

The back-propagation algorithm

- Update each output weight w_i , using
 - $w_i := w_i - \eta \delta x'_i$
 - where $\delta = (y - t)y(1 - y)$
- Update each hidden layer weight $v_{i,j}$, using
 - $v_{i,j} := v_{i,j} - \eta \delta'_i x_j$
 - where $\delta'_i = x'_i(1 - x'_i)\delta w_i$
- If there are multiple output neurons,
 - w_i is updated for each output neuron independently
 - $\delta'_i = x'_i(1 - x'_i) \sum \delta_o w_{o,i}$
 - where o ranges over the output nodes