

Sherlock Network Format

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Abstract

The following document describes the input file format for describing feedforward neural networks to the tool, Sherlock.

1 Neural Network format

The input is a simple text file, with the first few fields being the following :

no of inputs, no of outputs, no of hidden layers, no of neurons in layer # 1, no of neurons in layer # 2, ...

Next, following the network structure is the information for the network weights and biases. Which is basically, for each neuron what are the weights when connecting the neurons in the previous layer to the current neuron and it's bias. Likewise for all the neurons starting from top left to the bottom right, and then the output neuron.

Thus the set of numbers describing the adjoining network would be the following :

2, 1, 1, 2, w_{12} , w_{22} , b_1 , w_{13} , w_{23} , b_2 , w_{24} , w_{34} , b_3

The actual file that is taken as an input does not use "," to separate the fields. It instead uses a newline character, "\n". For the network in Fig 2, the input file will be the following :

```
< file_starts >
2
1
1
2
1.2
-0.5
2
9.2
-3.1
1.2
-0.45
3.5
0.9
< file_ends >
```

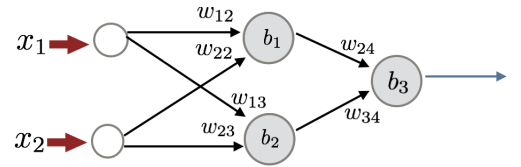


Figure 1: A small network.

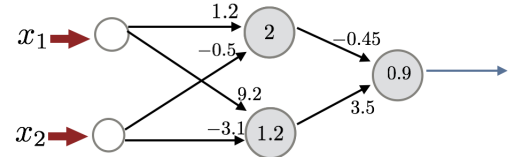


Figure 2: The same network with real values.