Quiz- 04 (SVM)

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Your answer

_____is used to learn a linear classifier to classify a non-linear dataset * 1 point

- A) class variable
- B) dependent features
- C) kernel trick
- D) none of these

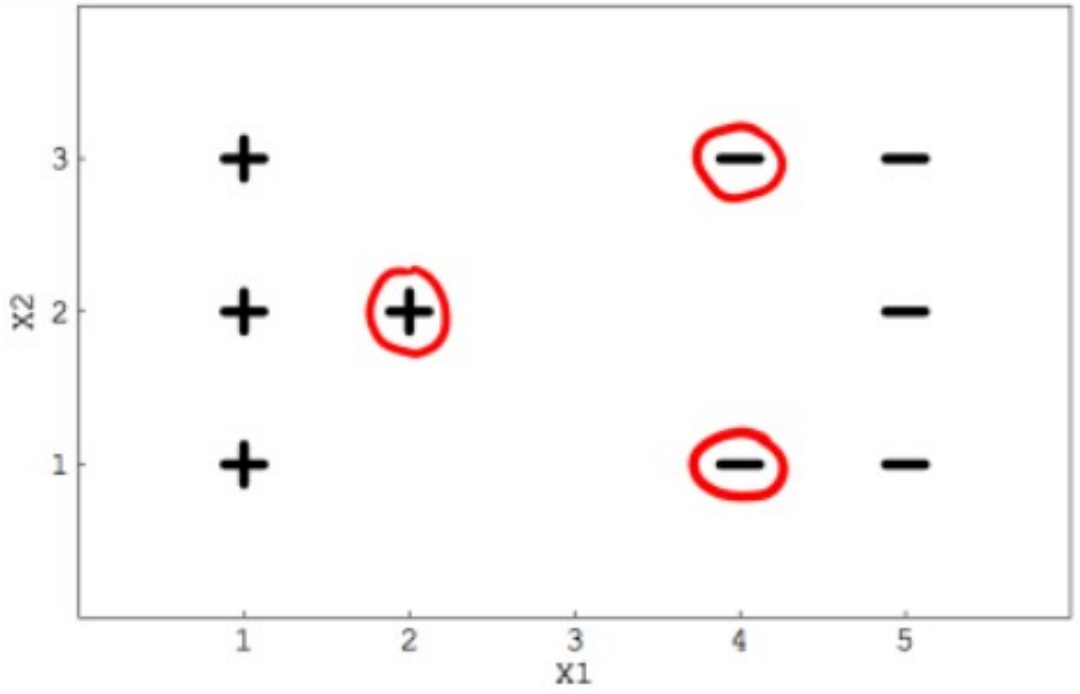
If I am using all features of my dataset and I achieve 100% accuracy on my training set, but ~70% on validation set, what should I look out for? * 1 point

- A) Underfitting
- B) Nothing, the model is perfect
- C) Overfitting

The SVM's are less effective when: * 1 point

- A) The data is linearly separable
- B) The data is clean and ready to use
- C) The data is noisy and contains overlapping points

If you remove the non-red circled points from the data, the decision boundary will change? * 1 point



- ◯ True
- ◯ False

What are support vectors? * 1 point

- ◯ These are the datapoints which help the SVM to generate optimal hyperplane.
- ◯ It is an intermediate vector generated during calculation of optimal hyperplane
- ◯ In SVM all the data points are called support vectors.
- ◯ This are predefined vectors used in calculating hyperplane

support vector machines is _____ 1 point

- A) classification learning
- B) Unsupervised Machine Learning
- C) Supervised Machine Learning
- D) reinforcement learning

In SVM, if the number of input features is 2, then the hyperplane is a _____. * 1 point

- (A) line
- (B) circle
- (C) plane
- (D) None of these

SVM, which best segregates classes into how many classes? * 1 point

- a. One
- b. Two
- c. Three
- d. Four

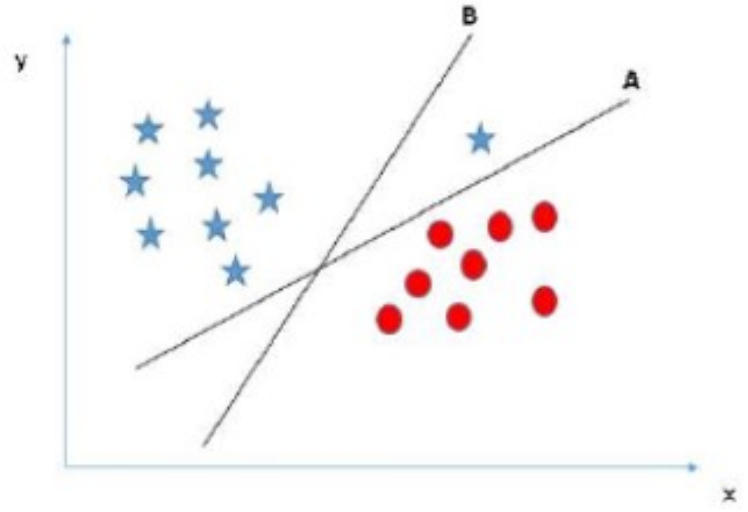
As the number of training examples goes to infinity, your model trained on that data will have: * 1 point

- a) Lower variance
- b) Higher variance
- c) Same variance
- d) None of the above

Linear separator, Hyper plane * 1 point

- a. f(x)=sign(w/x+b)
- b. f(x)=sign(w+x+b)
- c. f{x)=sign(w.x+b)
- d. f(x)=sign(w-x+b)

Which hyperplane better segregates the two classes using SVM? * 1 point



- ◯ Hyperplane A
- ◯ Hyperplane B

Which of the following is/are true regarding an SVM? * 1 point

- ◯ a) For two dimensional data points, the separating hyperplane learnt by a linear SVM will be a straight line.
- ◯ b) In theory, a Gaussian kernel SVM cannot model any complex separating hyperplane.
- ◯ c) For every kernel function used in a SVM, one can obtain an equivalent closed form basis expansion.
- ◯ d) Overfitting in an SVM is not a function of number of support vectors.

SVM is termed as _____ classifier * 1 point

- ○ Minimum margin
- ○ Maximum margin

What is the purpose of the Kernel Trick? * 1 point

- ○ To transform the problem from nonlinear to linear
- ○ To transform the problem from regression to classification
- ○ To transform the data from nonlinearly separable to linearly separable
- ○ To transform the problem from supervised to unsupervised learning.

Why SVM's are more accurate than logistic regression? * 1 point

- ○ SVM gives more weightage to wrongly classified data points.
- ○ SVM gives more weightages to data points which are correctively classified .
- ○ SVM uses all the data points assuming a probabilistic model.
- ◉ SVM uses concept of large margin seperator and for non linearity it uses kernel functions

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