

Machine Learning Assignment

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 |

Ans- 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 |

Ans- 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 |

Ans- 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 |

Ans- 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 |

Ans- 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 |

Ans- B) Predictive modal

7. Lasso and Ridge regression techniques belong to _____?
- | | |
|---------------------|----------------------|
| A) Cross validation | B) Removing outliers |
| C) SMOTE | D) Regularization |

Ans- D) Regularization

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8. To overcome with imbalance dataset which technique can be used?
- A) Cross validation
 - B) Regularization
 - C) Kernel
 - D) SMOTE

Ans-A) Cross validation

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

Ans- A) TPR and FPR

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

Ans- 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

Ans- B) Apply PCA to project high dimensional data

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.

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

13. Explain the term regularization?

Ans- Regularizations are techniques used to reduce the error by fitting a function appropriately on the given training set to avoid overfitting or underfitting. The word regularize means to make things regular or acceptable.

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14. Which particular algorithms are used for regularization?

Ans- Lasso and Ridge regression techniques are used for regularization.

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

Ans- It is the average distance between the actual value of the label (response/target variable) and the predicted value of label through the regression line.