

2. Multiple Regression Analysis (다중회귀분석)

2019년 4월 3일 수요일 오전 10:23

1. **Definition**

Multi-variable

$$H(x_1, x_2, x_3) = w_1x_1 + w_2x_2 + w_3x_3 + b$$

$$H(x_1, x_2, x_3, \dots, x_n) = w_1x_1 + w_2x_2 + w_3x_3 + \dots + w_nx_n + b$$

2. **Hypothesis**

$$H(x_1, x_2, x_3) = w_1x_1 + w_2x_2 + w_3x_3 + b$$



$$(x_1 \quad x_2 \quad x_3) \cdot \begin{pmatrix} w_1 \\ w_2 \\ w_3 \end{pmatrix} = (x_1w_1 + x_2w_2 + x_3w_3)$$

$$H(X) = XW$$

3. **Cost function**

$$\text{cost}(W, b) = \frac{1}{m} \sum_{i=1}^m (H(x_1^{(i)}, x_2^{(i)}, x_3^{(i)}) - y^{(i)})^2$$

4. **Gradient descent algorithm**