

House Price Prediction

Business Problem: House Price Prediction is one of the common problems. All the information about housing is available on different websites, as most of this information is public information. I will be trying to build a prediction model using which we can predict the housing price.

Dataset: I am planning to use Housing Price Prediction data, which has Housing Price along with 13 key features from kaggle.

<https://www.kaggle.com/datasets/harishkumardatalab/housing-price-prediction>

1. **Price:** The price of the house.
2. **Area:** The total area of the house in square feet.
3. **Bedrooms:** The number of bedrooms in the house.
4. **Bathrooms:** The number of bathrooms in the house.
5. **Stories:** The number of stories in the house.
6. **Mainroad:** Whether the house is connected to the main road (Yes/No).
7. **Guestroom:** Whether the house has a guest room (Yes/No).
8. **Basement:** Whether the house has a basement (Yes/No).
9. **Hot water heating:** Whether the house has a hot water heating system (Yes/No).
10. **Airconditioning:** Whether the house has an air conditioning system (Yes/No).
11. **Parking:** The number of parking spaces available within the house.
12. **Prefarea:** Whether the house is located in a preferred area (Yes/No).
13. **Furnishing status:** The furnishing status of the house (Fully Furnished, Semi-Furnished, Unfurnished).

Methods: I am planning to do some exploratory data analysis on house prices, to find what are the major factors that can influence house prices. I am also planning to fit a model to predict house pricing.

Ethical Considerations: One of the important ethical considerations on house price prediction is fair price, when this will be a product and available in the market, people will depend on this product to have an overall idea of the house price. If the price prediction is wrong, it will have an adverse impact on customers' expectations. Another major ethical constraint is the information being shared about the house, we must make sure the information about the house is correct, so that the prediction will be accurate.

Challenges/Issues: There could be many challenges in predicting the house price, one of the major challenges would be transforming the attributes to make meaningful attributes and how to use them in predicting the house price.

Another challenge could be identifying the model that will be used to predict the house price.

I am also planning to validate the predicted value using information from realtime market evaluation, so I will be doing some research on how to get the actual values of the prices to confirm, if the predictions are correct.

References: Below are a few of the articles I am referring to understand house price predictions.

- https://sist.sathyabama.ac.in/sist_naac/documents/1.3.4/1822-b.e-ece-batchno-120.pdf
- https://github.com/bibek376/Housing_Price_Prediction/blob/master/Machine_Learning_Model_Creation.ipynb
- <https://medium.com/@kaushiksimran827/house-price-prediction-a-simple-guide-with-scikit-learn-and-linear-regression-f91a27b9d650>