

LINEAR REGRESSION

k	x_k	y_k
0	x_0	y_0
\vdots	\vdots	\vdots
m	x_m	y_m

$y = f(x)$
 $= \underline{a}x + \underline{b}$
 $Error = \psi(a, b)$
 $= \sum_{k=0}^m (\underline{ax_k + b} - \underline{y_k})^2$

$$\frac{\partial \psi}{\partial a} = 0, \quad \frac{\partial \psi}{\partial b} = 0$$

$$\frac{\partial \psi}{\partial a} = \sum_{k=0}^m 2(\underline{ax_k + b} - \underline{y_k})x_k = 0$$

$$\frac{\partial \psi}{\partial b} = \sum_{k=0}^m 2(\underline{ax_k + b} - \underline{y_k})1 = 0$$