

✓ 축하합니다! 통과하셨습니다!

다음 문제

1.

When does the analogy "AI is the new electricity" refer to?

☐

At early on computers and it is thus powered by electricity, but it is letting computers do things no people could.

☐

At it powering personal devices in our homes and offices, similar to electricity.

☐

Through the "harvest grid", AI is delivering a new wave of electricity.

☒

Similar to electricity starting about 100 years ago, AI is transforming multiple industries.

Correct

Yes, AI is transforming many fields from the car industry to agriculture to supply chains.

2.

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

☒

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 digitization of our society has played a huge role in this.

☒

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

Correct

These were all examples discussed in lecture 2.

☐

Neural networks are a brand new field.

Unselected is correct

3.

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

Idea

Experiment

Code

☐

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

Correct

Yes, as discussed in Lecture 4.

☒

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.

Unselected is correct

☒

Recent progress in deep learning algorithms has allowed us to train good models faster even without changing the quality of the hardware.

Correct

Yes, for example, we discussed how switching from sigmoid to ReLU activation functions allows faster training.

4.

When an experienced deep learning engineer works on a new problem, they can usually use insight from previous problems to gain a good model on the first try, without needing to train multiple times through different models. True/False?

☐

True

☒

False

Correct

Yes, having the characteristics of a model is key to have good performance, although experience can help, it requires multiple iterations to build a good model.

5.

Which one of these plots represents a ReLU activation function?

☐

Figure 1

☐

Figure 2

☒

Figure 3

☐

Figure 4

☐

Figure 5

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?

☐

True

☒

False

Correct

Yes, images for cat recognition is an example of "unstructured" data.

7.

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

☐

True

☐

False

Correct

A demographic dataset with statistics on different cities' population, GDP per capita, economic growth is an example of "structured" data by opposition to image, audio or text datasets.

8.

Why is an RNN (Recurrent Neural Network) used for machine translation, say translating English to French? (Check all that apply.)

☐

It can be trained as a supervised learning problem.

Correct

Yes, We can train it on many pairs of sentences x (English) and y (French).

☐

It is strictly more powerful than a Convolutional Neural Network (CNN).

Unselected is correct

☐

It is applicable when the input/output is a sequence (e.g., a sequence of words).

Correct

Yes, An RNN can map from a sequence of english words to a sequence of french words.

☐

It lets represent the recurrent process of $\text{like} \rightarrow \text{Coke} \rightarrow \text{chocolate} \rightarrow \text{like} \rightarrow \dots$.

Unselected is correct

9.

In the diagram which we hand down in 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.

Correct

☐

• 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 input to the algorithm

• y-axis is output.

10.

Assuming the trends described in the previous question's figure are accurate and holding everything else equal, which of the following are true? (Check all that apply.)

☒

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.

☐

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.

Unselected is correct

☐

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

Unselected is correct

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