After the networks give a prediction, we will calculate the error for each neuron in the output layer by computing

= (13)

Where

ok is the actual output of unit k  
 Tk is the known target value of the given training tuple

This error is then propagated backward in the networks. For each

hidden layer unit, the error is calculated by

= (14)

Where

is the actual output of unit j  
 is the error of the hidden unit j  
 is the error of the hidden unit k, where the hidden unit j precedes the hidden unit k  
 is the weight of the connection between unit k and unit j

The calculated error is then used to update the weight and bias at each unit. For each unit j, the change in weight is calculated by:

(15)

Accordingly, for each unit j, the change in bias is calculated by:

(17)

and consequently the bias of unit j is updated by:

(16)