

$$a = \sum_{i=1}^n w_i x_i + b \quad (1)$$

$$y = f(a) \quad (2)$$

$$\mathbf{W}^{(l)} \leftarrow \mathbf{W}^{(l)} - \alpha \frac{\partial L}{\partial \mathbf{W}^{(l)}} \quad (3)$$

$$\mathbf{b}^{(l)} \leftarrow \mathbf{b}^{(l)} - \alpha \frac{\partial L}{\partial \mathbf{b}^{(l)}} \quad (4)$$