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Quang Minh Vũ

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10 questions

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# Introduction to Deep Learning

Quiz 20 minutes • 20 min

**Submit your assignment**

**Due** April 11, 1:59 PM +07 Apr 11, 1:59 PM +07

Attempts 3 every 8 hours

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To Pass 80% or higher

**Your grade**

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# Introduction to Deep Learning

Graded Quiz • 20 min

Due Apr 11, 1:59 PM +07

**Congratulations! You passed!**

Grade received 88.50%

To pass 80% or higher

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## Introduction to Deep Learning

Latest Submission Grade 88.5%

1.

### Question 1

What does the analogy “AI is the new electricity” refer to?

1 / 1 point

☒

Similar to electricity starting about 100 years ago, AI is transforming multiple industries.

☐

AI runs on computers and is thus powered by electricity, but it is letting computers do things not possible before.

☐

AI is powering personal devices in our homes and offices, similar to electricity.

☐

Through the “smart grid”, AI is delivering a new wave of electricity.

**Correct**

Yes. AI is transforming many fields from the car industry to agriculture to supply-chain...

2.

### Question 2

Which of the following play a major role to achieve a very high level of performance with Deep Learning algorithms?

0.6 / 1 point

☐

Smaller models.



Better designed features to use.



Large amounts of data.



Large models.



Deep learning has resulted in significant improvements in important applications such as online advertising, speech recognition, and image recognition.

**Correct**

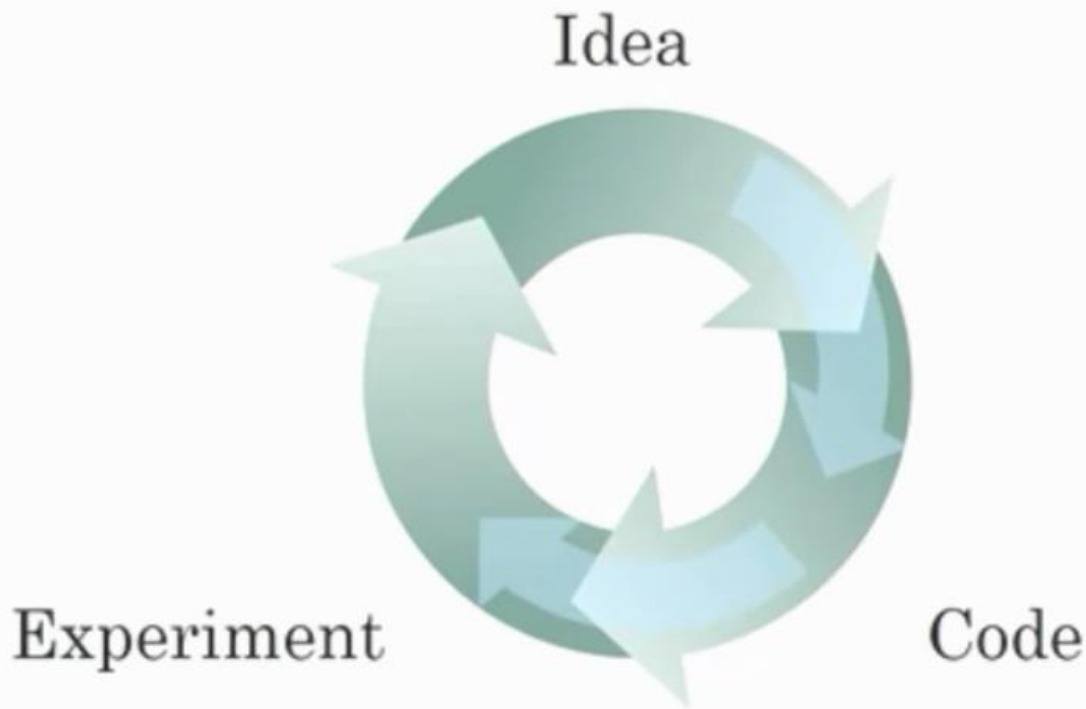
These were all examples discussed in lecture 3.

