The Battle of Neighborhoods

Introduction

Background

Bangalore officially known as Bengaluru, is the capital of the Indian state of Karnataka. It has a population of about 10 million and a metropolitan population of about 8.52 million, making it the third most populous city and fifth most populous urban agglomeration in India.

Bangalore is widely regarded as the "Silicon Valley of India" (or "IT capital of India") because of its role as the nation's leading information technology (IT) exporter. IT firms in Bangalore employ about 1.5 million employees in the IT and IT-enabled services sector.

Additionally, the headquarters of several public sector undertakings such as Bharat Electronics Limited (BEL), Hindustan Aeronautics Limited (HAL), National Aerospace Laboratories (NAL), Bharat Earth Movers Limited (BEML), Central Manufacturing Technology Institute (CMTI) and Indian Space Research Organisation (ISRO) are located in Bangalore. Bangalore also houses several research and development centres for many firms such as ABB, Airbus, Bosch, Boeing, General Electric, General Motors, Google, Liebherr-Aerospace, Microsoft, Mercedes-Benz, Nokia, Oracle, Philips, Shell, Toyota and Tyco.

(Reference: https://en.wikipedia.org/wiki/Bangalore).

Problem Description

The vast amount of job opportunities attracts workforce from all around the country as well as other parts of the state. The huge in-flow of people created a high demand for rental residential properties in Bangalore. This has resulted in a rapid growth of real estate in Bangalore resulting in an abundance of residential properties.

The business problem we will solve is: From the overabundant residential properties, how would the migrant workforce decide the most suitable location to rent residential properties.

This project explores different localities in Bangalore. We will cluster different localities based on rental rates and distribution of various facilities like schools, malls, parks, restaurants etc. available around the neighborhood. This would give a better understanding of the localities to make an informed decision on where to rent residential properties.

Data

- The rental rates data are extracted from the "Makaan.com" website (https://www.makaan.com/price-trends/property-rates-for-rent-in-bangalore). The website lists the average rental rates and rental rate range for 1BHK, 2BKH and 3BHK properties for different localities in Bangalore. Few rows of data from the website are shown below.

Locality Name	Rental Rates					
search locality in bangalore	1 BHk		2 BHK		3 BHK	
	Rent range	Avg rent	Rent range	Avg rent	Rent range	Avg rent
HSR Layout	₹ 5,750 - 40,000	₹ 17,662.94	₹ 17,000 - 50,000	₹ 26,700	₹ 32,000 - 1.2 L	₹ 58,46.51
Koramangala	₹ 7,000 - 45,000	₹ 17,144.21	₹ 14,000 - 60,000	₹ 29,525.64	₹ 23,000 - 1.2 L	₹ 53,621.62
Whitefield	₹ 5,499 - 1.6 L	₹ 13,416.07	₹ 6,500 - 49,000	₹ 18,346.65	₹ 21,000 - 50,000	₹ 37,33.33
Krishnarajapura	₹ 4,000 - 95,000	₹ 13,212.5	₹ 10,000 - 26,000	₹ 15,176.47	₹ 60,000 - 61,000	₹ 60,500
Begur	₹ 6,500 - 18,500	₹ 9,600	₹ 8,500 - 20,000	₹ 14,681.25	₹ 22,100	₹ 22,100

- We will use the average rental rates for our project as shown below.

	Locality	1BHK_Avg_Rent	2BHK_Avg_Rent	3BHK_Avg_Rent
0	HSR Layout	17,662.94	26,700	58,46.51
1	Koramangala	17,144.21	29,525.64	53,621.62
2	Whitefield	13,416.07	18,346.65	37,33.33
3	Krishnarajapura	13,212.5	15,176.47	60,500
4	Begur	9,600	14,681.25	22,100

- Python GeoPy package (Nominatim API) is used to get the Longitude and Latitude data of the localities in Bangalore.

- To explore the localities and their neighborhoods, we will use FourSquare API interface. FourSquare API will be used to get data on various facilities like schools, malls, parks, restaurants etc. available around the neighborhood.