Machine Learning (CS1741) Quiz-II

Total Marks: 5 Each question carries equal marks (1).
Time: 10 Mints

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Points: 4/5

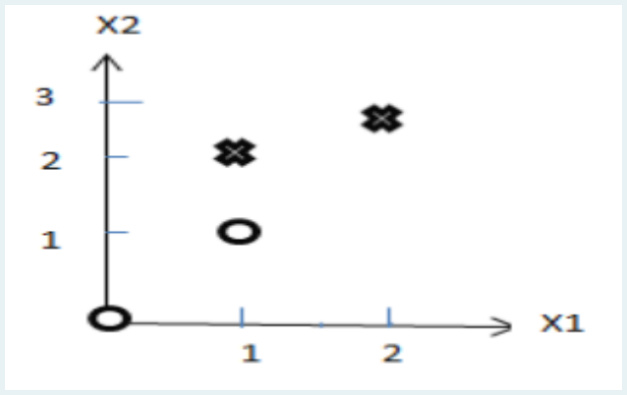
1

A perceptron with 4 inputs has the weight vector w = [1 2 3 4]T. The activation function is linear and given by f(yin) = 2yin. If the input vector is X = [5 6 7 8] T, then find the output of the neuron.
(1/1 Points)

- 70
- 128
- 140 ✓
- 64

2

Consider the following two-class data set as shown in Figure. Just by visual inspection, find the decision boundary learnt by SVM. [X - Class 1 and O - Class 0].
(1/1 Points)



- $X_1 = 1.5$
- $X_2 = 1.5$ ✓
- $X_1 + X_2 = 1.5$
- *None of these*

✕

3

Logistic Regression transforms the output probability to be in a range of [0, 1]. Which of the following function is used by logistic regression to convert the probability in the range between [0, 1].
(0/1 Points)

- Sigmoid ✓
- Mode
- Square
- All of the above

4

Which of the following is true about classification ?
(1/1 Points)

- It concerns finding decision boundaries that can be used to separate out different classes.
- Non-linear decision boundaries can solve more complex problems than linear boundaries (straight lines).
- A test set is more relevant for testing generalization than the training set.
- All of the above. ✓

5

What do you mean by a hard margin in SVM?
(1/1 Points)

- The SVM allows very low error in classification. ✓
- (B)The SVM allows high amount of error in classification.
- The SVM allows moderate error in classification.
- None of the above