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

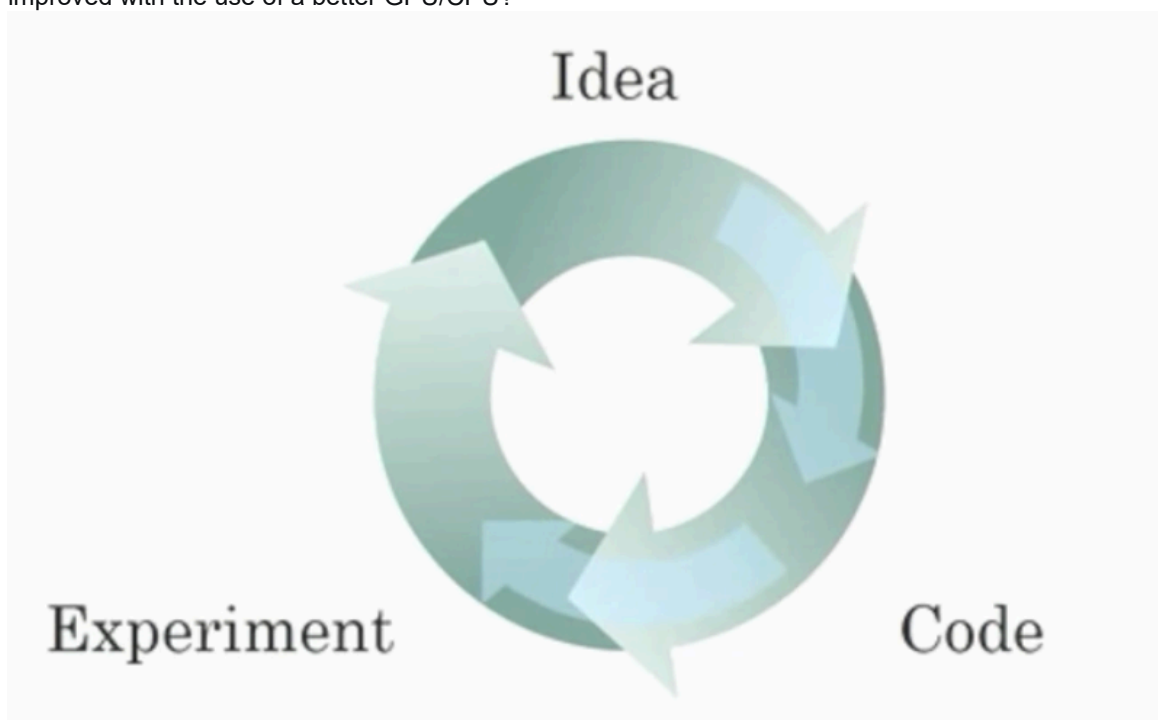○ AI helps to create a more efficient way of producing energy to power industries and personal devices.

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

☐ We have access to a lot more computational power.

☐ Neural Networks are a brand new field.

☐ Deep learning has resulted in significant improvements in important applications such as online advertising, speech recognition, and image recognition.

☐ We have access to a lot more data.

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 point

☐ Without better hardware, there is no way to train models faster.

☐ Experiments finish faster, producing better ideas through increased iteration tempo.

☐ With larger datasets, the iteration process is faster.

☐ Some algorithms are specifically designed to run experiments faster.

