Neural Networks: Learning
Graded Quiz • 10 min

Due Jan 27, 1:59 AM CST

Congratulations! You passed!

TO PASS 80% or higher

Keep Learning

GRADE 100%

Neural Networks: Learning

Neural Networks: Learning

LATEST SUBMISSION GRADE

100% **Submit your assignment**

Try again

DUE Jan 27, 1:59 AM CST **ATTEMPTS** 3 every 8 hours

1. **You are training a three layer neural network and would like to use backpropagation to compute the gradient of the cost function. In the backpropagation algorithm, one of the steps is to update**

1 / 1 point

Receive grade

Grade 100%

View Feedback

We keep your highest score

TO PASS 80% or higher

$$\Delta_{ij}^{(2)} := \Delta_{ij}^{(2)} + \delta_i^{(3)} * (a^{(2)})_j$$

for every i, j. Which of the following is a correct vectorization of this step?

- $\Delta^{(2)} := \Delta^{(2)} + (a^{(2)})^T * \delta^{(3)}$
- **(selected)** $\Delta^{(2)} := \Delta^{(2)} + \delta^{(3)} * (a^{(2)})^T$
- $\Delta^{(2)} := \Delta^{(2)} + (a^{(3)})^T * \delta^{(2)}$
- $\Delta^{(2)} := \Delta^{(2)} + \delta^{(3)} * (a^{(3)})^T$

Correct

This version is correct, as it takes the "outer product" of the two vectors $\delta^{(3)}$ and $a^{(2)}$ which is a matrix such that the (i, j)-th entry is $\delta_i^{(3)} * (a^{(2)})_j$ as desired.

2. **Suppose `Theta1` is a 5x3 matrix, and `Theta2` is a 4x6 matrix. You set `thetaVec = [Theta1(:); Theta2(:)]`. Which of the following correctly recovers `Theta2`?**

1 / 1 point

- **(selected)** `reshape(thetaVec(16 : 39), 4, 6)`