



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 $x_1 \cdot x_1$ (i.e. x_1^2)
- ☐ 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 $x_1 \cdot x_2$ 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

Responses

0


Average Score

Active

Status

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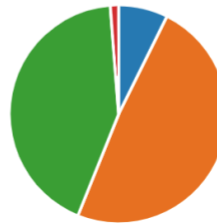
[Post scores](#)

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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](#)

<input type="radio"/> Yes	6
<input type="radio"/> No	40
<input type="radio"/> Yes, it is differentiable at all the ...	35
<input type="radio"/> 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](#)

<input type="radio"/> Yes, when we have more input n...	47
<input type="radio"/> No	19
<input type="radio"/> Yes, when the input dimensional...	14
<input type="radio"/> 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](#)

<input type="radio"/> Yes	0
<input type="radio"/> No	69
<input type="radio"/> Yes, if the training time is suffici...	9
<input type="radio"/> None of the above	4

