

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

1 / 1 point

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

 Expand

 **Correct**

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

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

1 / 1 point

- ☒ 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.

- ☒ 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.

- ☐ The theoretical tools didn't exist during the 80's.
- ☐ People were afraid of a machine rebellion.

 Expand

 **Correct**

Great, you got all the right answers.

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

1 / 1 point

Idea



Experiment

Code

- ☐ 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.

✓ Correct

Yes. By speeding up the iterative process, better hardware allows researchers to discover better algorithms.

↗ Expand

✓ Correct

Great, you got all the right answers.

4. Neural networks are good at figuring out functions relating an input x to an output y given enough examples. True/False?

1 / 1 point

- ☐ False
- ☒ True

↗ Expand

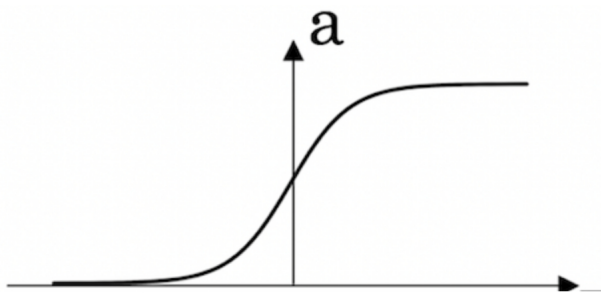
✓ Correct

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. Which of the following depicts a Sigmoid activation function?

1 / 1 point

- ☒ Figure 2:



[Expand](#)

✓ **Correct**

Correct! This is the sigmoid activation function; this function was changed for the ReLU activation function helping with the training of NN.

6. Features of animals, such as weight, height, and color, are used for classification between cats, dogs, or others. This is an example of "structured" data, because they are represented as arrays in a computer. True/False?

1 / 1 point

☐ False

No. The data can be represented by columns of data. This is an example of structured data, unlike images of the animal.

☒ True

Yes. The data can be represented by columns of data. This is an example of structured data, unlike images of the animal.

[Expand](#)

✓ **Correct**

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

1 / 1 point

☒ 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.

☒ 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 with short poems.

[Expand](#)

✓ **Correct**

Great, you got all the right answers.

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 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->....

☒ 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).

[Expand](#)

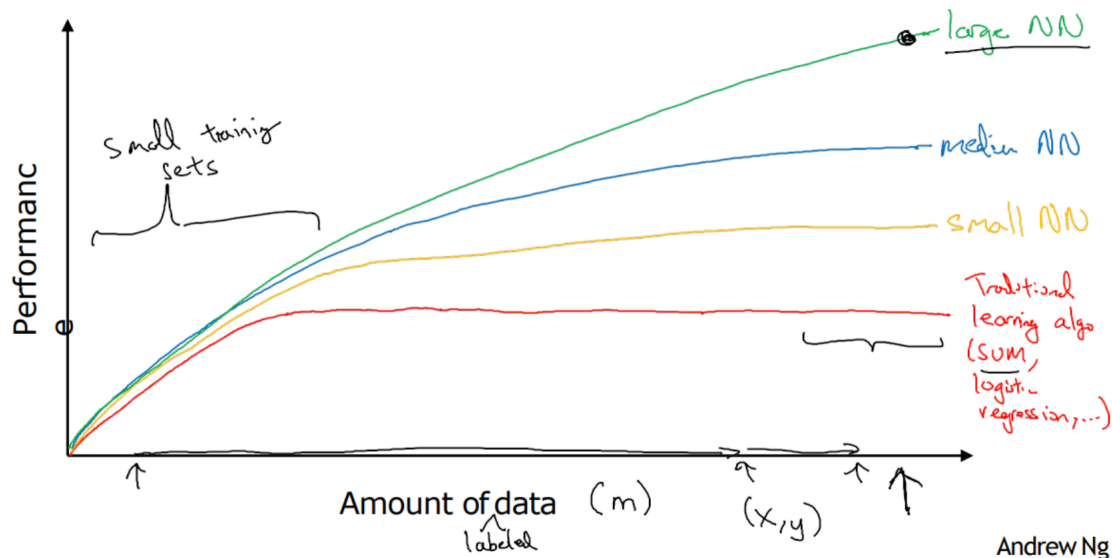
✓ **Correct**

Great, you got all the right answers.

9.

0 / 1 point

Scale drives deep learning progress



From the given diagram, we can deduce that Large NN models are always better than traditional learning algorithms. True/False?

☐ False

☒ True

[Expand](#)

✗ **Incorrect**

No, when the amount of data is not large the performance of traditional learning algorithms is shown to be the same as NN.

10. Assuming the trends described in the previous question's figure are accurate (and hoping you got the axis labels right), which of the following are true? (Check all that apply.)

1 / 1 point

- ☐ 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.

✓ **Correct**

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

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

✓ **Correct**

Yes. Bringing more data to a model is almost always beneficial.

 **Expand**

✓ **Correct**

Great, you got all the right answers.