

Problem set

Basic session:

1. Write code to simulate a population of neurons. Suppose that the population readout is the simple average of the neurons' firing, investigate how the performance of the population is related to the number of neurons and the noise correlation between them.
2. Based on the results, study how choice probability varies with the number of neurons and the noise correlation.
3. Suppose that the population readout is based on only a proportion of the population, find out how choice probability varies as a function of proportion.

Advanced Session:

1. Try implementing an attractor neural network model for the random-dot experiment.
2. Compute the noise correlation and the choice probability for each group of neurons and find out what you can learn from them.