

# COURSERA CAPSTONE PROJECT

IBM Applied Data Science Capstone

## Recommendation For A New Movie Theatre In Visakhapatnam, India

By

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# BUSINESS PROBLEM:

- Location of the Movie Theatres is one of the most important decisions that will determine whether the theatre will be a success or a failure.
- My objective to analyze and select the best locations in the city of Visakhapatnam, India to open a new movie theatre.
- This project is timely as the city is currently suffering from oversupply of movie theatres.
- The Business question is that, In the city of Visakhapatnam, India, if a property developer is looking to open a new movie theatre, where would you recommend to open it?

## DATA REQUIRED:

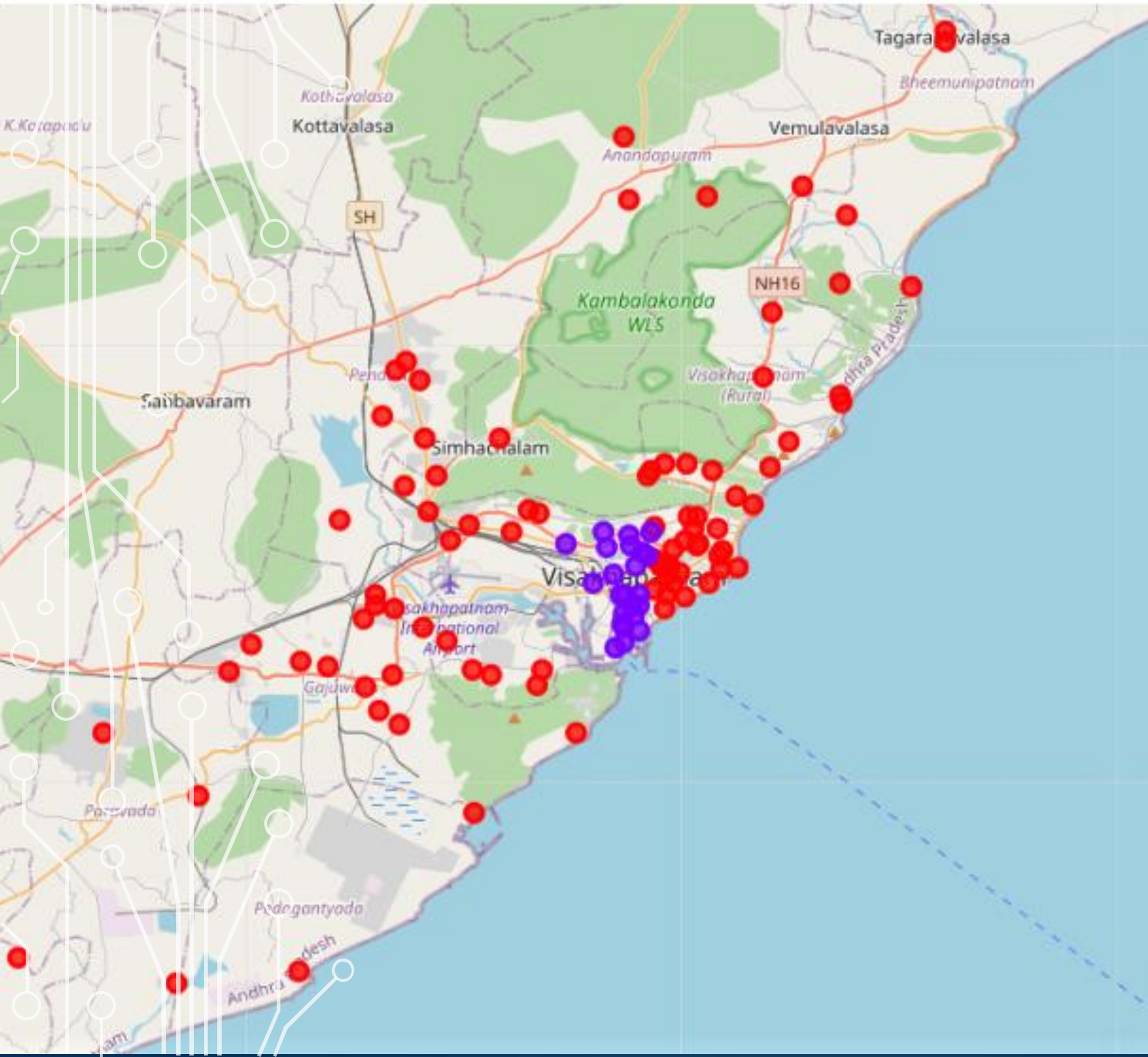
- List of neighborhoods in Visakhapatnam.
- Latitude and longitude coordinates of the neighborhoods.
- Venue data, particularly data related to movie theatres.

## SOURCES OF DATA:

- Wikipedia page for neighborhoods of Visakhapatnam - [https://en.wikipedia.org/wiki/Category:Neighbourhoods\\_in\\_Visakhapatnam](https://en.wikipedia.org/wiki/Category:Neighbourhoods_in_Visakhapatnam)
- Geocoder package for latitude and longitude coordinates , Foursquare API for venue data.

# METHODOLOGY:

- Web scraping Wikipedia page for neighborhood's list.
- Get latitude and longitude coordinates using Geocoder.
- Use Foursquare API to get venue data Group data by neighborhood and taking the mean of the frequency of occurrence of each venue category.
- Filter venue category by Shopping Mall Perform clustering on the data by using k-means clustering.
- Visualize the clusters in a map using Folium.



# RESULTS:

Categorized the neighborhood's into 3 clusters, They are -

- Cluster 0: Neighborhood's with either low or no theatres.
- Cluster 1: Neighborhood's with moderate number of movie theatres.
- Cluster 2: Neighborhood's with high concentration of movie theatres.



## DISCUSSION:

- Most of the movie theatres are concentrated in the central area of the city.
- Highest number in cluster 2 and moderate number in cluster 1.
- Cluster 0 has very low number to no theatres in the neighborhoods.
- Oversupply of movie theatres mostly happened in the central area of the city and very few within the suburb areas.

# RECOMMENDATIONS:

- Can open new movie theatre in neighborhoods of cluster 0, with little to no competition.
- Can also open in neighborhoods of cluster 1, with moderate competition if have unique propositions to stand out from the competition.
- Avoid neighborhoods in cluster 2, already high concentration of movie theatres and intense competition.

# CONCLUSION:

- Answer to business question: The neighborhoods in cluster 0 are the most preferred locations to open a new movie theatre.
- Findings of this project will help the relevant stakeholders to capitalize on the opportunities on high potential locations while avoiding overcrowded areas in their decisions to open a new movie theatres.



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THANK YOU