



Opening a new Hotel in Chennai, India

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Introduction



- Find the best place to open a new Hotel in Chennai(India)
- This project is timely because hotels are currently over-supplying the city.
- **Business Question**
 - In Chennai, if a building developer wants to open a new building, where are you going to recommend the shopping mall to open it?

Dataset Description



The Dataset used in this project:

- A list of neighbourhoods of Chennai, India (Source is Wikipedia)
- Geographical coordinates of those neighborhoods (latitude and longitude). FourSquare will be the source of the data.

Technologies used



List of tools and technologies used:

- KMeans clustering algorithm used to categorize the locations.
- Python programming for Implementation of the project.
- Pandas library for preprocessing of the data.
- Scikit-learn for applying machine learning.
- Geocoder for searching for venues from latitude and longitude coordinates
- Folium for the visualization of venues on the map of Chennai

Implementation



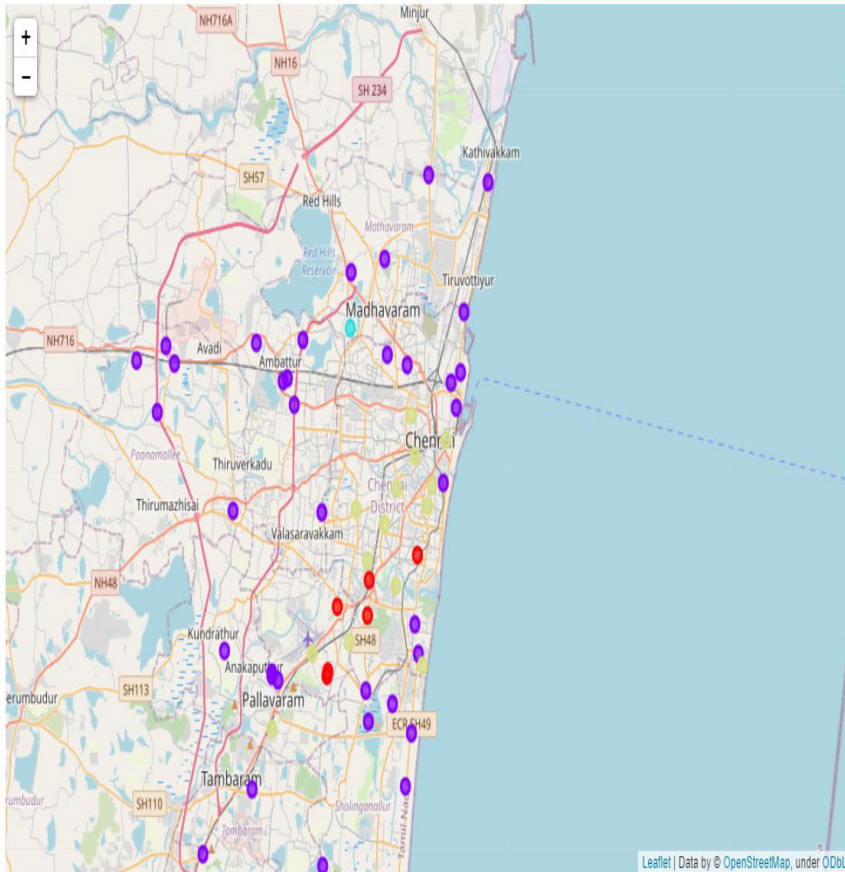
Steps in the Implementation of the project:

- Exploratory Data Analysis for understanding the dataset.
- Preprocessing for cleaning of the data.
- Feature Selection for selecting the best feature for the model.
- Machine learning model development.
- Developed clustering model using k-means.
- Cluster analysis for selecting the best spots for opening a new hotel business.

Results







Out[30]:



- The results show that the clusters can be categorized into four based on the frequency of occurrence for “Hotel”
- The colors red, purple, green and yellow represents cluster 0, 1, 2 and 3 respectively.

Observations



Cluster	Name	Suitable for New Hotel	Detailed Description
0	First Cluster		<ul style="list-style-type: none">• Availability of hotels is good if not the best.• Mid size Cluster
1	Second Cluster		<ul style="list-style-type: none">• Very Low/None availability of Hotels.• Mid size Cluster
2	Third Cluster		<ul style="list-style-type: none">• Availability score of the hotels is very high. Cluster consists of only two places
3	Fourth Cluster		<ul style="list-style-type: none">• Lower to moderate availability of Hotels.• Mid size cluster

Future Enhancements

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- Collect more data (demographic, income, investments etc)
- Combine multiple models to make better decisions.
- Obtain consulting services from experts in real estate and investments.

Conclusion



- Answer to business question: The neighbourhoods in cluster 1 are the most preferred locations to open a new Hotel
- Moreover , the start a new hotel stakeholders should be checks and find the accurate area once again and then invest.

<-- THANK YOU! -->

