## Congratulations! You passed!

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Go to next item

**1.** What does the analogy "AI is the new electricity" refer to? **1 / 1 point**

- Through the "smart grid", AI is delivering a new wave of electricity.
- AI is powering personal devices in our homes and offices, similar to electricity.
- 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.

Expand

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

**2.** Which of the following are reasons that didn't allow Deep Learning to be developed during the '80s? **1 / 1 point**

- [x] Limited computational power.

**Correct**
Yes. Deep Learning methods need a lot of computational power, and only recently the use of GPUs has accelerated the experimentation with Deep Learning.

- [ ] The theoretical tools didn't exist during the 80's.
- [x] Interesting applications such as image recognition require large amounts of data that were not available.

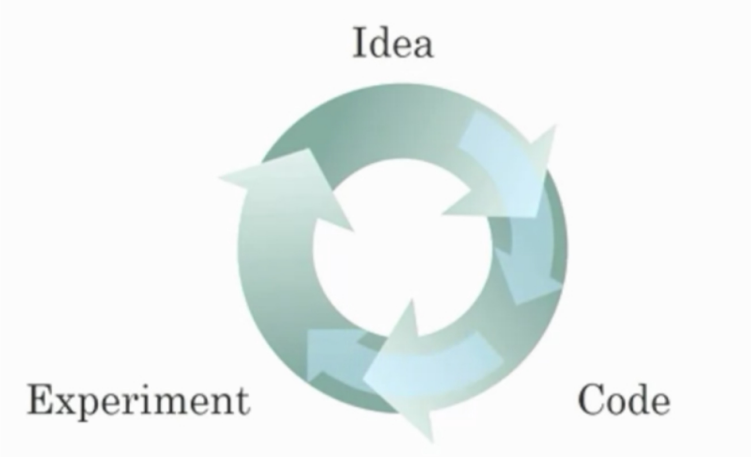
**Correct**
Yes. Many resources used today to train Deep Learning projects come from the fact that our society digitizes almost everything, creating a large dataset to train Deep Learning models.

- [ ] People were afraid of a machine rebellion.

Expand

**Correct**
Great, you got all the right answers.

**3.** Recall the diagram of iterating over different ML ideas. Which of the stages shown in the diagram was improved with the use of a better GPU/CPU? **1 / 1 point**



- [ ] With larger datasets, the iteration process is faster.
- [ ] Without better hardware, there is no way to train models faster.
- [x] Experiments finish faster, producing better ideas through increased iteration tempo.

**Correct**
Yes. The experiments help to test ideas, by getting the feedback from the experiments new variations can be tested and the results might indicate new directions to explore.

- [x] Some algorithms are specifically designed to run experiments faster.

**Correct**
Yes. Some algorithms look specifically to improve the time needed to run an experiment and thus enable us to produce better models.

Expand

**Correct**
Great, you got all the right answers.

4. When experienced deep learning engineers work on a new problem, they can usually use insight from previous problems to train a good model on the first try, without needing to iterate multiple times through different models. True/False? **1 / 1 point**

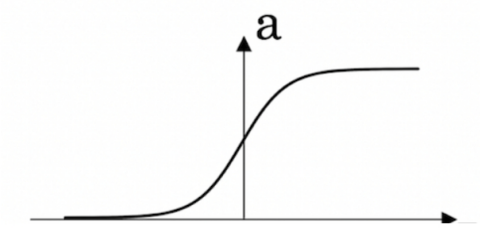
- (•) False
- ( ) True

Expand

**Correct**
Yes. Finding the characteristics of a model is key to having good performance. Although experience can help, it requires multiple iterations to build a good model.

5. Which one of these plots represents a ReLU activation function? **1 / 1 point**

- ( ) Figure 2:




Expand

**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**

- [x] Images for bird recognition.

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

- [x] Sound files for speech recognition.

**Correct**

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

- [x] Text describing size and number of pages of books.

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

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

Expand

**Correct**
Great, you got all the right answers.

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**

- (•) True
- ( ) False

Expand

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

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 strictly more powerful than a Convolutional Neural Network (CNN).
- [ ] RNNs represent the recurrent process of Idea->Code->Experiment->Idea->....
- [x] 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).

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

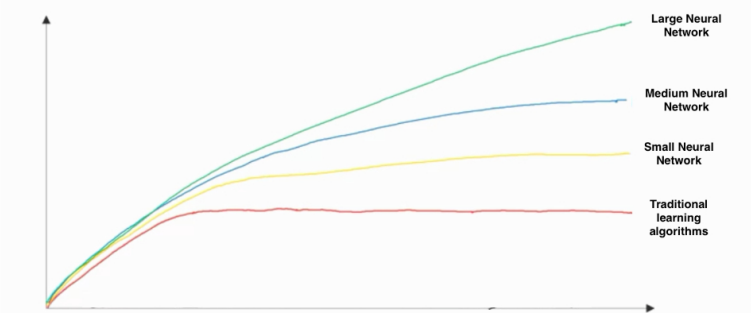
**Correct**
Yes. An RNN can map from a sequence of english words to a sequence of french words.

Expand

**Correct**
Great, you got all the right answers.

9. **1 / 1 point**

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



- 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.

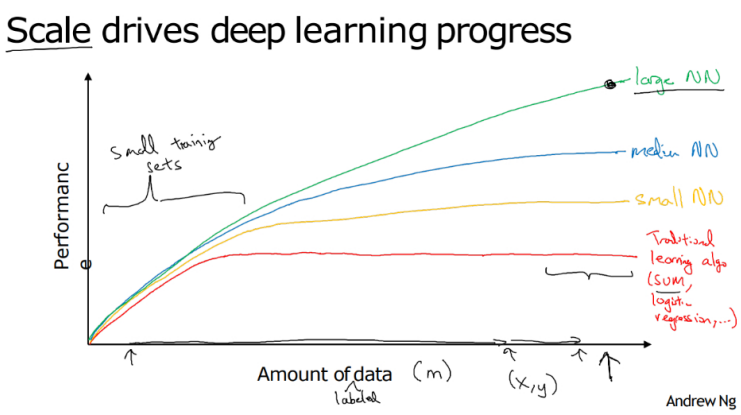
- x-axis is the amount of data
- y-axis (vertical axis) is the performance of the algorithm.

- x-axis is the input to the algorithm
- y-axis is outputs.

Expand

Correct

10. Assuming the trends described in the figure are accurate. Which of the following statements are true? Choose all that apply. 1 / 1 point




- [ ] Increasing the training set size of a traditional learning algorithm always improves its performance.
- [x] 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.

- [ ] Decreasing the training set size generally does not hurt an algorithm's performance, and it may help significantly.
- [x] Increasing the size of a neural network generally does not hurt an algorithm's performance, and it may help significantly.

Correct
Yes. According to the trends in the figure above, big networks usually perform better than small networks.

Expand

Correct
Great, you got all the right answers.