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 point
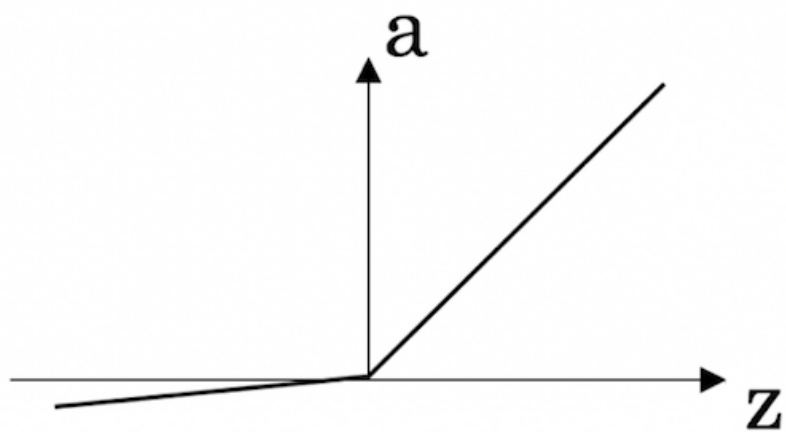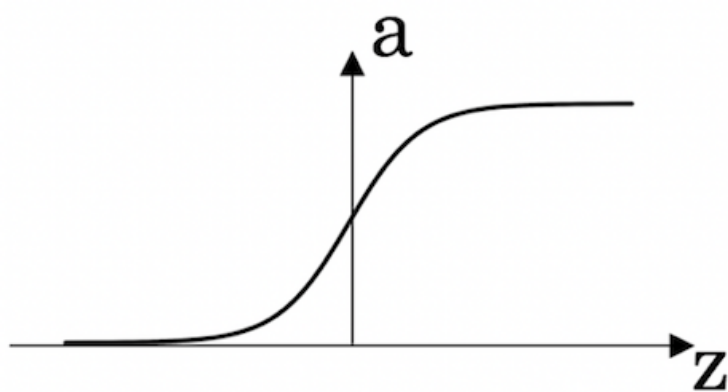
○ False

○ True

5.Which of the following depicts a Sigmoid activation function? 1 point
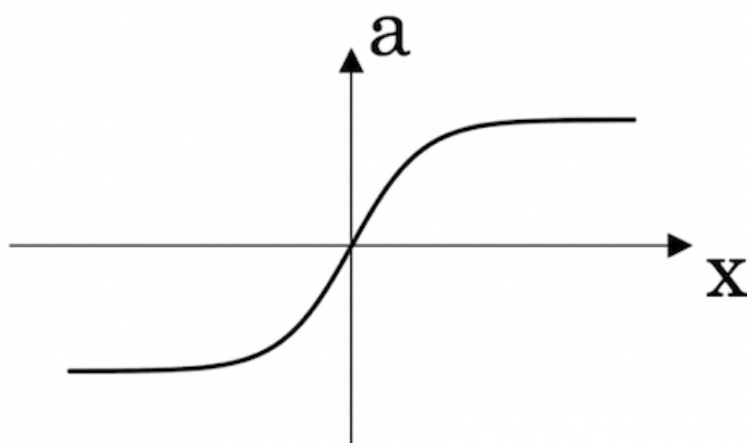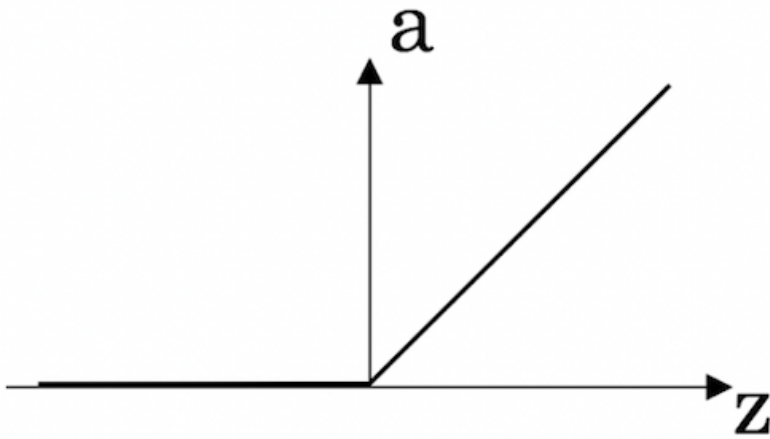
○

○

○

○

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?

  ○ True

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

  ○ False

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

1 point

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?

