

Mean Squared Error (MSE):

$$J = \frac{1}{2m} \sum_{i=1}^m \left(\hat{y}^{(i)} - y^{(i)} \right)^2$$

$$\frac{\partial J}{\partial \theta} = \frac{1}{m} \sum_{i=1}^m \left(\hat{y}^{(i)} - y^{(i)} \right) \cdot \frac{\partial \hat{y}^{(i)}}{\partial \theta}$$

Mean Absolute Error (MAE)

$$J = \frac{1}{n} \sum_{i=1}^n |\hat{y}^{(i)} - y^{(i)}| =$$

$$\frac{\partial J}{\partial \theta} = \frac{1}{n} \sum_{i=1}^n \text{sgn}(\hat{y}^{(i)} - y^{(i)}) \cdot \frac{\partial \hat{y}^{(i)}}{\partial \theta}$$

