

MACHINE LEARNING WORKSHEET-1

Answers:

1. A (Least square error)
2. A (Linear regression is sensitive to outliers)
3. B (Negative)
4. B (Correlation)
5. C (Low bias and high variance)
6. B (Predictive model)
7. D (Regularization)
8. D (SMOTE)
9. C (Sensitivity and Specificity)
10. B (False)
11. B (Apply PCA to project high dimensional data)
12. A (We don't have to choose the learning rate)

B (It becomes slow when number of features is very large)

13: Regularization in machine learning is a form of regression that constrains, regularizes or shrinks the coefficient estimates towards zero. This technique discourages learning a more complex or flexible model, so as to avoid the risk of overfitting.

14: In regularization, there are few algorithms like LASSO, Ridge and Elastic-Net regression.

Lasso: also known as Least Absolute Shrinkage and Selection Operator. It uses L1 Regularization technique. It adds "Absolute value of magnitude" of coefficient, as penalty term to the loss function

Ridge regression: It uses L2 regularization. This regularization adds the penalty as model complexity increases. Ridge regression adds "Squared magnitude of the coefficient" as penalty term to the loss function.

ElasticNet: it is the combination of both Lasso and Ridge, it can perform the same in combined like reducing the coefficient or omitting the row as per the fitting type.

15: An error term essentially means that the model is not completely accurate and the result in differing results during real-world applications. It refers to the sum of the deviations within the regression line, which provides an explanation for the difference between the theoretical value of the model and the actual observed results.

