

Note: In here I am adding True or False, it can be Right or Wrong both first Check If option is right or wrong under that question summary. And Rest question which I am giving multiple answer question or single choice question both are only right answers, and there is lot's of changing questions are there so please check all the question first and then only select the correct option.

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.

4. When building a neural network to predict housing price from features like size, the number of bedrooms, zip code, and wealth, it is necessary to come up with other features in between input and output like family size and school quality. True/False?

0 / 1 point

- ☐ False
- ☒ True

 Expand

 Incorrect

Recall that when training a neural network, only the input and output for several examples are given.

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

 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?

0 / 1 point

- ☒ False
☐ True

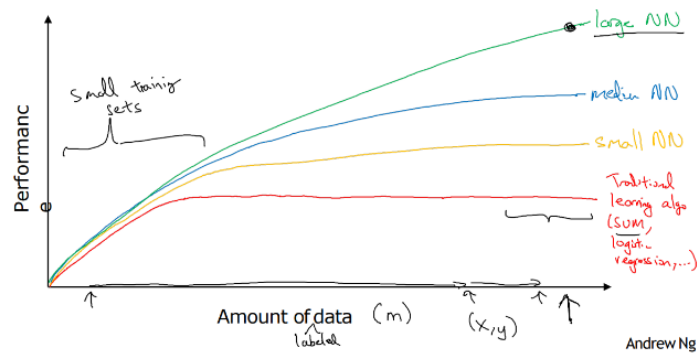
[Expand](#)

✗ **Incorrect**

No, RNN are good to work with sequences, and the elements of the sequence can be sorted by a temporal component.

9.

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](#)

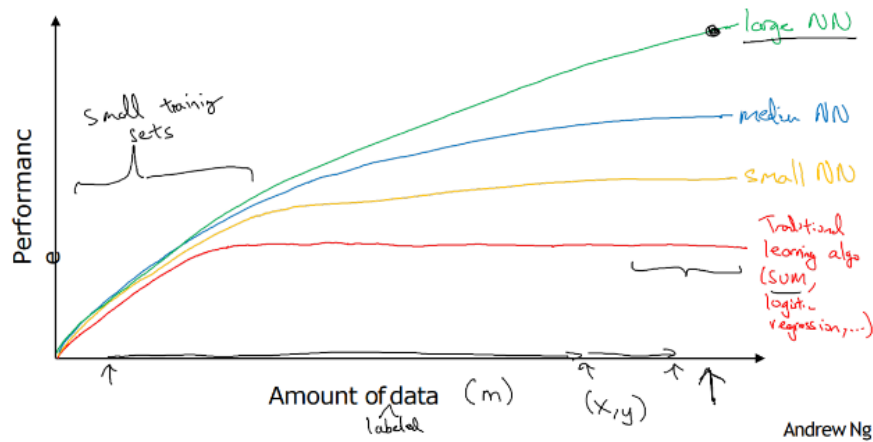
✗ **Incorrect**

No, when the amount of data is not large the performance of traditional learning algorithms is shown to

10. Assuming the trends described in the figure are accurate. Which of the following statements are true? Choose all that apply.

1 / 1 point

Scale drives deep learning progress



- ☒ 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 training set size generally does not hurt an algorithm's performance, and it may help significantly.
- ☒ Increasing the training set size of a traditional learning algorithm stops helping to improve the performance after a certain size.

✓ Correct

Yes. After a certain size, traditional learning algorithms don't improve their performance.

- ☐ Increasing the training set size of a traditional learning algorithm always improves its performance.

1. What does the analogy “AI is the new electricity” refer to?

1 / 1 point

- ☐ AI is powering personal devices in our homes and offices, similar to electricity.
- ☐ Through the “smart grid”, AI is delivering a new wave of electricity.
- ☒ Similar to electricity starting about 100 years ago, AI is transforming multiple industries.
- ☐ AI runs on computers and is thus powered by electricity, but it is letting computers do things not possible before.

