Redes Neurais – Monstrinho 1

- Diogo Carvalho;
- José Davidi
- Mayllon Emmanuel

$$L = (y - (a \cdot b + c \cdot d + e \cdot f + g))^2$$

$\rightarrow y = -5 ; a = -2, b = 3, c = 8, d = -5, e = 4, f = 1 \; e \; g = -10$

$P_1 = a \cdot b$

$S_1 = P_1 + P_2$

$S_2 = S_1 + P_3$

$S_3 = S_2 + g$

$\frac{\partial L}{\partial a} = \frac{\partial L}{\partial P_1} \cdot \frac{\partial P_1}{\partial a}$

$\frac{\partial L}{\partial P_1} = \frac{\partial L}{\partial S_1} \cdot \frac{\partial S_1}{\partial P_1}$

$\frac{\partial L}{\partial S_1} = \frac{\partial L}{\partial S_2} \cdot \frac{\partial S_2}{\partial S_1}$

$\frac{\partial L}{\partial b} = \frac{\partial L}{\partial P_1} \cdot \frac{\partial P_1}{\partial b}$

$\frac{\partial L}{\partial c} = \frac{\partial L}{\partial P_2} \cdot \frac{\partial P_2}{\partial c}$

$\frac{\partial L}{\partial S_2} = \frac{\partial L}{\partial S_3} \cdot \frac{\partial S_3}{\partial S_2}$

$\frac{\partial L}{\partial y} = \frac{\partial L}{\partial S_4} \cdot \frac{\partial S_4}{\partial y}$

$S_4 = y - S_3$

$\frac{\partial L}{\partial L} = 1$

$\frac{\partial L}{\partial d} = \frac{\partial L}{\partial P_2} \cdot \frac{\partial P_2}{\partial d}$

$\frac{\partial L}{\partial P_2} = \frac{\partial L}{\partial S_2} \cdot \frac{\partial P_2}{\partial P_2}$

$\frac{\partial L}{\partial e} = \frac{\partial L}{\partial P_3} \cdot \frac{\partial P_3}{\partial e}$

$\frac{\partial L}{\partial S_3} = \frac{\partial L}{\partial S_4} \cdot \frac{\partial S_4}{\partial S_3}$

$\frac{\partial L}{\partial S_4} = \frac{\partial (S_4)^2}{\partial S_4} = 2 S_4 = 4$

$L = S_4^2$

$\frac{\partial L}{\partial f} = \frac{\partial L}{\partial P_3} \cdot \frac{\partial P_3}{\partial f}$

$\frac{\partial L}{\partial P_3} = \frac{\partial L}{\partial S_2} \cdot \frac{\partial S_2}{\partial P_3}$

$\frac{\partial L}{\partial y} = \frac{\partial L}{\partial S_3} \cdot \frac{\partial S_3}{\partial g}$

$P_2 = c \cdot d$

$P_3 = e \cdot f$

a	-2	-12
b	3	8
c	8	20
d	-5	-32
e	4	-16
f	1	-16

P_1	-6	-4
P_2	-40	-4
P_3	4	-4

S_1	-46	-4
S_2	-42	-4
g	-10	-4

| S_3 | -52 | -4 |
| y | -5 | 4 |

| S_4 | 2 | 4 |

| L | 4 | 1 |