

MACHINE LEARNING

1: Least Square Error

2: Linear regression is sensitive to outliers

3: Negative

4: Both of them

5: High bias and high variance

6: Predictive model

7: Regularization

8: SMOTE

9: TPR and FPR

10: False

11: Apply PCA to project high dimensional data

12: We don't have to choose the learning rate

It becomes slow when number of features is very large

13: Regularizations are techniques used to reduce the error by fitting appropriately on given training set and avoid overfitting. When we use regression model to train data, there is a chance that model will overfit the given training data set. Regularization helps us to sort overfitting problem by restricting the degrees of freedom of a given equation. In a linear equation we don't want huge weights and coefficients as a small change in weight can make a large difference for the dependent variable so, regularization constraints the weight of such feature to avoid overfitting.

14: There are 3 Type of Regularization techniques

- LASSO (L1 form): LASSO regression penalizes the model based on the sum of magnitude of the coefficients. LASSO regression is that tends to make coefficients to absolute zero which are not contributing to predict label and act like feature selection.
- Ridge (L2 form): Ridge regression the model on the sum of square of magnitude of the coefficients. Ridge regression never set the value of coefficient to absolute zero.
- Elasticnet

15: The error term is difference between what the model is predicting and the actual value. This can range from being relatively small to huge. This error term helps in the calculation of the R squared value that tell us how good the model is overall. In linear model lesser the error better model.