Congratulations! You passed!

Grade received 100% **To pass** 80% or higher

Go to next item

Introduction to deep learning

Latest Submission Grade 100%

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.
- AI is powering personal devices in our homes and offices, similar to electricity.

Back Introduction to deep learning
Graded Quiz • 30 min
Due Jan 11, 2:59 AM EST

before.

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

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

- [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.

- [ ] Neural Networks are a brand new field.

—

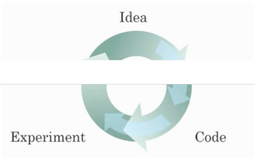
Back Introduction to deep learning
Graded Quiz • 30 min
Due Jan 11, 2:59 AM EST

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.

3. Recall this diagram of iterating over different ML ideas. Which of the statements below are true? (Check all that apply.) **1 / 1 point**



Back Introduction to deep learning
Graded Quiz • 30 min
Due Jan 11, 2:59 AM EST

- [x] Being able to try out ideas quickly allows deep learning engineers to iterate more quickly.

Correct
Yes, as discussed in Lecture 4.

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

Correct
Yes, as discussed in Lecture 4.

Back Introduction to deep learning
Graded Quiz • 30 min
Due Jan 11, 2:59 AM EST

- [x] 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.

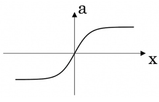
4. When an experienced deep learning engineer works on a new problem, they can usually use insight from previous problems to train a good model on the first try, without needing to iterate multiple times through different models. True/False? **1 / 1 point**

- True
- False

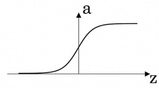
Back Introduction to deep learning
Graded Quiz • 30 min
Due Jan 11, 2:59 AM EST

5. Which one of these plots represents a ReLU activation function? **1 / 1 point**

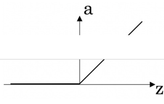
- Figure 1:



Back Introduction to deep learning
Graded Quiz • 30 min
Due Jan 11, 2:59 AM EST

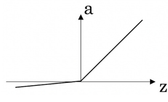


- Figure 3:



Back Introduction to deep learning
Graded Quiz • 30 min
Due Jan 11, 2:59 AM EST

- Figure 4:



Back Introduction to deep learning
Graded Quiz • 30 min
Due Jan 11, 2:59 AM EST

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**

- 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? **1 / 1 point**

Back Introduction to deep learning
Graded Quiz • 30 min
Due Jan 11, 2:59 AM EST

- 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.) **1 / 1 point**

- [x] It can be trained as a supervised learning problem.

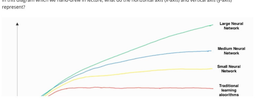
Correct
Yes. We can train it on many pairs of sentences x (English) and y (French).

Back Introduction to deep learning
Graded Quiz • 30 min
Due Jan 11, 2:59 AM EST

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

- [ ] RNNs represent the recurrent process of Idea->Code->Experiment->Idea->....

9. In this diagram which we hand-drew in lecture, what do the horizontal axis (x-axis) and vertical axis (y-axis) represent? **1 / 1 point**



Back Introduction to deep learning
Graded Quiz • 30 min
Due Jan 11, 2:59 AM EST

- x-axis is the amount of data
  y-axis is the size of the model you train.
- x-axis is the input to the algorithm
  y-axis is outputs.

Back Introduction to deep learning
Graded Quiz • 30 min
Due Jan 11, 2:59 AM EST

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

Correct

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**

- [x] 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 size of a neural network generally does not hurt an algorithm's performance, and it may help significantly.
- [x] 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.