

## House Price Prediction Using Machine Learning: A Comparative Study of Lasso and Ridge Regression

Nandana Sasidharan

Department of Mathematics, Amrita School of Physical Sciences, Amrita Vishwa Vidhyapeetham,  
Kochi campus

Ardhra Anil

Department of Mathematics, Amrita School of Physical Sciences, Amrita Vishwa Vidhyapeetham,  
Kochi campus

### Abstract:

Determining the house prices manually is a complex and time consuming task due to the influence of multiple independent factors. In real estates market, buyers tend to compare the prices of different properties before making a final decision based on their needs and financial capabilities. As the property values depend on various attributes such as area, number of bedrooms, stories and other amenities. In this study, a housing dataset obtained from Kaggle is used consists of 13 features including the target variable, house price. An attempt has been made to develop an accurate predictive model for estimating the house prices based on the available features. To achieve this, two regularisation based techniques, namely Lasso Regression and Ridge Regression are applied. These techniques helps in addressing multicollinearity and reduces overfitting thereby enhancing the generalization ability of the model.

This study overall highlights the importances of regularisation techniques in building reliable and accurate house price prediction models and their potential for supporting decision making in real estates.

### Keywords:

House price prediction, Lasso Regression, Ridge Regression.