Multilayer perceptron

Quiz, 4 questions

1 point

1.

Choose the correct statements about MLP

- [ ] The first hidden layer contains predictions for your task
- [ ] MLP with a linear activation function is better than a linear model
- [ ] MLP can have only 1 hidden layer
- [ ] We can train MLP with SGD
- [ ] A hidden layer of MLP automatically learns new helpful features for the task

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1 point

2.

Apply a chain rule to calculate $\frac{\partial a}{\partial x}$ where $a(x, y) = sin(xy) \cdot e^x$.

Here is an example of the syntax: sin(x*y)*exp(x), more info here

Preview

$$ye^x \cos(xy) + e^x \sin(xy)$$

sin(x*y) * exp(x) + y*cos(x*y)*exp(x)

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1 point

3.

Choose the correct statements about backpropagation

- [ ] You can use non-differentiable loss to train your MLP
- [ ] It is the way to train modern neural networks
- [ ]

It is done in one pass

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It is an efficient way to apply a chain rule

1 point

4.

What is the time complexity of backpropagation algorithm w.r.t. number of edges N in the computational graph?

- $O(N)$
- $O(N!)$
- $O(log(N))$
- $O(N^2)$

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