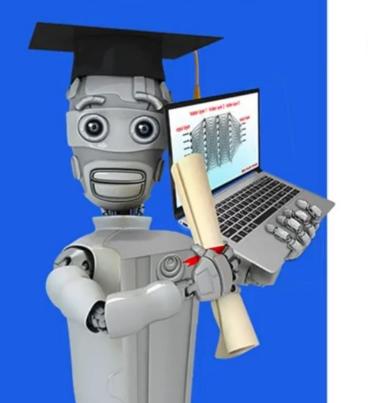
Stanford ONLINE

DeepLearning.Al



Training Linear Regression

Implementing Gradient Descent

Gradient descent algorithm

Repeat until convergence

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

Learning rate
Derivative

Simultaneously update w and b

Assignment

$$a = C$$

$$\alpha = \alpha + 1$$

Code

Truth assertion

$$\alpha = \alpha + 1$$

Math

Correct: Simultaneous update

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

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

$$w = tmp_{w}$$

$$b = tmp_{b}$$

Incorrect

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

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

$$\underline{b} = tmp_b$$