



$$\frac{\partial E}{\partial w_2} = E(\vec{w})x_2$$

$$\nabla_{\vec{w}} E(\vec{w}) = \sum_i^m (\vec{w}^T \vec{x}^{(i)} - y^{(i)}) (\vec{x}^{(i)})^T$$

$$\nabla_{\vec{w}} E(\vec{w}) = (\vec{w}^T \vec{x} - y) \vec{x}^T$$