Matlab 4

Mikhail Andreev

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$$y_j^{(l)} = \phi(\sum_i y_i^{(l-1)} w_{ji})$$

$$\phi_{linear}(z) = z$$

$$\phi_{sigmoid}(z) = \frac{1}{1 - e^{-z}}$$

$$\phi_{tanh}(z) = \frac{e^z - e^{-z}}{e^z + e^{-z}}$$

$$E(w, D) = \frac{1}{2} \sum_i^{outputs} ||y_{computed}^{(i)} - y_{actual}^{(i)}||^2$$

$$\Delta_i^{(L)}(n) = (y_{computed}^{(i)} - y_{actual}^{(i)})\phi'(y^{(i)})$$

$$\Delta_i^{(l)}(n) = \sum_k^{l+1} \Delta_k^{(l+1)}(n) w_{ki}^{(l+1)}(n)\phi'(y_i^{(l)})$$

$$\Delta w_{ji}^{(l)} = w_{ji}^{(l)} + \eta\Delta_j^{(l)} y_i^{(l-1)}$$