MACHINE LEARNING

Q1
A
Q2
A
W
Q3
B
Q4
D
Q5
C
Q6
B
Q7
D
Q8
D
Q9
A
Q10
B
Q11
A,B,C,D
Q12
A, B,D

13. Explain the term regularization?

Regularization is a technique in machine learning to prevent overfitting, which occurs when a model proves to be too closely fitted to training data and does not generalize well to new data. Regularization adds a penalty term to the loss function of a learning algorithm, which discourages the model from assigning too much importance to any feature. A regularization technique or method, therefore, aims to avoid overfitting and make the training data fit well

14. Which particular algorithms are used for regularization?

1. L1 regularization (Lasso regression) - This algorithm adds an L1 penalty term to the cost function to encourage the model to reduce coefficients to zero, effectively removing some features from the model.

2. L2 regularization (Ridge regression) - This algorithm adds an L2 penalty term to the cost function to encourage the model to reduce coefficients to smaller values, but not necessarily to zero, effectively reducing the impact of some features in the model.

3. ElasticNet - This algorithm is a combination of L1 and L2 regularization that encourages sparsity and reduces the impact of irrelevant features.

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

In a linear regression equation, the term "error" refers to the difference between the predicted value and the actual value of the dependent variable.

The error term in the linear regression equation stands for the difference between the predicted value and the actual value of y, also known as the "residuals". The overall goal of the linear regression model is to minimize the sum of squared residuals, which can be achieved by finding the best-fit line that minimizes the distance between the actual data points and the predicted line.

The error term in a linear regression equation is an important measure of the model's accuracy and is used to evaluate the model's performance. A good linear regression model should have a low error term, showing that the predicted values are close to the actual values.