

✔ Congratulations! You passed!

[Go to next item](#)

Grade received 100% Latest Submission Grade 100% To pass 80% or higher

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

- ☒ 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 computational power.

✔ Correct

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

- ☒ We have access to a lot more data.

✔ Correct

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

- ☐ Neural Networks are a brand new field.

[↗ Expand](#)

✔ Correct

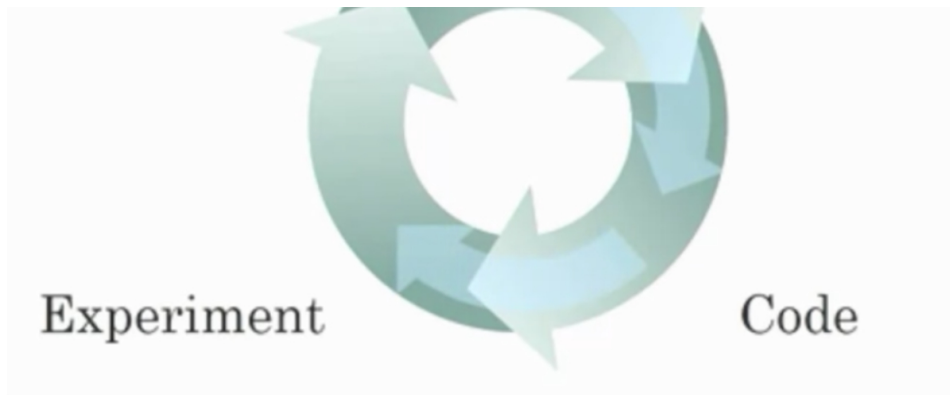
Great, you got all the right answers.

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

1 / 1 point



Idea



- ☒ 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.

- ☒ 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.

↗ **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

- ☐ True
☒ False

↗ **Expand**

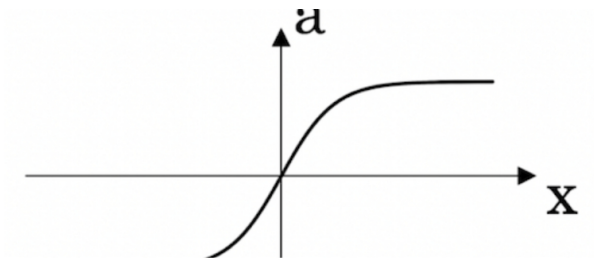
✓ **Correct**

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

1 / 1 point

☒ Images for bird recognition.

✓ **Correct**

Yes, images are an example of "unstructured" data.

☐ Information about elephants' weight, height, age, and the number of offspring.

☒ Text describing size and number of pages of books.

✓ **Correct**

Yes, text documents are examples of "unstructured" data.

☒ Sound files for speech recognition.

✓ **Correct**

Yes, audio is an example of "unstructured" data.

[↗ Expand](#)

✓ **Correct**

Great, you got all the right answers.

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

1 / 1 point

☐ A set of audio recordings of a person saying a single word.

☒ A dataset with zip code, income, and name of a person.

✓ **Correct**

Yes, this data can be presented in a table. This is an example of "structured" data.

☒ 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 short poems.

[↗ Expand](#)

✓ **Correct**

✓ Correct
Great, you got all the right answers.

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

1 / 1 point

- ☐ False
- ☒ True

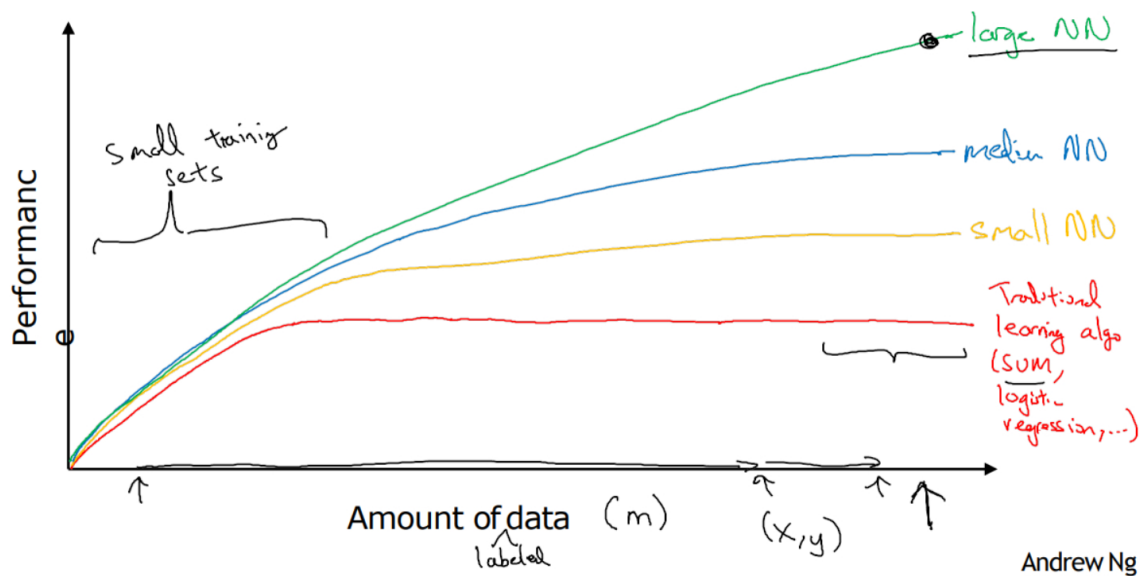
↗ Expand

✓ 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

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?

- ☒ True
- ☐ False

↗ 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 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 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.

☐ 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.