

Graded Assignment 1

1e)

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$$X = \begin{bmatrix} 1 & x_1^1 & \dots & x_n^1 \\ \vdots & \vdots & \ddots & \vdots \\ 1 & x_1^m & \dots & x_n^m \end{bmatrix}$$

and

$$\vec{y} = \begin{bmatrix} y^0 \\ \vdots \\ y^m \end{bmatrix}$$

then the θ update rule looks like this:

$$\vec{\theta} := \vec{\theta} - \frac{\alpha}{m} X^T \cdot (\vec{\theta}^T X - \vec{y})$$

Use X^T because X is $(m \times n)$ and \vec{y} is $(m \times 1)$ so you need $(n \times m) \cdot (m \times 1)$ for the dot product to work.