Shashank Shekhar **ECE542_Lobaton**
Assignment Homework5 due 02/21/2019 at 08:00pm EST

1. (2 points) The perceptron algorithm was used for training of a single neuron with a hard threshold for binary classification tasks. Which is an assumption used for this algorithm to converge?

- **A**. The data can be represented using linear models.
- **B**. The learning rate has to be equal to 1.
- **C**. There exists a single line (or hyper-plane) that separates the points from both classes.
- **D**. The data is linearly separable.
- **E**. The initial value for the weight vector w has to be set to zero.

Answer(s) submitted:

- D

(correct)

2. (2 points) Which regularization penalty encourage sparsity?

- **A**. L1 penalty.
- **B**. L2 penalty.
- **C**. Square penalty.
- **D**. Lp penalty for p¿2.

Answer(s) submitted:

- A

(correct)

3. (2 points) When performing dropout, what component from the network is dropped randomly?

- **A**. Neurons in a layer
- **B**. Inputs for neuron
- **C**. Biases in the neuron
- **D**. Weight matrices in the neurons
- **E**. Inputs for the network

Answer(s) submitted:

- A

(correct)

4. (2 points) For the variational adversarial generation strategy, did this approach ensure finding an adversarial sample for every possibly input?

- **A**. Yes
- **B**. No
- **C**. Sometimes
- **D**. For some family of inputs

Answer(s) submitted:

- A

(correct)

5. (2 points) For the differential adversarial generation strategy, did this approach ensure finding an adversarial sample for every possible input?

- **A**. Yes
- **B**. No
- **C**. Sometimes
- **D**. For some family of inputs

Answer(s) submitted:

- B

(correct)

Generated by ©WeBWorK, http://webwork.maa.org, Mathematical Association of America