socrative

ML Nov. 20 Score:

1. Support vector machines always find linear decision boundaries in the original feature space.

A True

B False

2. Support vectors are the positives and negatives used to form the decision boundary.

A True

B False

3. Support vector machines minimize the margin between positive and negative samples.

A True

B False

4. Support vector machines minimize the magnitude of the weight vector.

A True

B False

5. What is the kernel trick?

A Lifting points to a higher-dimensional space

B Not having to define the lifting function explicitly for a single argument

C Letting the method figure out the right lifting transformation

6. Support vectors have non-zero alpha weights.

A True

B False

7. For most neural networks, the outputs are a linear combination of the inputs (i.e. y = W * x).

A True

B False

8. We have a network with 3 inputs (no bias) and 2 hidden neurons in a single hidden layer. w(1)11 = 0.1, w(1)12 = 0.2, w(1)13 = 0.7, x1 = 10, x2 = 10, x3 = 0. At the hidden layer, we have h(a) = a^2 (a-squared). What is z1 equal to?

A) 1

B) 3

C) 9

D) 20

9. To train a network, we compute a set of quantities delta, which we use to update the weights. For which nodes do we compute delta first?

A) inputs

B) hidden

C) outputs

10. The loss is a function of the activations at the hidden layer, which are a function of the weights, so we need to compute: dE/dzj * dzj/daj * daj/dwji

A) True

B) False

11. We might use backprop of error to compute the value for which of the above quantities?

A) dE/dzj

B) dzj/daj

C) daj/dwji

12. What is the key intuition for using ensembles?

A) the imperfect individual learners will make uncorrelated mistakes

B) we will only include very strong individual learners

C) individual learners will rely on each others' answers to collectively perform better