  ○ False

  ○ True

1 point

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

  ☐ The RNN is applicable since the input and output of the problem are sequences.
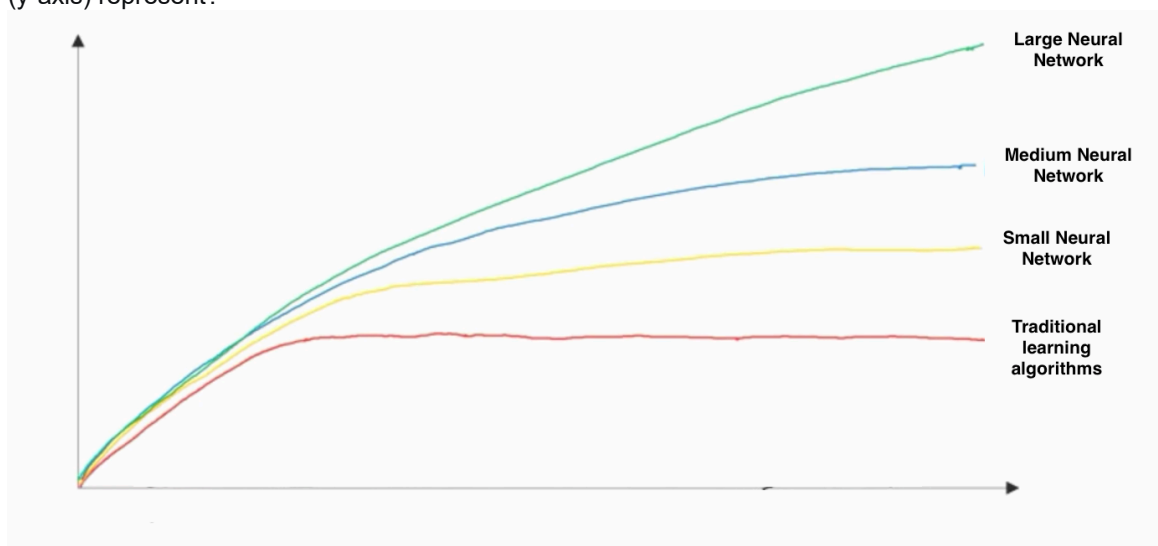
  ☐ It can be trained as a supervised learning problem.

  ☐ RNNs are much more powerful than a Convolutional neural Network (CNN).

  ☐ The RNN requires a small number of examples.

1 point

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

1 point

- x-axis is the input to the algorithm

- y-axis is outputs.

- x-axis is the amount of data

- y-axis is the size of the model you train.

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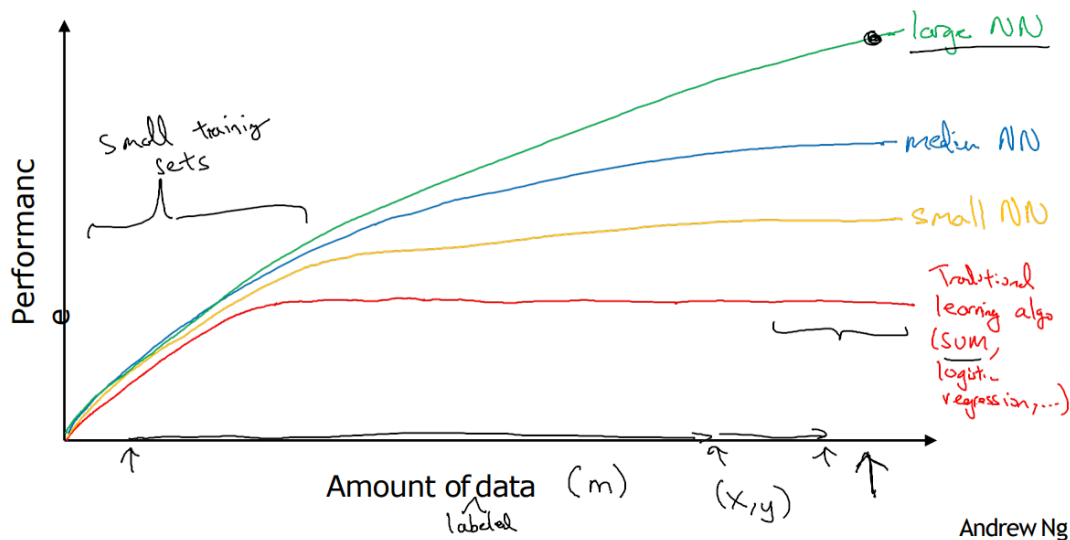
- y-axis (vertical axis) is the amount of data.

- x-axis is the amount of data

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

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?

Scale drives deep learning progress

- large NN
- medium NN
- small NN
- Traditional learning algo (SUM, logistic regression,...)

Small training sets

Performance

Amount of data (m) labeled (x,y)

Andrew Ng

○ True

○ False