Lecture 1 Quiz

Quiz, 6 questions

6/6 points (100%)

Congratulations! You passed!

Next Item

1 / 1 points

1.

We often don't know how much data we will need in order for a learning system to generalize well from training data to test data on a given task.

True or false: when choosing how much data to give to a learning system in order to make it generalize well, we need to make sure that we don't give it *too much* data.

- (•) False

Correct

- ( ) True

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1 / 1 points

2.

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Data can change over time, in particular we might observe different input/output relationships. In order to account for this we can adapt our learning system to the new data by, for example, training on new examples.

If the relationship between inputs and outputs for old examples has not changed, how can we prevent a neural network from forgetting about the old data?

- [x] Prevent the system from changing the weights too much.

Correct

- [ ] Ignore the issue and hope that everything will be OK.

Un-selected is correct

- [x] Train on a mix of old and new data.

Correct

- [ ] Train two networks, one for old data and one for new data.

Un-selected is correct

✔ 1 / 1 points

3.

Which of the following are good reasons for why we are interested in unsupervised learning?

- [x] It can be used to learn features that may help with supervised tasks.

Correct

- [ ] It lets us avoid supervised learning entirely.

Un-selected is correct

- [x] It allows us to learn from vast amounts of unlabelled data.

Correct

- [ ] It allows academic researchers to publish more papers.

Un-selected is correct

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1 / 1 points

4.
Which of the following tasks are neural networks good at?

- [ ] logical reasoning

Un-selected is correct

- [x] Recognizing fragments of words in a pre-processed sound wave.

Correct
Neural networks are good at finding statistical regularities that allow them to recognize patterns. They are not good at flawlessly applying symbolic rules or storing exact numbers.

- [ ]

☐ Storing lists of names and birth dates.

Un-selected is correct

☑ Recognizing badly written characters.

Correct
Neural networks are good at finding statistical regularities that allow them to recognize patterns. They are not good at flawlessly applying symbolic rules or storing exact numbers.

✔ 1 / 1 points

5.
Which number is biggest?

◉ The number of synapes in a human brain.

Correct
Neurons come in many different types and sizes with very different numbers of connections. Some cells in your cerebellum make 250,000 connections. Other neurons in the cerebellum are tiny and probably outnumber all of the other neurons in your brain. This type of variation makes it much harder than you might think to estimate the total number of synapses, but neuroscientists generally estimate about 100 trillion give or take a factor of 10.

○ The Greek national debt in euros

○ The number of milleseconds in a human lifetime.

○ The number of bits of Random Access Memory (usually just called memory) in a modern laptop.

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6.

Which of the following facts provides support for the theory that the local neural circuits in most parts of the cortex all use the same general purpose learning algorithm?

- [ ] Brain scans show that different functions (like object recognition and language understanding) are located in different parts of the cortex.

Un-selected is correct

- [x] The fine-scale anatomy of the cortex looks pretty much the same all over.

Correct

- [x] If the visual input is sent to the auditory cortex of a newborn ferret, the "auditory" cells learn to do vision.

Correct

- [x] If part of the cortex is removed early in life, the function that it would have served often gets relocated to another part of cortex.

Correct

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