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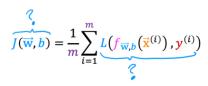
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1



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

✓ Loss

⊘ Correct

In these lectures, loss is calculated on a single training example. It is worth noting that this definition is not universal. Other lecture series may have a different definition.

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

2.

1/1 point

Simplified loss function

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

$$L(f_{\overline{\mathbf{w}},b}(\overline{\mathbf{x}}^{(t)}), \mathbf{y}^{(t)}) = -\mathbf{y}^{(t)}\log(f_{\overline{\mathbf{w}},b}(\overline{\mathbf{x}}^{(t)})) - (1 - \mathbf{y}^{(t)})\log(1 - f_{\overline{\mathbf{w}},b}(\overline{\mathbf{x}}^{(t)}))$$

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

- $\bigcirc \ \log(1-f_{\vec{\mathbf{w}},b}(\mathbf{x}^{(i)})) + log(1-f_{\vec{\mathbf{w}},b}(\mathbf{x}^{(i)}))$
- $\bigcirc \ -\log(1-f_{\vec{\mathbf{w}},b}(\mathbf{x}^{(i)})) log(1-f_{\vec{\mathbf{w}},b}(\mathbf{x}^{(i)}))$
- \bigcirc $-\log(1-f_{\vec{\mathbf{w}},b}(\mathbf{x}^{(i)}))$
- $\bigcirc \log(f_{\vec{w},b}(\mathbf{x}^{(i)})$
- **⊘** Correct

When $y^{(i)}=0$, the first term reduces to zero.