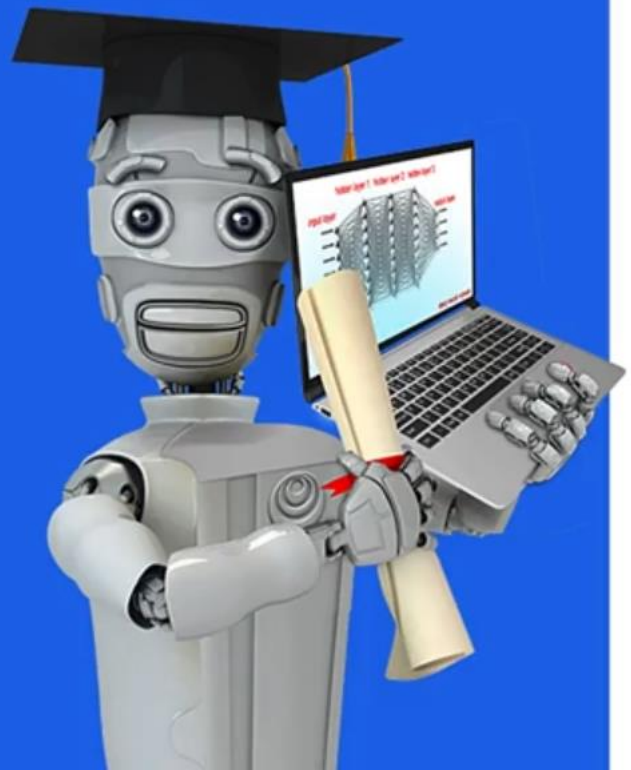
Stanford
ONLINE

DeepLearning.AI



Training Linear Regression

Gradient Descent Intuition

Gradient descent algorithm

repeat until convergence {

learning rate

$$w = w - \alpha \frac{\partial}{\partial w} J(w,b)$$

derivative

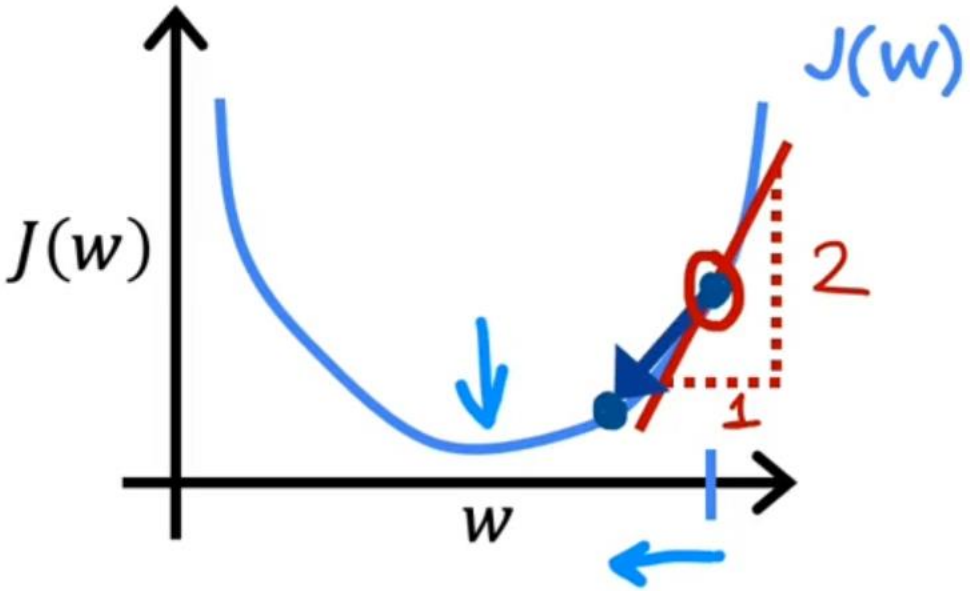
$$b = b - \alpha \frac{\partial}{\partial b} J(w,b)$$

}

$J(w)$

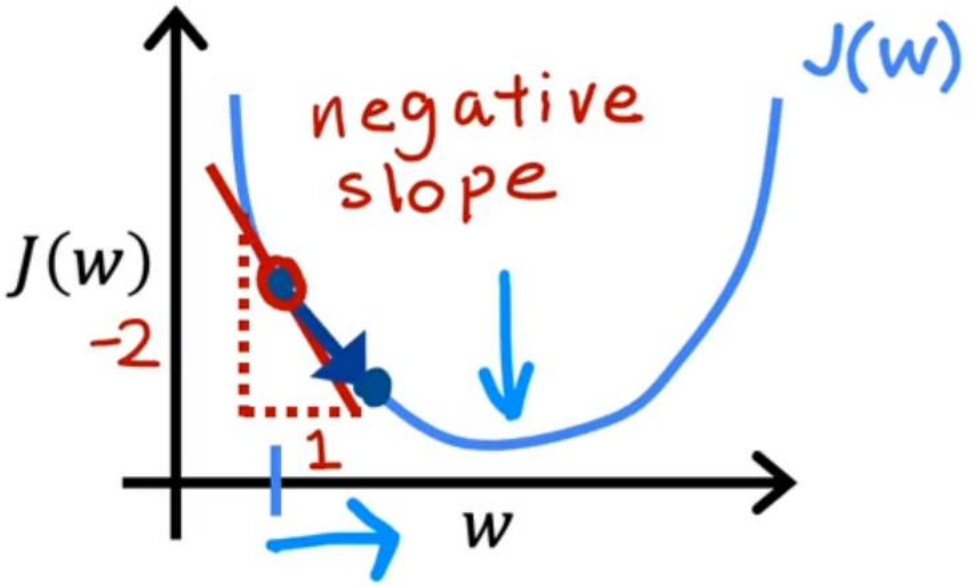
$$w = w - \alpha \frac{\partial}{\partial w} J(w)$$

$$\min_{w} J(w)$$



$$w = w - \alpha \underbrace{\frac{d}{dw} J(w)}_{>0}$$

$$w = w - \alpha \cdot (positive\ number)$$



$$\underbrace{\frac{d}{dw} J(w)}_{<0}$$

$$w = w - \alpha \cdot (negative\ number)$$