

Machine learning work sheet-1

MCQ'S Answers:-

- 1)A
- 2)A
- 3)B
- 4)B
- 5)C
- 6)B
- 7)D
- 8)D
- 9)A
- 10)B
- 11)A and B
- 12)B and C

13)explain the term regularization?

Ans:- Regularization is one of the most important concepts of machine learning, it is a technique to prevent the model from overfitting by adding extra information to it. Sometimes the machine learning model performs well with the training data but does not perform well with the test data

In simple words "in regularization technique we reduce the magnitude of the features by keeping the same no of features.

14)which particular algorithms are used for regularization?

Ans:-Algorithms used in regularization are

- LASSO or L1 regularization
- RIDGE or L2 regularization
- ELASTIC-NET

LASSO:- it is technique used for reducing overfitting and also it acts as a feature selection.

RIDGE:- it is a method for analyzing data that suffer from multicollinearity.

In RIDGE regression the cost function is altered by adding a penalty equivalent to square of the magnitude of the coefficients .

ELASTIC-NET:-ELASTIC-NET is a regularized regression method that linearly combine the L1 and L2 penalties of the LASSO and RIDGE methods respectively

15) explain the term error present in linear regression ?

Ans:- the term error in linear regression is nothing but the difference between actual value and predicted value

Ex:- within a linear regression model predicting the chance of admission based on various scores of the students the term error is nothing but the difference between actual score and predicted score

Note:-in the linear regression there is a model evaluation techniques are there

They are:-

Mean absolute error(MAE):-Represents average error

Mean squared error(MSE):- similar to MAE but noise is exaggerated and larger errors are 'punished' it is harder to interpret than MAE as its not in base units however it is generally more popular

Root mean squared error(RMSE):- it is similar to MSE, however the result is square rooted to make it more interpretable as it's in base units it is recommended that RMSE be used as the primary metric to interpret your model