

Exercises for Lecture 14

1. Multilayer neural network with no activation function

Show that a multilayer neural network with no non-linear activation function is equivalent to a single layer neural network.

(Remember the output of a unit z_j is given by $z_j = h(\sum_i w_{ji} z_i)$ where h is the activation function.)

Note this shows that there is no point in adding more layers to a neural network if all activation functions in the network are linear.