

1. Which of the following methods do we use to find the best fit line for data in Linear Regression? A) Least Square Error B) Maximum Likelihood C) Logarithmic Loss D) Both A and B

Answer: A) Least Square Error

2. Which of the following statement is true about outliers in linear regression?

A) Linear regression is sensitive to outliers B) linear regression is not sensitive to outliers C) Can't say D) none of these

Answer: A) Linear regression is sensitive to outliers

3.) A line falls from left to right if a slope is _____?

A) Positive B) Negative C) Zero D) Undefined

Answer: B) Negative

4.) Which of the following will have symmetric relation between dependent variable and independent variable?

A) Regression B) Correlation C) Both of them D) None of these

Answer: B) Correlation

5.) Which of the following is the reason for over fitting condition?

A) High bias and high variance B) Low bias and low variance C) Low bias and high variance D) none of these

Answer: C) Low bias and high variance

6.) If output involves label then that model is called as:

A) Descriptive model B) Predictive modal C) Reinforcement learning D) All of the above

Answer: B) Predictive model

7) Lasso and Ridge regression techniques belong to _____?

A) Cross validation B) Removing outliers C) SMOTE D) Regularization

Answer: D) Regularization

8.) To overcome with imbalance dataset which technique can be used?

A) Cross validation B) Regularization C) Kernel D) SMOTE

Answer: D) SMOTE

9.) The AUC Receiver Operator Characteristic (AUCROC) curve is an evaluation metric for binary classification problems. It uses _____ to make graph?

A) TPR and FPR B) Sensitivity and precision C) Sensitivity and Specificity D) Recall and precision

Answer: C) Sensitivity and Specificity

10.) In AUC Receiver Operator Characteristic (AUCROC) curve for the better model area under the curve should be less.

A) True B) False

Answer: B) False

11.) Pick the feature extraction from below:

A) Construction bag of words from a email B) Apply PCA to project high dimensional data C) Removing stop words D) Forward selection

Answer: B) Apply PCA to project high dimensional data

12.) 12. Which of the following is true about Normal Equation used to compute the coefficient of the Linear Regression?

A) We don't have to choose the learning rate. B) It becomes slow when number of features is very large. C) We need to iterate. D) It does not make use of dependent variable.

Answer: A) don't have to choose the learning rate. B) It becomes slow when number of features is very large.

Answer 13-> The technique to prevent the model from overfitting by adding extra information to it is termed as Regularization and it is one of the most important concepts of the machine learning. We can also say that by using this technique, we reduce the magnitude of the features by keeping the same number of features.

The term overfitted means, when the machine learning model is not able to predict the output when delas with unseen data by introducing disturbance like noise in the output. By using the technique Regularization We can deal with such kind of problems.

Answer 14-> The particular algorithms which are used for regularization are :-

1- Ridge regression (L2 Norm)

In this technique, we add the sum of weight's square to a loss function and thus create a new loss function which is denoted thus:

$$\text{Loss} = \sum_{j=1}^m \left(Y_i - W_0 - \sum_{i=1}^n W_i X_{ji} \right)^2 + \lambda \sum_{i=1}^n W_i^2$$

2- Lasso (L1 Norm)

This technique is different from ridge regression as it uses absolute weight values for normalization. λ is again a tuning parameter and behaves in the same as it does when using ridge regression.

$$\text{Loss} = \sum_{j=1}^m \left(Y_i - W_0 - \sum_{i=1}^n W_i X_{ji} \right)^2 + \lambda \sum_{i=1}^n |W_i|$$

3- Dropouts

This regularization technique used in neural networks. It prevents complex co-adaptations from other neurons.

Answer 15-> In statistics is a value which represents how observed data differs from actual data known as error It can also be a variable which represents how a given statistical model differs from reality. The error term is often written ϵ .

The error term includes everything that separates your model from actual reality. This means that it will reflect nonlinearities, unpredictable effects, measurement errors, and omitted variables.