

Quiz 5.2: Rate Codes

Rate Codes

0 points possible (ungraded)

Suppose that in some brain area we have a group of 500 neurons. All neurons have identical parameters and they all receive the same input. Input is given by sensory stimulation and passes through 2 preliminary neuronal pressing steps before it arrives at our group of 500 neurons. Within the group, neurons are not connected to each other. Imagine the brain as a model network containing 100000 nonlinear integrate-and-fire neurons, so that we know exactly how each neuron functions.

Experimentalist A makes a measurement is a single trial on all 500 neurons using a multi-electrode array, during a period of sensory stimulation.

Experimentalist B picks an arbitrary single neuron and repeats the same sensory stimulation 500 times (with long pauses in between, say one per day).

Experimentalist C repeats the same sensory stimulation 500 times (1 per day), but every day he picks a random neuron (amongst the 500 neurons).

All three determine the time-dependent firing rate.

- ☒ A and B and C are expected to find the same result.
- ☐ A and B are expected to find the same result, but that of C is expected to be different.
- ☐ B and C are expected to find the same result, but that of A is expected to be different.
- ☐ None of the above three options is correct.



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You have used 1 of 1 attempt

✓ Correct

Discussion

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