Machine_Learning_1_Assignment

March 14, 2019

1 1. What are the three stages to build the hypotheses or model in machine learning?

i) Model Builing
ii) Model Testing
iii) Applying the model

2 2. What is the standard approach to supervised learning?

The standard approach to supervised learning is to split the data set into training set and the test.

3 3. What is Training set and Test set?

Training set: In machine Learning, a set of data used to discover the potentially predictive relationship is known as the "Training Set".Training set is examples given to the learner.

Test set: Test set is is a distinct set of data from the training set and is used to test the accuracy of the hypotheses generated by the learner.Test set is a set of example held back from the learner.

4 4. What is the general principle of an ensemble method and what is bagging and boosting in ensemble method?

The general principle of an ensemble method is to combine the predictions of several models built with a given learning algorithm in order to improve robustness over a single model.

Bagging is a method in ensemble for improving unstable estimation or classification schemes.

Boosting method is used sequentially to reduce the bias of the combined model.

Bagging and boosting both can reduce errors by reducing the variance term.

5 5. How can you avoid overfitting ?

i) Overfitting can be avoided by using a lot of data.Usually when we use a very small set of data to train our model.
ii) In such cases to avoid overfitting we can use a technique called cross validation.