You didn't select all the correct answers

**3.**

**Question 3**

Recall this diagram of iterating over different ML ideas. Which of the statements below are true?  
(Check all that apply.)



**0.75 / 1 point**



Better algorithms allow engineers to get more data and then produce better Deep Learning models.



Larger amounts of data allow researchers to try more ideas and then produce better algorithms in less time.



Better algorithms can speed up the iterative process by reducing the necessary computation time.

**Correct**

Yes. Recall how the introduction of the ReLU activation function helped reduce the time needed to train a model.



Improvements in the GPU/CPU hardware enable the discovery of better Deep Learning algorithms. You didn't select all the correct answers

**4.**

**Question 4**

Neural networks are good at figuring out functions relating an input  $xx$  to an output  $yy$  given enough examples. True/False?

**1 / 1 point**



True



False

**Correct**

Exactly, with neural networks, we don't need to "design" features by ourselves. The neural network figures out the necessary relations given enough data.

**5.**

**Question 5**

ReLU stands for which of the following?

**1 / 1 point**



Rectified Last Unit



Representation Linear Unit



Recognition Linear Unit



Rectified Linear Unit

**Correct**

Correct, ReLU stands for Rectified Linear Unit.

**6.**

**Question 6**

Images for cat recognition is an example of "structured" data, because it is represented as a structured array in a computer. True/False?

**1 / 1 point**



False



True

**Correct**

Yes. Images for cat recognition are examples of "unstructured" data.

**7.**

**Question 7**

A dataset is composed of age and weight data for several people. This dataset is an example of "structured" data because it is represented as an array in a computer. True/False?

**1 / 1 point**



False



True

**Correct**

Yes, the sequences can be represented as arrays in a computer. This is an example of structured data.

**8.**

**Question 8**

Why can an RNN (Recurrent Neural Network) be used to create English captions to French movies? Choose all that apply.

**1 / 1 point**



The RNN is applicable since the input and output of the problem are sequences.

**Correct**

Yes, an RNN can map from a sequence of sounds (or audio files) to a sequence of words (the caption).



RNNs are much more powerful than a Convolutional neural Network (CNN).



The RNN requires a small number of examples.



It can be trained as a supervised learning problem.

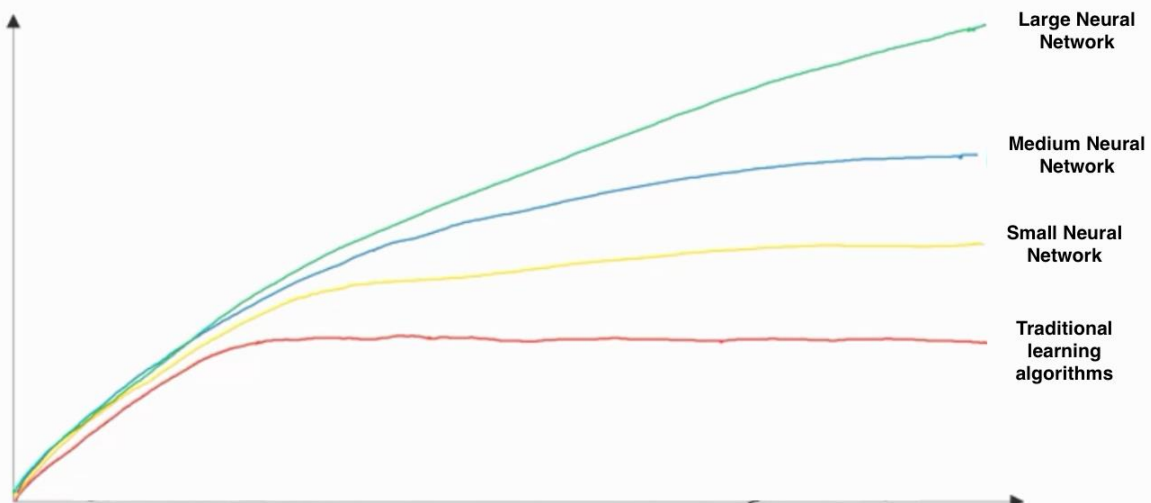
**Correct**

Yes, the data can be used as x (movie audio) to y (caption text).