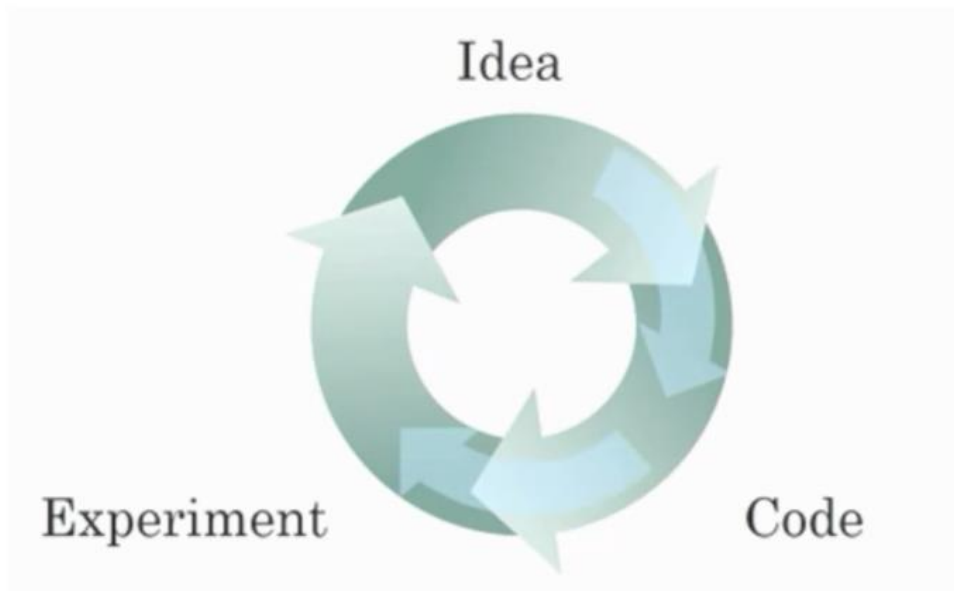
[Expand](#)

✓ **Correct**

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

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

1 / 1 point



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

✓ **Correct**

Yes, as discussed in Lecture 4.

- ☒ Being able to try out ideas quickly allows deep learning engineers to iterate more quickly.

✓ **Correct**

Yes, as discussed in Lecture 4.

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

- ☒ 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

4. When building a neural network to predict housing price from features like size, the number of bedrooms, zip code, and wealth, it is necessary to come up with other features in between input and output like family size and school quality. True/False?

1 / 1 point

- ☐ True
- ☒ False

 Expand

 **Correct**


A neural network figures out by itself the "features" in between using the samples used to train it.

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0 / 1 point

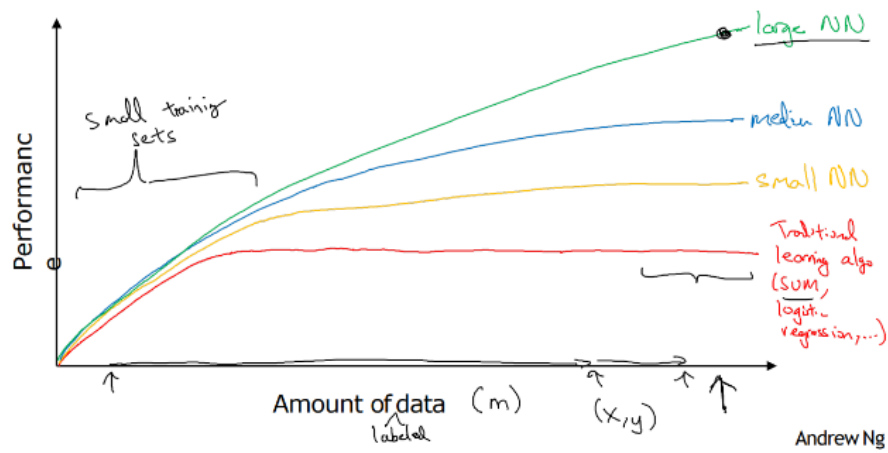
- ☐ True
- ☒ False

 Expand

 **Incorrect**

No, the sequences can be represented as arrays in a computer. This is an example of structured data.

Scale drives deep learning progress



Suppose the information given in the diagram is accurate. We can deduce that when using large training sets, for a model to keep improving as the amount of data for training grows, the size of the neural network must grow. True/False?

- ☐ False
- ☒ True

[Expand](#)

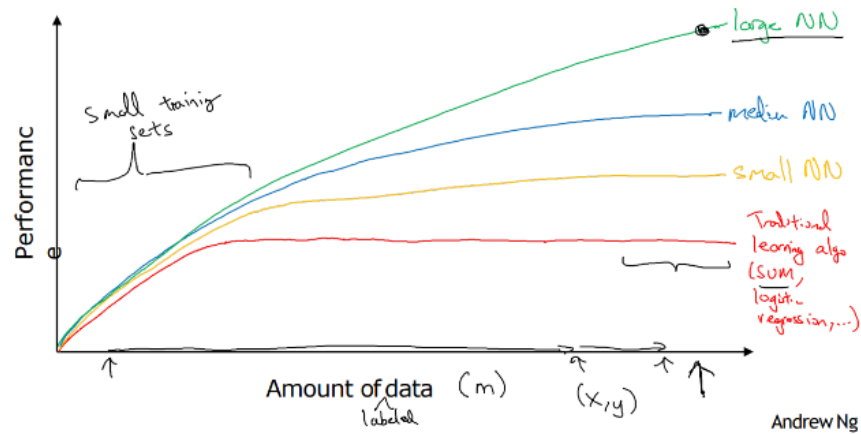
✓ **Correct**

Yes, the graph shows that after a certain amount of data is fed to a NN it stops increasing its performance. To increase the performance it is necessary to use a larger model.

