**Housing Prices and Venues Data Analysis of Mumbai and Navi Mumbai**

# 1. **Introduction**:

## **Description and Discussion of the Background** : *Mumbai* is the financial and the commercial capital of India. The city hosts a bustling commercial life as it is home to the Hindi film industry, popularly known as Bollywood. The city is dotted with numerous pubs, bars and restaurants. It is also considered to be the central hub for industries, trade and business. Mumbai is also known for its high standard of living and pricy real estates. As the city presents good opportunities for business , it attracts people from all over the country. The contribution of Mumbai is 6.16% to the GDP of India. The Metro GDP ranking recognizes the city as one of the most productive metro areas of India. *Navi Mumbai* , located off the west coast of Maharashtra, is gradually emerging as a major commercial hotspot. It is a well-planned city with developed infrastructure and good connectivity to Mumbai and Pune. As the real estate prices are on a lower side as compared to Mumbai, many corporates and start ups have set up their offices here. There are some regions that are quite famous for affordable residences. The city boasts good social infrastructure with many flyovers, broad roads and parking lots. Many utility services, restaurants, banks,multiplexes,schools, and hospitals can be located here.

## **Business Problem** : The goal of this project is to cluster the different neighborhoods of Mumbai and Navi Mumbai by analyzing data related to category of venues . The project will also cover an analysis of the average real estate price of different neighborhoods. This analysis will benefit potential investors, businesspeople and the residents of the two cities. Investors and businesspeople can identity their preferred districts in terms of lower real estate cost and low presence of the business they want to install. City residents can identify locations for residence as well as plan to visit different neighborhoods based on the venue categories.

# 2**. Data Description**

## 2.1 **Description of the data** : The data for the latitude, longitude of different neighborhoods of Mumbai, Navi Mumbai are collected and their corresponding real estate price per square feet are collected. All these data are collected independently of each other as there are no websites that can serve as a good repository of the entire dataset. Foursquare API is used to collect data related to the different venues and venue categories for a neighborhood.

## 2.2 **Source of the data**: The data collection sources are as follows:

## 2.2.1 Latitude and Longitude: <https://www.latlong.net/>

### 2.2.2 Neighborhood Lists: Google Maps and Wikipedia

### 2.2.3 Average Real Estate Price per square ft : <https://www.makaan.com/>

### 2.2.4 Venue Data : Foursquare API

## **2.3 The Data :** The following table depicts the first 10 rows of the data that will be used for analysis

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Neighborhood | | Latitude | | Longitude | | Average price Rs/sqft |
| Colaba | 18.9067 | | 72.8147 | | 58,643 | |
| Nariman Point | 18.9256 | | 72.8242 | | 67,619 | |
| Churchgate | 18.9322 | | 72.8264 | | 59,969 | |
| Marine Lines | 18.9431 | | 72.8272 | | 32,463 | |
| Kalbadevi | 18.9487 | | 72.8289 | | 31,269 | |
| Walkeshwar | 18.9508 | | 72.8021 | | 1,18,331 | |
| Malabar Hill | 18.9548 | | 72.7985 | | 1,32,879 | |
| Bhuleshwar | 18.9562 | | 72.8296 | | 22,720 | |
| Kemps Corner | 18.9629 | | 72.8054 | | 75,444 | |
| Kamathipura | 18.9649 | | 72.8261 | | 34,507 | |