**9.**

**Question 9**

In this diagram which we hand-drew in the lecture, what do the horizontal axis (x-axis) and vertical axis (y-axis) represent?



**1 / 1 point**



- x-axis is the performance of the algorithm

- ☐ y-axis (vertical axis) is the amount of data.
- ☐ x-axis is the input to the algorithm
- ☐ y-axis is outputs.
- ☐ x-axis is the amount of data
- ☐ y-axis is the size of the model you train.
- ☒ x-axis is the amount of data
- ☐ y-axis (vertical axis) is the performance of the algorithm.

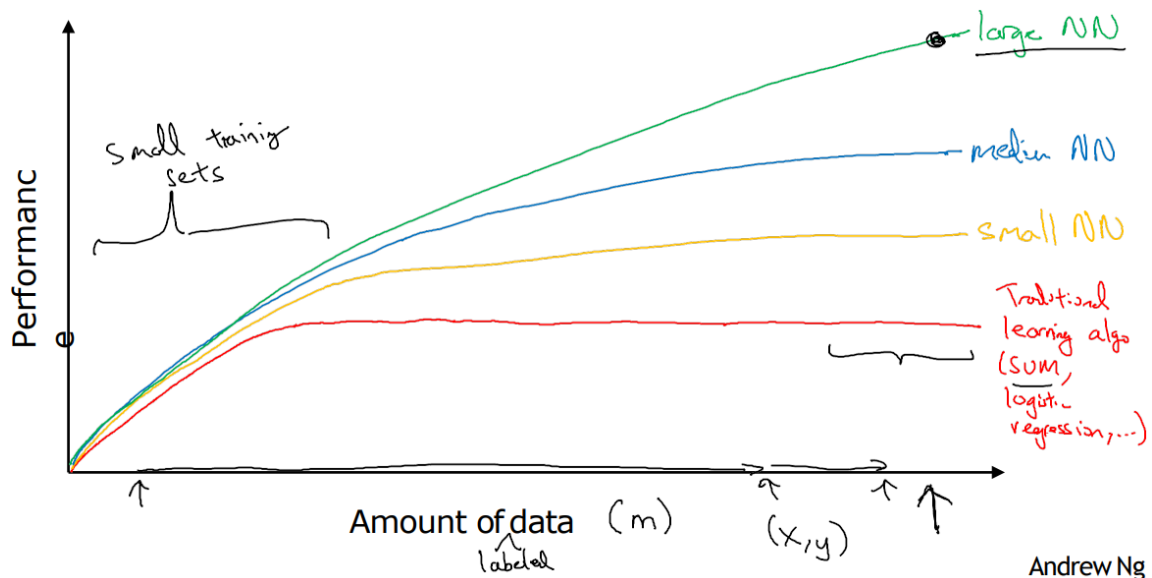
Correct

10.

#### Question 10

Assuming the trends described in the figure are accurate. Which of the following statements are true? Choose all that apply.

## Scale drives deep learning progress



0.5 / 1 point



Increasing the training set size of a traditional learning algorithm stops helping to improve the performance after a certain size.

Correct

Yes. After a certain size, traditional learning algorithms don't improve their performance.



Increasing the training set size of a traditional learning algorithm always improves its performance.

**This should not be selected**

No. After a certain size, traditional learning algorithms don't improve their performance.



Decreasing the training set size generally does not hurt an algorithm's performance, and it may help significantly.



Increasing the size of a neural network generally does not hurt an algorithm's performance, and it may help significantly.