

Practice quiz: Cost function for logistic regression

Puntos totales 2

1.

1 punto

$$\overbrace{J(\vec{w}, b)}^? = \frac{1}{m} \sum_{i=1}^m \underbrace{L(f_{\vec{w}, b}(\vec{x}^{(i)}), y^{(i)})}_?$$

In this lecture series, "cost" and "loss" have distinct meanings. Which one applies to a single training example?

- ☒ Loss
- ☒ Cost
- ☒ Both Loss and Cost
- ☐ Neither Loss nor Cost

2.

1 punto

Simplified **loss** function

$$L(f_{\vec{w}, b}(\vec{x}^{(i)}), y^{(i)}) = \begin{cases} -\log(f_{\vec{w}, b}(\vec{x}^{(i)})) & \text{if } y^{(i)} = 1 \\ -\log(1 - f_{\vec{w}, b}(\vec{x}^{(i)})) & \text{if } y^{(i)} = 0 \end{cases}$$

$$L(f_{\vec{w}, b}(\vec{x}^{(i)}), y^{(i)}) = -y^{(i)} \log(f_{\vec{w}, b}(\vec{x}^{(i)})) - (1 - y^{(i)}) \log(1 - f_{\vec{w}, b}(\vec{x}^{(i)}))$$

For the simplified loss function, if the label $y^{(i)} = 0$, then what does this expression simplify to?

- ☐ $\log(1 - f_{\vec{w}, b}(\mathbf{x}^{(i)})) + \log(1 - f_{\vec{w}, b}(\mathbf{x}^{(i)}))$
- ☒ $-\log(1 - f_{\vec{w}, b}(\mathbf{x}^{(i)}))$
- ☐ $\log(f_{\vec{w}, b}(\mathbf{x}^{(i)}))$
- ☐ $-\log(1 - f_{\vec{w}, b}(\mathbf{x}^{(i)})) - \log(1 - f_{\vec{w}, b}(\mathbf{x}^{(i)}))$

