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Week 6 Quiz

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Text Input

1/1 point (graded)

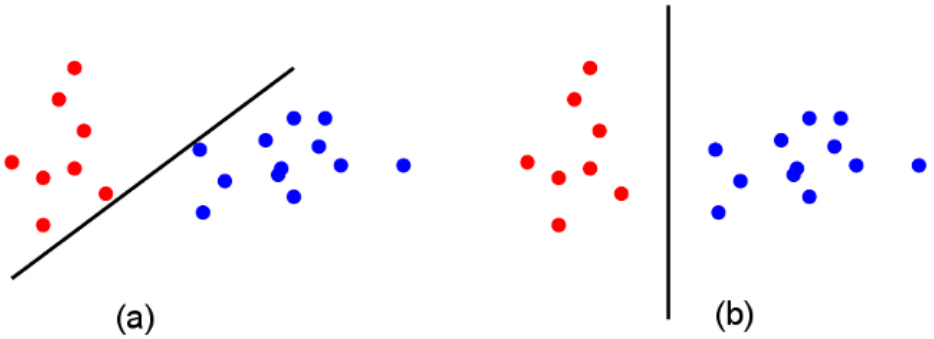
The Euclidean distance of the data point closest to the decision boundary of a classifier is called the _____.

margin ✔

Submit You have used 1 of 1 attempt

Multiple Choice

1/1 point (graded)



Which figure could correspond to the decision boundary of a support vector machine?

- (a)
- (b) ✔
- both
- neither

Submit You have used 1 of 1 attempt

Multiple Choice

1/1 point (graded)

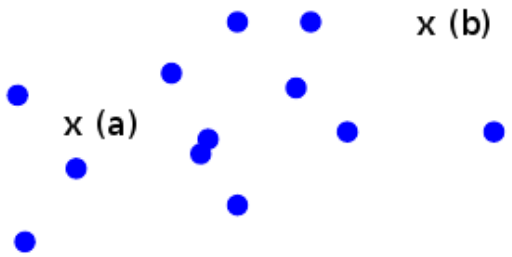
The support vector machine finds the decision boundary that minimizes the probability of making a classification error.

- TRUE
- FALSE ✔

Submit You have used 1 of 1 attempt

Multiple Choice

1/1 point (graded)



The figure contains a data set defined by the blue dots. Also shown in the figure are two locations marked by an "x" with a corresponding label. Which point(s), if any, are contained in the convex hull defined by the blue data points?

- (a) ✔
- (b)
- both
- neither

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Dropdown

1/1 point (graded)

The support vector machine defines a _____ objective function whose _____ optimal solution can be found using algorithmic techniques.

convex, globally ✔

Submit You have used 1 of 1 attempt

Numerical Input

1/1 point (graded)

In a binary decision tree, every internal node has _____ children.

2 ✔

2

Submit You have used 1 of 1 attempt

Multiple Choice

1/1 point (graded)

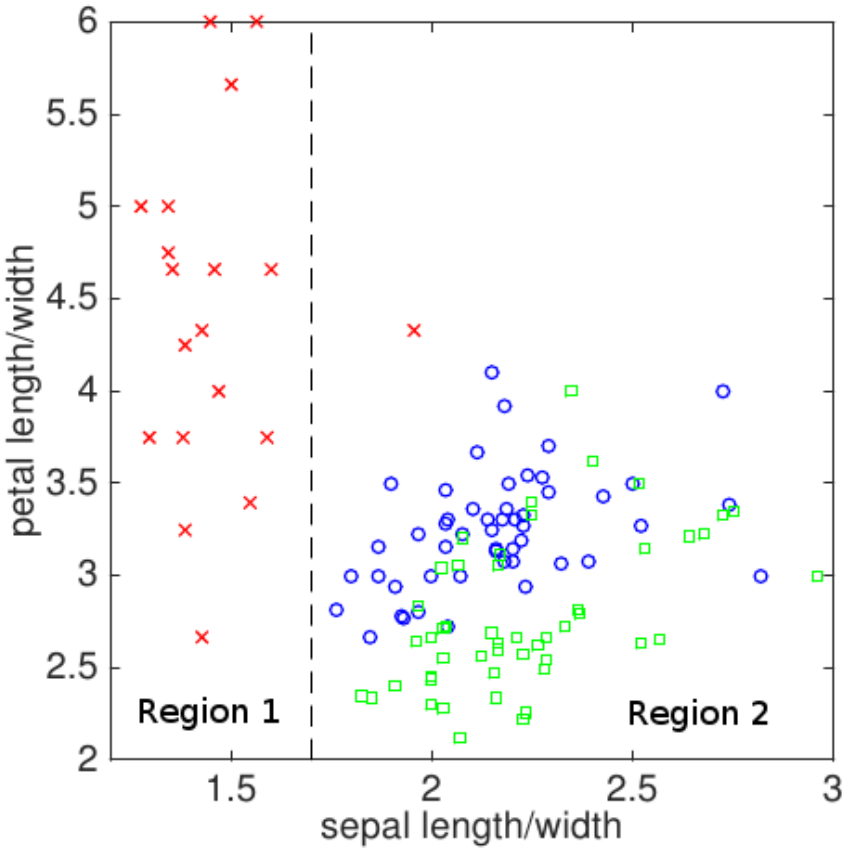
As the complexity of a model increases to the point where overfitting occurs, continuing to increase the model complexity will cause the training error to _(a)_ and the testing error to _(b)_.

- (a) decrease, (b) decrease
- (a) increase, (b) decrease
- (a) decrease, (b) increase ✔
- (a) increase, (b) increase

Submit You have used 1 of 1 attempt

Multiple Choice

1/1 point (graded)



In the figure shown, along which dimension and in which region would the next split most likely be made when constructing a binary decision tree?

- In Region 1 along the "petal" dimension
- In Region 2 along the "petal" dimension ✔
- In Region 1 along the "sepal" dimension
- In Region 2 along the "sepal" dimension

Submit You have used 1 of 1 attempt

Text Input

2.0/2.0 points (graded)

(In this problem, the answers should be a single word based on concepts we discussed this week.)

The procedure of resampling from a data set in order to calculate multiple instances of a statistic is called:

bootstrap ✔

The procedure of combining multiple classifiers in a majority vote is called:

bagging ✔

Submit You have used 1 of 1 attempt