

# Day 11 Quiz

14.07.2024

## Quick Questions (spend ~1 minute on each)

- Q1.** What does the notation  $x_4^{(8)}$  mean?
- Q2.** What is deep learning?
- Q3.** Draw a rough neural network quickly (just rough!)
- Q4.** A language model is primarily trained by doing one specific task many (many) times. What is that task?
- Q5.** What was the technological innovation behind modern language models. HINT: An innovation from Google in 2017. Bonus: Can you remember the name of the paper introducing it?
- Q6.** What is an AI agent?
- Q7.** What does multimodality mean?
- Q8.** Define AGI and ASI?
- Q9.** What is an eval (evaluation/benchmark)?
- Q10.** What are three things a good eval should aim to do or must consider?

## Long Question (spend ~5 minutes on this)

**Q11.** Below is a picture of a neural network with the values of the inputs and parameters included. Given this, work out the activations at each neuron in the hidden layer and work out the final prediction. The sigmoid function is given for you.

$$\text{sigmoid}(x) = S(x) = \frac{1}{1 + e^{-x}}$$

