Machine Learning

1. a. Least square method.

2. a. Linear regression is sensitive to outliers.

3. a. positive

4. c. Both of them.

5. a. High bias and high variance.

6. d. All of the above.

7. a. cross validation.

8. d. SMOTE

9. a. TPR and FPR

10. b. False.

11. a, b and c.

12. a, b and c.

13. Regularization:

Regularization is a technique used to reduce the errors by fitting the extra information appropriately on the given training set and avoid overfitting. Regularization is a form of regression that shrinks the coefficient estimates towards zero. Overfitting hinders the accuracy of the model as the model fails to predict correct for the unseen data.

14. Algorithms used for Regularization:

Mainly there are two types of regularization data:

1. Ridge Regression- Ridge regression is one of the linear regression in which we introduce a small amount of bias, known as Ridge regression penalty to get long term predications.

2. LASSO Regression- LASSO(Least Absolute and Selection Operator) is similar to Ridge Regression but includes absolute weights instead of the square of weights. This penalty weights forces some co efficient estimates to be exactly equal to zero which is complete removal of some of the features for model evaluation when tuning parameter lambda is sufficiently large.

15. Error in Linear Regression:

Linear Regression model uses Mean-Square error method to calculate the error of the model. this error is calculated as follows:

1. Measuring the distance of the observed y-values from the predicted y-values at each value of x.

2. Squaring each of these distances.

3.calculating the mean of each of the squared distances.