

**Your grade: 100%**

Your latest: 100% • Your highest: 100% • To pass you need at least 80%. We keep your highest score.

**Next item →**

1. Which of the following are some aspects in which AI has transformed business?

1 / 1 point

- Web searching and advertisement.
- AI has not been able to transform businesses.
- Creating an AI-powered society.
- Eliminating the need for health care services.

**Correct**

Yes. AI has helped to make a fit between services or results and consumers or queries.

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

1 / 1 point

- 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.

- Better designed features to use.
- Large models.

**Correct**

Yes. In most cases it is necessary for a very large neural network to make use of all the available data.

- Large amounts of data.

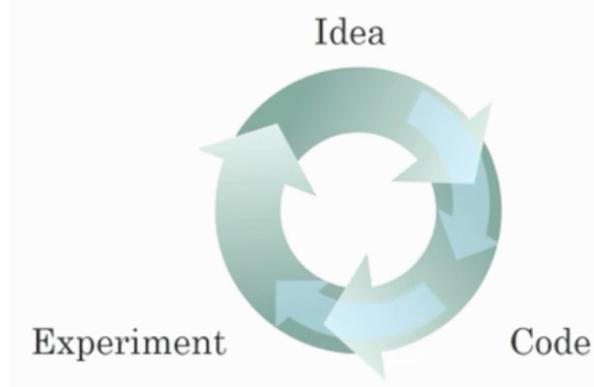
**Correct**

Yes. Some of the most successful Deep Learning algorithms make use of very large datasets for training.

- Smaller models.

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

1 / 1 point



- It is faster to train on a big dataset than a small dataset.
- Recent progress in deep learning algorithms has allowed us to train good models faster (even without changing the CPU/GPU hardware).

**Correct**

Yes. For example, we discussed how switching from sigmoid to ReLU activation functions allows faster training.

- Being able to try out ideas quickly allows deep learning engineers to iterate more quickly.

**Correct**

Yes, as discussed in Lecture 4.

- Faster computation can help speed up how long a team takes to iterate to a good idea.

**Correct**

Yes, as discussed in Lecture 4.

4. When building a neural network to predict housing price from features like size, the number of bedrooms, zip code, and wealth, it is necessary to come up with other features in between input and output like family size and school quality. True/False?

1 / 1 point

True

False

Correct

A neural network figures out by itself the "features" in between using the samples used to train it.

5. Which one of these plots represents a ReLU activation function?

1 / 1 point

Figure 3:

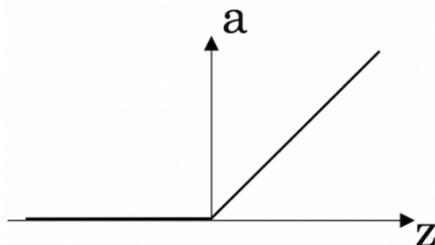


Figure 4:

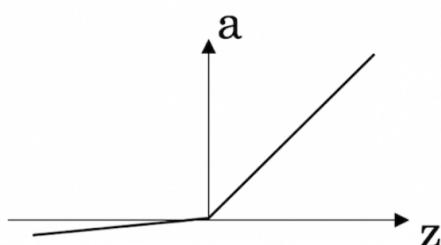


Figure 1:

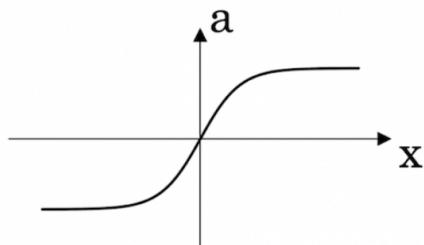
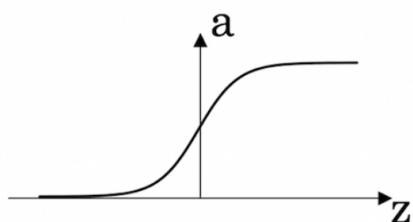


Figure 2:



Correct

Correct! This is the ReLU activation function, the most used in neural networks.

6. Which of the following are examples of unstructured data? Choose all that apply.

1 / 1 point

Text describing size and number of pages of books.

Correct

Yes, text documents are examples of "unstructured" data.

Images for bird recognition.

Correct

Yes, images are an example of "unstructured" data.

Sound files for speech recognition.

**Correct**

Yes, audio is an example of "unstructured" data.

- Information about elephants' weight, height, age, and the number of offspring.

7. Which of the following are examples of structured data? Choose all that apply.

1 / 1 point

- A dataset with short poems.
- A dataset with zip code, income, and name of a person.

**Correct**

Yes, this data can be presented in a table. This is an example of "structured" data.

- A dataset of weight, height, age, the sugar level in the blood, and arterial pressure.

**Correct**

Yes, this data can be presented in a table. This is an example of "structured" data.

- A set of audio recordings of a person saying a single word.

8. Why is an RNN (Recurrent Neural Network) used for machine translation, say translating English to French?  
(Check all that apply.)

1 / 1 point

- It is applicable when the input/output is a sequence (e.g., a sequence of words).

**Correct**

Yes. An RNN can map from a sequence of English words to a sequence of French words.

- It is strictly more powerful than a Convolutional Neural Network (CNN).

- It can be trained as a supervised learning problem.

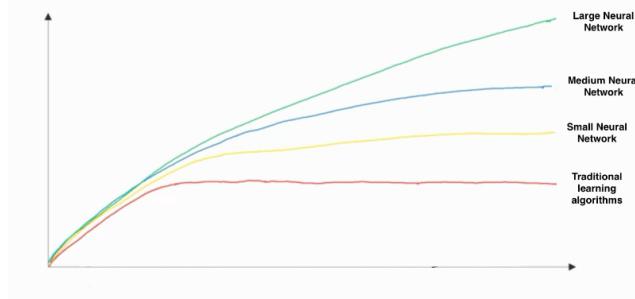
**Correct**

Yes. We can train it on many pairs of sentences  $x$  (English) and  $y$  (French).

- RNNs represent the recurrent process of Idea->Code->Experiment->Idea->....

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 input to the algorithm  
• y-axis is outputs.

- x-axis is the amount of data  
• y-axis (vertical axis) is the performance of the algorithm.

- x-axis is the performance of the algorithm  
• y-axis (vertical axis) is the amount of data.

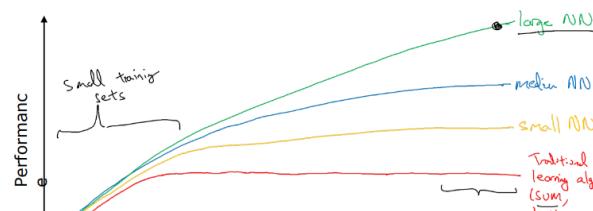
- x-axis is the amount of data  
• y-axis is the size of the model you train.

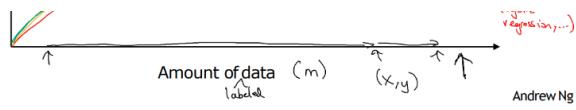
**Correct**

10. Assuming the trends described in the figure are accurate. The performance of a NN depends only on the size of the NN. True/False?

1 / 1 point

## Scale drives deep learning progress





False

True

Correct

Yes. According to the trends in the figure above, It also depends on the amount of data.