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Go to next item

1. Which of the following best describes the role of AI in the expression "an AI-powered society"? 1 / 1 point

- AI controls the power grids for energy distribution, so all the power needed for industry and in daily life comes from AI.
- AI is an essential ingredient in realizing tasks, in industry and in personal life.
- AI helps to create a more efficient way of producing energy to power industries and personal devices.

Expand

Correct
In an AI-powered society AI plays a fundamental role to complete most tasks, in industry and personal life.

2. Which of these are reasons for Deep Learning recently taking off? (Check the three options that apply.) 1 / 1 point

- [ ] Neural Networks are a brand new field.
- [x] 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.

- [x] 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.

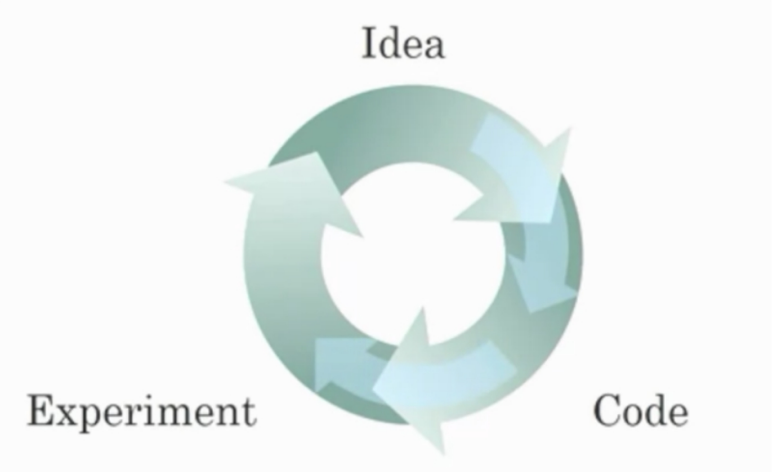
- [x] We have access to a lot more data.

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

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



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

  Correct
  Yes, as discussed in Lecture 4.

- [x] 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.

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

  Correct
  Yes, as discussed in Lecture 4.

- [ ] It is faster to train on a big dataset than a small dataset.

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**

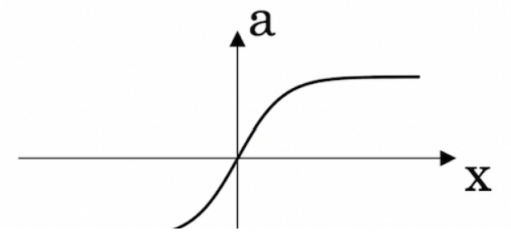
- (•) False
- ( ) True

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 of the following depicts a Sigmoid activation function? **1 / 1 point**

- ( ) Figure 1:



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. 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

Expand

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**

- (•) True
- ( ) False

Expand

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

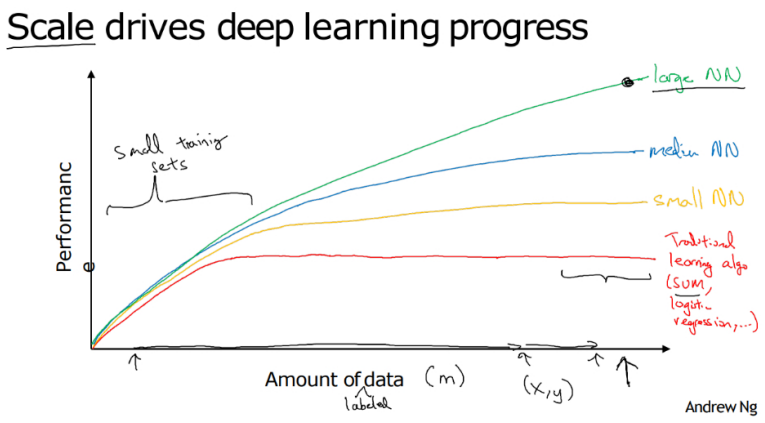
8. RNNs (Recurrent Neural Networks) are good for data with a temporal component. True/False? **1 / 1 point**

- (•) True
- ( ) False

Expand

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

9. **1 / 1 point**



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

- (•) False
- ( ) True

Expand

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

- [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.

- [x] 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.

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

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

Expand

Correct
Great, you got all the right answers.