Homework 5; Psych 186B, Winter 2018

Marshall Briggs

22 February 2017

1 Code explanation

I structured my code as per the following:

1. Serialize data: First I serialized the inputs.
2. Generate lateral inhibition network: Then, I used the training data and the Delta rule to build and train the lateral inhibition network.
3. Compute and compare input: I then input a single training set into the network, and computed the error squared of the gprime result against each g. The g with the minimum error squared was the chosen output, which related to one of the four Planets.
4. I performed the previous step with all elements in the training and test data sets. My network performed flawlessly at mapping the training data, but terribly at predicting with the test data.

I believe the fault in my network was in the way I serialized the data, but I have been looking at this for over 15 hours now and I can't seem to find where I've made a mistake.

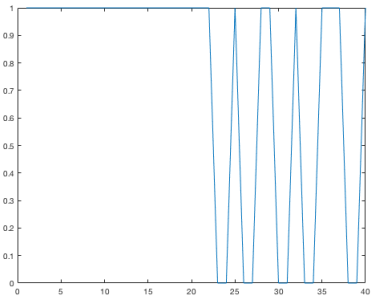

Figure 1: Lateral Inhibition Network: Results over training data and test data. x-axis indicates trial number (1-20: training data, 21-40: test data), y-axis indicates correctness (1: correct, 0: incorrect)