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?

0 / 1 point

Scale drives deep learning progress



- ☒ True
- ☐ False

Expand

✗ Incorrect

No. According to the trends in the figure above, it also depends on the amount of data.

1. What does the analogy "AI is the new electricity" refer to?

1 / 1 point

- ☐ Through the "smart grid", AI is delivering a new wave of electricity.
- ☒ Similar to electricity starting about 100 years ago, AI is transforming multiple industries.
- ☐ 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.

Expand

✓ Correct

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

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

1 / 1 point

- ☒ 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.

- ☐ People were afraid of a machine rebellion.

- ☒ 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.

- ☐ The theoretical tools didn't exist during the 80's.

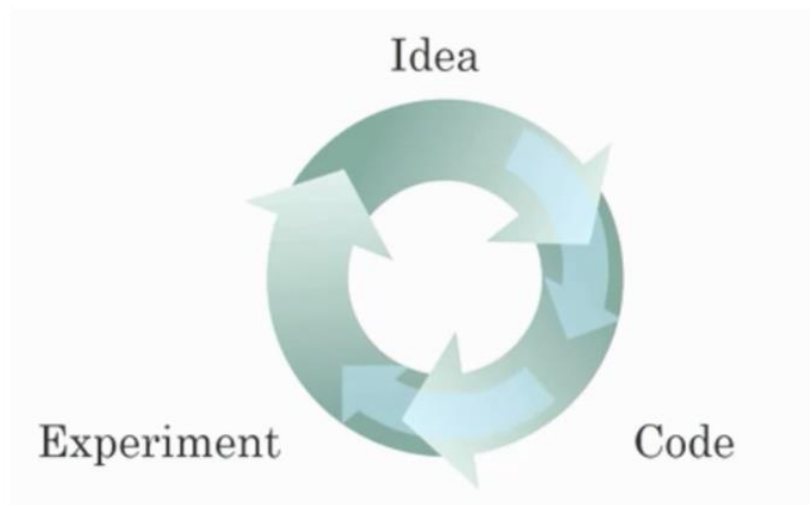
 Expand

✓ 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



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

✓ Correct

Yes, as discussed in Lecture 4.

- ☒ 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.

- ☒ Being able to try out ideas quickly allows deep learning engineers to iterate more quickly.

✓ Correct

Yes, as discussed in Lecture 4.

4. When building a neural network to predict housing price from features like size, the number of bedrooms, zip code, and wealth, it is necessary to come up with other features in between input and output like family size and school quality. True/False?

1 / 1 point

☐ True

☒ False

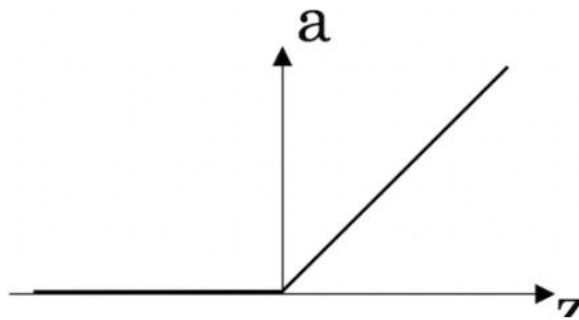
↗ Expand

✓ Correct

A neural network figures out by itself the "features" in between using the samples used to train it.

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

1 / 1 point



[Expand](#)

✓ **Correct**

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

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?

0 / 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](#)

✗ **Incorrect**

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

1 / 1 point

- ☐ A dataset with short poems.
- ☐ A set of audio recordings of a person saying a single word.
- ☒ 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 dataset with zip code, income, and name of a person.

✓ **Correct**

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[Expand](#)

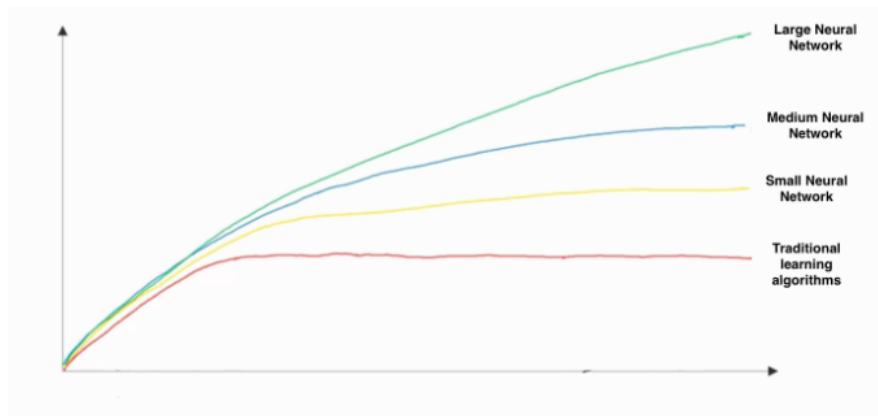
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Great, you got all the right answers.

