# Bangalore House Price Prediction

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## I. Literature Review

Bangalore is the fastest growing city in India due to the recent boom in the IT industry. This has caused a large influx of people from other states to Bangalore leading to a growth in price in the real estate market. Day-by-Day increases in living costs have also made renting apartments an infeasible task encouraging regular people to purchase property. The difficulty for regular people is to self-predict the value of a certain property and know it's true merit.

In this paper[1], they've opted to use Decision Tree Regressor which comes under Supervised Machine Learning algorithm as well as XG Boost which is a type of Ensemble learning which needs a set of machine learning algorithms for combining weak learners to form strong learners to increase the correctness of the model. With both Models, they claim to get high train accuracy.

For this Research Paper[2],they've chosen to implement Random Forest Regression and Decision Trees. Random Forest operates by constructing several decision trees during training time and outputting the mean of the classes as the prediction of all the trees, yet this paper also uses Decision Trees to get an even higher accuracy than other papers.

Whereas in this Paper[3], they've opted to use Gradient Boosting Algorithm The key idea for this algorithm is to set the target outcomes for this next model in order to minimize the error which sets a high accuracy value in comparison with other algorithms They also choose to implement ridge and lasso Regression.

Others[4],[5] have used various other Regression and Machine Learning Algorithms or subsets of previous explained Algorithms.

Predicting the price of a house with high accuracy is a very strenuous activity for regular people.Hence with the help of various Machine Learning and Regression Algorithms we are planning to predict the price of a house with high accuracy and Precision. With the help of this Model We aim to predict the cost of living in a particular area based on its per square feet price and other similar challenges.

There were a few challenges we came across while collecting Information for this Paper. Preprocessing of certain data was challenging as certain numeric columns were in different dimensions. Model doesn't show any significant linear relationship between the independent and dependent variables and hence regular linear regression would give poor precision. Due to this we resort to certain Machine Learning algorithms to improve our precision. Extracting and Collecting the Required Data to model this paper was tricky and difficult. Possible approaches we could use are Decision Trees, Neural Networks,K-Nearest Neighbours and Support Vector Machines. A comparison between these models would allow us to conclude with a high accuracy among these 4 algorithms. Our solution is not that much different from other existing models but we can aim to increase the test accuracy of the model.Most models have a testing accuracy of 60-65 percent hence we aim to achieve at least a greater accuracy.

## References

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