$x = O_0$

$a_1 = O_0 w_1 + b_1$

$O_1 = relu(a_1)$

$a_2 = O_1 w_2 + b_2$

$O_2 = a_2$

$y = O_2$

$loss = \frac{1}{2}(y - \hat{y})^2$

$\frac{\partial loss}{\partial y} = y - \hat{y} = \frac{\partial loss}{\partial a_2}$

$\frac{\partial loss}{\partial w_2} =$

$$\begin{matrix} & & 0 \\ 0 & & \\ & & 0 \\ 0 & & \\ & & 0 \end{matrix}$$