Answer for Machine Learning Assignment

1. A) Least Square Error
2. A) Linear regression is sensitive to outliers
3. B) Negative
4. A) Regression
5. C) Low bias and High variance
6. B) Predictive Modal
7. D) Regularization
8. A) Cross Validation
9. A) TPR and FPR
10. A) True
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. Explain the term regularization?

    Regularization is a set of methods for reducing overfitting in machine learning models. Typically, regularization trades a marginal decrease in training accuracy for an increase in generalizability. Regularization encompasses a range of techniques to correct for overfitting in machine learning models.
    The regularization term, or penalty, imposes a cost on the optimization function to make the optimal solution unique. Implicit regularization is all other forms of regularization. This includes, for example, early stopping, using a robust loss function, and discarding outliers.

14. Which particular algorithms are used for regularization?

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

An error term represents the margin of error within a statistical model, 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.
If your model specification, your decision to use linear regression, is a good one then the difference between your model estimate and what is actually observed is small. This difference is the error. It is used to account for the difference between what is observed and what your model estimates.

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