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 amount of data
• y-axis (vertical axis) is the performance of the algorithm.
- ☐ • 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 is the size of the model you train.

[Expand](#)

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.

- ☒ 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.

Final Attempt:

1. What does the analogy "AI is the new electricity" refer to?

1 / 1 point

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 Expand

 **Correct**

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1 / 1 point

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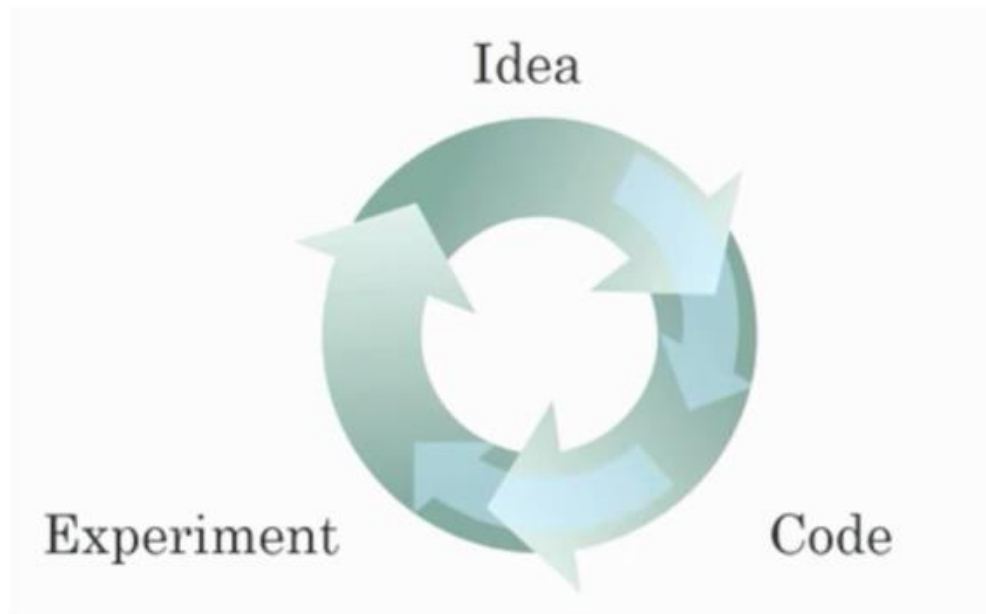
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- ☒ Recent progress in deep learning algorithms has allowed us to train good models faster (even without changing the CPU/GPU hardware).

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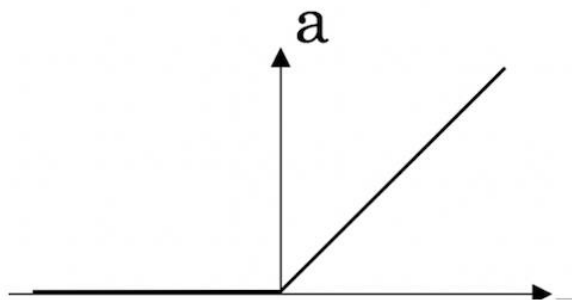
✓ Correct

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1 / 1 point

Figure 3:



[Expand](#)

✓ Correct

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↗ Expand

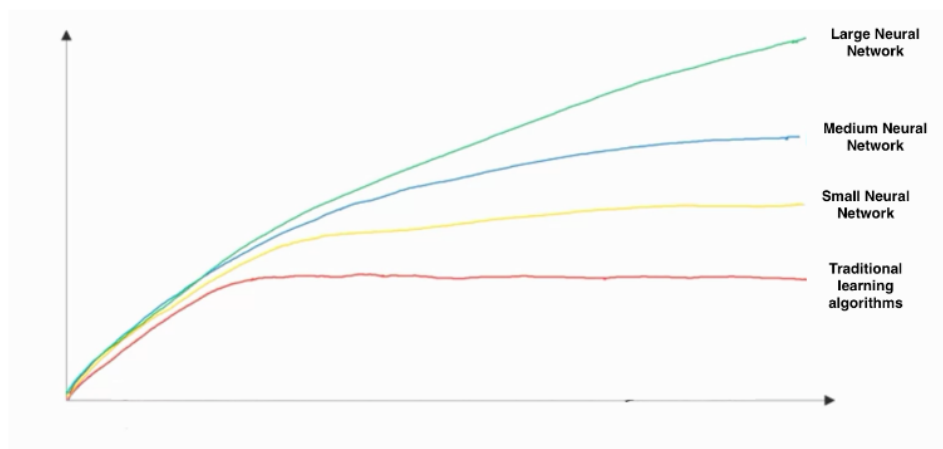
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- ☐
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 Expand

✓ Correct

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