

MACHINE LEARNING

In Q1 to Q11, only one option is correct, choose the correct option:

1. Which of the following methods do we use to find the best fit line for data in Linear Regression?
A) Least Square Error
2. Which of the following statement is true about outliers in linear regression?
A) Linear regression is sensitive to outliers
3. A line falls from left to right if a slope is _____?
B) Negative
4. Which of the following will have symmetric relation between dependent variable and independent variable?
B) Correlation
5. Which of the following is the reason for over fitting condition?
B) Low bias and low variance
6. If output involves label then that model is called as:
B) Predictive modal
7. Lasso and Ridge regression techniques belong to _____?
D) Regularization
8. To overcome with imbalance dataset which technique can be used?
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
10. In AUC Receiver Operator Characteristic (AUCROC) curve for the better model area under the curve should be less.
B) False
11. Pick the feature extraction from below:
Apply PCA to project high dimensional data

In Q12, more than one options are correct, choose all the correct options:

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.
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Q13 and Q15 are subjective answer type questions, Answer them briefly.

13. Explain the term regularization?

Regularizations are techniques used to reduce the error/adjusted loss function by fitting a function appropriately on the given training set and avoid overfitting or underfitting.

14. Which particular algorithms are used for regularization?

There are three main regularization techniques, namely:

Ridge Regression (L2 Norm)- Ridge regression adds “*squared magnitude*” of coefficient as penalty term to the loss function(L).

Lasso (L1 Norm) - adds “*absolute value of magnitude*” of coefficient as penalty term to the loss function(L).

15. Explain the term error present in linear regression equation?

The error term of a regression equation represents all of the variation in the dependent variable not explained by the weighted independent variables.
