COMP4432 Quiz 2

Submit your answer before 3:30am today!

Hi, Fu Lai Korris. When you submit this form, the owner will see your name and email address.

1. Is the step activation function (see slide 6 of NN lecture notes) differentiable? (Choose the best answer) (1 Point)

- ○ Yes
- ○ No
- ◉ Yes, it is differentiable at all the points except 0.
- ○ None of the above

Yes, it is differentiable at all the points except 0.

2. Can a Perceptron be made to form non-linear decision boundary? (Choose the best answer) (1 Point)

- ◉ Yes, when we have more input nodes like a derived one x1*x1 (i.e. x1^2)
- ○ No
- ○ Yes, when the input dimensionality is sufficiently high.
- ○ None of the above

Yes, when we have more input nodes like a derived one (e.g., $x_i^2, x_i^2 \cdot x_j^2$). Please also check with the MLP demo link with x1·x2 for solving an XOR-like problem by no hidden layer)

3. Is it necessarily true that we can achieve better generalization performance (i.e. better performance for unseen data) when a multilayer perceptron (MLP) is trained with more iterations? (Choose the best answer) (1 Point)

- ○ Yes
- ◉ No
- ○ Yes, if the training time is sufficiently long
- ○ None of the above

No. Training with more iterations can lead to over-training as mentioned in lecture notes.

Some statistics for your reference:

COMP4432 Quiz 2

82	0	Active
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1. Is the step activation function (see slide 6 of NN lecture notes) differentiable? (Choose the best answer) (1 point)

More Details

Yes	6
No	40
Yes, it is differentiable at all the ...	35
None of the above	1

2. Can a Perceptron be made to form non-linear decision boundary? (Choose the best answer) (1 point)

More Details | Insights

Yes, when we have more input n...	47
No	19
Yes, when the input dimensional...	14
None of the above	2

3. Is it necessarily true that we can achieve better generalization performance (i.e. better performance for unseen data) when a multilayer perceptron (MLP) is trained with more iterations? (Choose the best answer) (1 point)

More Details

Yes	0
No	69
Yes, if the training time is suffici...	9
None of the above	4