

Your grade: 100%

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

Next item →

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.
- ☐ Through the "smart grid", AI is delivering a new wave of electricity.
- ☐ 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.

✓ Correct

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

2. Which of these are reasons for Deep Learning recently taking off? (Check the three options that apply.)

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.

- ☒ We have access to a lot more data.

✓ Correct

Yes! The digitalization of our society has played a huge role in this.

- ☒ We have access to a lot more computational power.

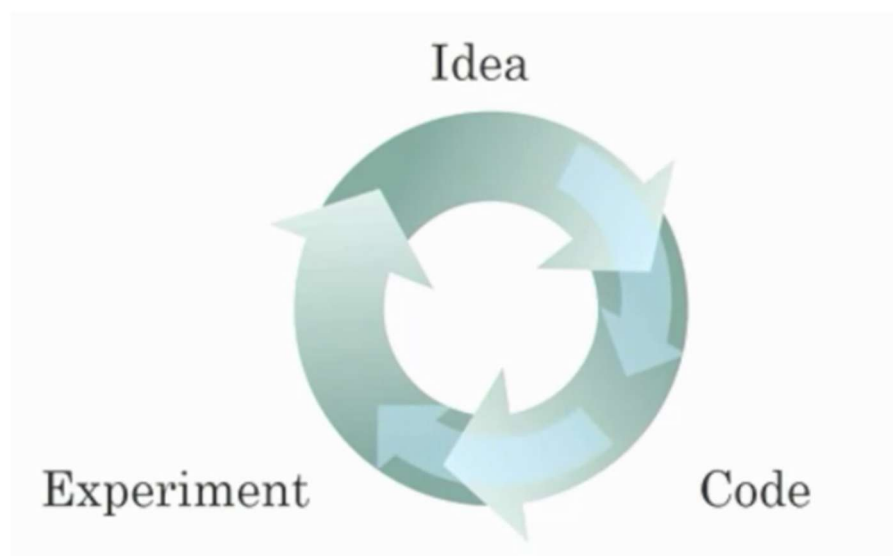
✓ Correct

Yes! The development of hardware, perhaps especially GPU computing, has significantly improved deep learning algorithms' performance.

- ☐ Neural Networks are a brand new field.

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

1 / 1 point



- ☒ 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.

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

- ☒ 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.

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

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

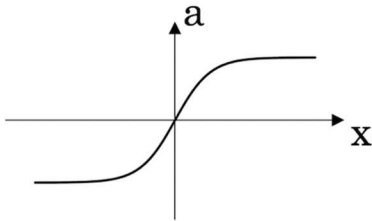
- ☐ False
- ☒ True

✓ Correct

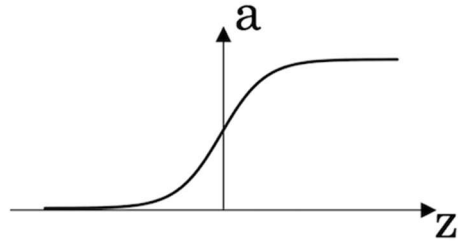
Exactly, with neural networks, we don't need to "design" features by ourselves. The neural network figures out the necessary relations given enough data.

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

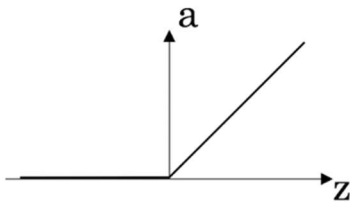
☐ Figure 1:



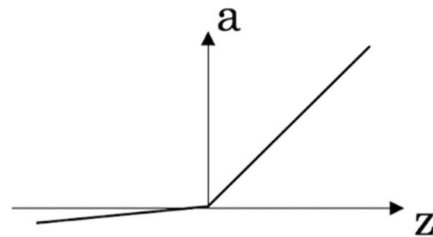
☐ Figure 2:



☒ Figure 3:



☐ Figure 4:



✓ Correct

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

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

- ☐ True
- ☒ False

✓ Correct

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

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. RNNs (Recurrent Neural Networks) are good for data with a temporal component. True/False?

1 / 1 point

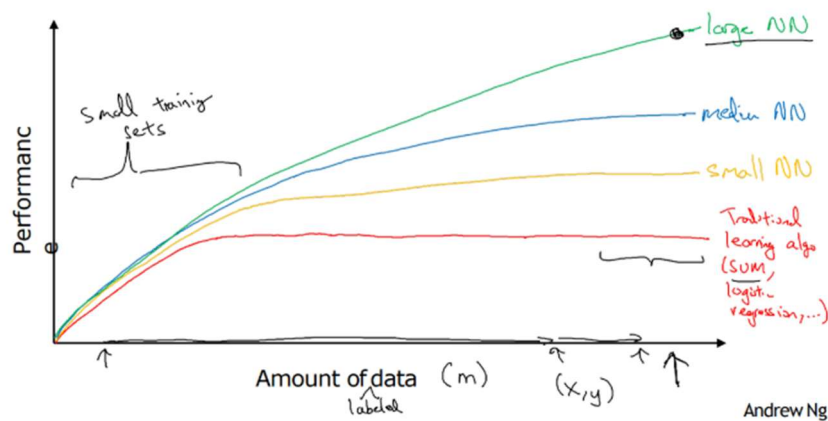
- ☒ True
☐ False

✓ Correct

Yes, RNN are designed to work with sequences; the elements of a sequence can be sorted by a temporal component.

Scale drives deep learning progress

1 / 1 point



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

- ☐ True
☒ False

✓ Correct

Yes, 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

- ☒ 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.
- ☐ Decreasing the training set size 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.