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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 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.
- ( ) AI controls the power grids for energy distribution, so all the power needed for industry and in daily life comes from AI.

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] We have access to a lot more data.

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

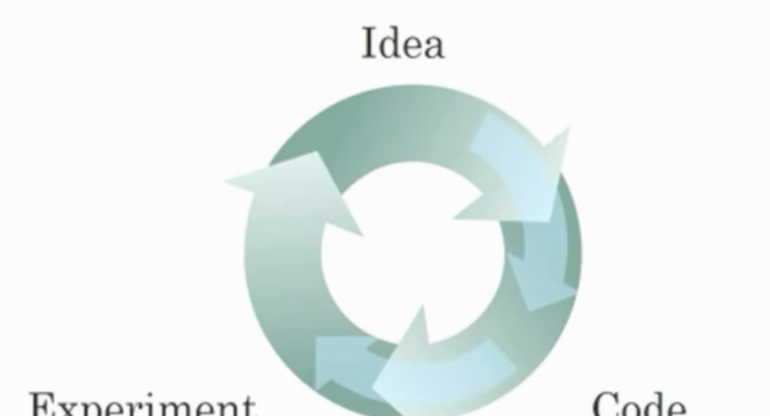
- [x] Deep learning has resulted in significant improvements in important applications such as online advertising, speech recognition, and image recognition.

Correct
These were all examples discussed in lecture 3.

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? **0 / 1 point**



Experiment Code

- [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] Without better hardware, there is no way to train models faster.

  This should not be selected
  No. The creation of better algorithms can reduce the time needed to train a model. Recall the effect of introducing the ReLU function.

- [ ] With larger datasets, the iteration process is faster.
- [ ] Some algorithms are specifically designed to run experiments faster.

Expand

Incorrect
You didn't select all the correct 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**

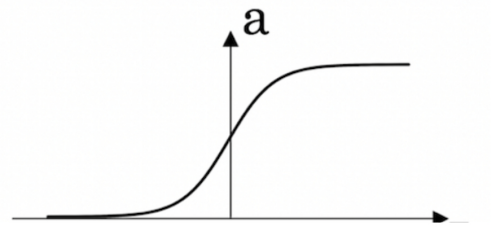
- (•) True
- ( ) False

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 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. 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**

- (•) False
- ( ) True

Expand

Correct
Yes. Images for cat recognition are examples of “unstructured” data.

7. A demographic dataset with statistics on different cities' population, GDP per capita, and economic growth is an example of “unstructured” data because it contains data coming from different sources. True/False? **1 / 1 point**

- ○ True
- ◉ False

Expand

Correct
A demographic dataset with statistics on different cities' population, GDP per capita, and economic growth is an example of “structured” data in contrast to image, audio or text datasets.

8. Why can an RNN (Recurrent Neural Network) be used to create English captions to French movies? Choose all that apply. **1 / 1 point**

- ☑ It can be trained as a supervised learning problem.

  ✓ Correct
  Yes, the data can be used as x (movie audio) to y (caption text).

- ☑ The RNN is applicable since the input and output of the problem are sequences.

  ✓ Correct
  Yes, an RNN can map from a sequence of sounds (or audio files) to a sequence of words (the caption).

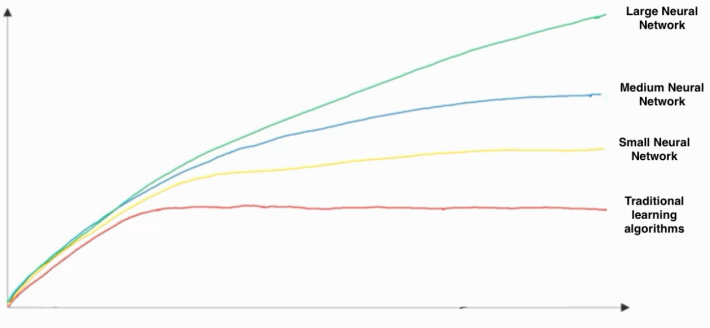
- ☐ RNNs are much more powerful than a Convolutional neural Network (CNN).
- ☐ The RNN requires a small number of examples.

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 input to the algorithm
- y-axis is outputs.

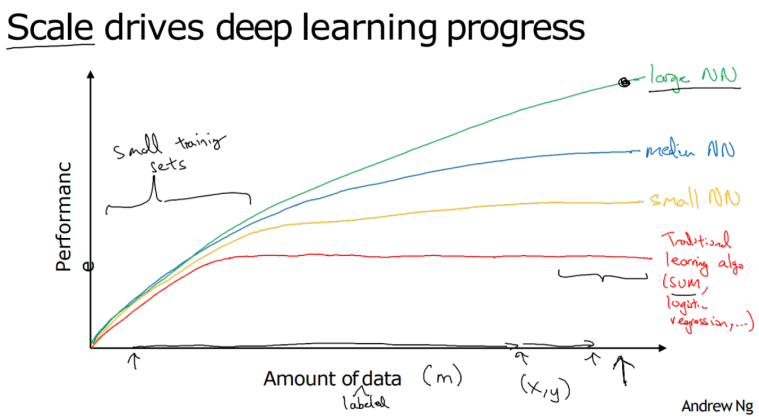
- x-axis is the amount of data
- y-axis (vertical axis) is the performance of the algorithm.

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

Expand

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**



- False
- True

Expand

Correct

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