.

