**Prediction of the property price**

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***JULY 2020***

1. **Introduction:**

Chennai is a metropolitan city in Tamil Nadu, India with a population of about 11 million. According to the Indian census of 2011, Chennai is the sixth-most populous city and fourth-most populous urban agglomeration in India. Recent estimates of the entire Chennai Metropolitan Area economy is of the range from $78.6 to $86 billion, ranking it about fourth to sixth most productive metro area of India. Chennai had been nicknamed the Detroit of India owing to the operation of more than one-third of India's automobile industry in the city. As of 2012, the city is India's second-largest exporter of information technological (IT) products and business process outsourcing (BPO) services. Chennai is a city of dreams for anyone ranging from unskilled labourers to post doctorates and highly educated because of the booming growth of opportunities created by exponential increase of foreign investments in the city. As a proud citizen of this wonderful city I would like to quote a popular saying in our regional language (Tamil).

“Vantharai vazhaveikum singara Chennai”

Meaning, the land of hearts that makes the human existence beautiful. Many people from various cities of Tamil Nadu and other states settle in Chennai and would wish to buy a property that meets all their expectations.

* 1. **Problem statement:**

Chennai is one among the most expensive places to live in India. Buying a property or investing in real estate within the city limits is not a cake walk for relatively new settlers of the area. It is very important to ask around to obtain useful information about the price trends and the safety of the neighbourhood. A good investment in Chennai’s real estate is a great asset, but one can easily be misled by property brokers and end up buying a property that is incredibly overpriced.

* 1. **Interest:**

This machine learning model will be helpful to everyone who is interested in purchasing a property in the most popular places in Chennai. Property brokers might also be interested to monitor the cost trends in real time and also to convince the customers that the predicted price is a fair price.

1. **Data Collection:**

The data leveraged in the machine learning model is obtained from Kaggle. The data can be found [here](https://www.kaggle.com/nishant4k/chennai-house-pricing-). This dataset contains various data corresponding to seven most popular neighbourhoods of Chennai namely Anna Nagar, Chrompet, KK Nagar, T Nagar, Karapakkam, Adyar and Velacherry. This dataset does not include the important amenities around the area. Hence Foursquare API is used to get the neighbouring venues corresponding to the latitudes and longitudes of the area and the price per square feet of the property is predicted based on the data extracted.

* 1. **Data Description:**

The Chennai house pricing dataset consists of 22 attributes (columns) and 7109 records (rows) in the training set. Whereas the testing set has 21 attributes and 2925 records. Analysing the ‘AREA’ attribute of the training set, it contains seven unique neighbourhood names. The foursquare API is used to obtain the neighbouring venues corresponding to the coordinates of these locations for further analysis.