

$$\Delta C = \frac{\partial C}{\partial a_1^4} * \frac{\partial a_1^4}{\partial a_3^3} * \frac{\partial a_3^3}{\partial a_2^2} * \frac{\partial a_2^2}{\partial w_{21}^2} * \Delta w_{21}^2$$

$$\frac{\partial C}{\partial a_1^4} = -2y + 2a_1^4$$

$$\frac{\partial a_1^4}{\partial a_3^3} = a_1^4(1 - a_1^4) * w_{13}^4$$

$$\frac{\partial a_3^3}{\partial a_2^2} = a_3^3(1 - a_3^3) * w_{32}^3$$

$$\frac{\partial a_2^2}{\partial w_{21}^2} = a_2^2(1 - a_2^2) * a_1^1$$

$$\Delta C = (-2y + 2a_1^4) * a_1^4(1 - a_1^4) * w_{13}^4 * a_3^3(1 - a_3^3) * w_{32}^3 * a_2^2(1 - a_2^2) * a_1^1 * \Delta w_{21}^2$$