

Ruhan  
Karimov

02220224653

*Ruhan*

İkinci iterasyon.

$$\theta_0 = 0,2$$

$$\theta_1 = 0,26$$

x	$h_\theta(x)$	y	hata
0	$0,2 + 0,26 \cdot 0 = 0,2$	1	-0,8
1	$0,2 + 0,26 \cdot 1 = 0,46$	2	-1,54
2	$0,2 + 0,26 \cdot 2 = 0,72$	3	-2,28

$$J(\theta) = \frac{1}{2 \cdot 3} \sum_{i=1}^3 (h_\theta(x_i) - y_i)^2 = \frac{1}{6} ((-0,8)^2 + (-1,54)^2 + (-2,28)^2) = 1,368333...$$

$$J(\theta) = 1,368333...$$

ortalama hata

$$\frac{\partial J(\theta)}{\partial \theta_0} = \frac{1}{3} (-0,8 + (-1,54) + (-2,28)) \cdot 1 = -1,54$$

$$\frac{\partial J(\theta)}{\partial \theta_1} = \frac{1}{3} ((-0,8) \cdot 0 + (-1,54) \cdot 1 + (-2,28) \cdot 2) = -2,0333...$$

$$\theta_0 = 0,2 - (0,1) \cdot (-1,54) = 0,354$$

$$\theta_1 = 0,26 - (0,1) \cdot (-2,0333) = 0,46333...$$

Üçüncü iterasyon

$$\theta_0 = 0,354$$

$$\theta_1 = 0,46333...$$

x	$h_\theta(x)$	y	hata
0	$0,354 + 0,46333 \cdot 0 = 0,354$	1	-0,646
1	$0,354 + 0,46333 \cdot 1 = 0,81733$	2	-1,18267
2	$0,354 + 0,46333 \cdot 2 = 1,28066$	3	-1,71934

$$J(\theta) = 4,87215436$$

$$\frac{\partial J(\theta)}{\partial \theta_0} = -1,18267$$

$$\frac{\partial J(\theta)}{\partial \theta_1} = -4,62135$$

$$\theta_0 = 0,354 - (0,1) \cdot (-1,18267) = 0,472267$$

$$\theta_1 = 0,46333 - (0,1) \cdot (-4,62135) = 0,925465$$

$$\theta_0 = 0,472267$$

$$\theta_1 = 0,925465$$