Neural Networks: Representation

Latest Submission Grade
80%
1.
Question 1

Which of the following statements are true? Check all that apply.

0 / 1 point
Incorrect
2.
Question 2

Consider the following neural network which takes two binary-valued inputs x1,x2∈{0,1}x_1, x_2 \in \{0, 1\}x1,x2∈{0,1} and outputs hΘ(x)h_\Theta(x)hΘ(x). Which of the following logical functions does it (approximately) compute?

1 / 1 point
Correct
3.
Question 3

Consider the neural network given below. Which of the following equations correctly computes the activation a1(3)a_1^{(3)}a1(3)? Note: g(z)g(z)g(z) is the sigmoid activation function.

1 / 1 point
Correct
4.
Question 4

You have the following neural network:

You'd like to compute the activations of the hidden layer a(2)∈R3a^{(2)} \in \mathbb{R}^3a(2)∈R3. One way to do so is the following Octave code:

You want to have a vectorized implementation of this (i.e., one that does not use for loops). Which of the following implementations correctly compute a(2)a^{(2)}a(2)? Check all that apply.

1 / 1 point

Correct

5.

Question 5

You are using the neural network pictured below and have learned the parameters Θ(1)=[12.11.310.6−1.2]\Theta^{(1)} =

12.11.310.6−1.2

Θ(1)=[112.10.61.3−1.2] (used to compute a(2)a^{(2)}a(2)) and Θ(2)=[14.53.1]\Theta^{(2)} =

14.53.1

Θ(2)=[14.53.1] (used to compute a(3)a^{(3)}a(3)} as a function of a(2)a^{(2)}a(2)). Suppose you swap the parameters for the first hidden layer between its two units so Θ(1)=[10.6−1.212.11.3]\Theta^{(1)} =

10.6−1.212.11.3

Θ(1)=[110.62.1−1.21.3] and also swap the output layer so Θ(2)=[13.14.5]\Theta^{(2)} =

13.14.5

Θ(2)=[13.14.5]. How will this change the value of the output hΘ(x)h_\Theta(x)hΘ(x)?

1 / 1 point

Correct