

Practice quiz: Decision tree learning

Graded Quiz • 30 min

Due Feb 19, 11:59 PM EET

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Congratulations! You passed!

Grade received 80%

Practice quiz: Decision tree learning

To pass 80% or higher

Quiz • 30 min

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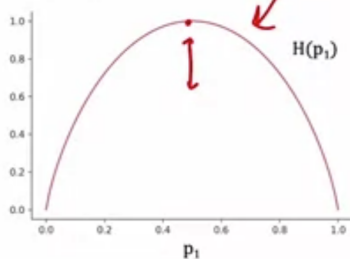
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Try again

1. Entropy as a measure of impurity

0 / 1 point

Ren

 p_1 = fraction of examples that are cats

$$p_0 = 1 - p_1$$

$$\begin{aligned} H(p_1) &= -p_1 \log_2(p_1) - p_0 \log_2(p_0) \\ &= -p_1 \log_2(p_1) - (1 - p_1) \log_2(1 - p_1) \end{aligned}$$

Note: " $0 \log(0)$ " = 0

Re

To Pass

Your grade

80%

Recall that entropy was defined in lecture as $H(p_1) = -p_1 \log_2(p_1) - p_0 \log_2(p_0)$, where p_1 is the fraction of positive examples and p_0 the fraction of negative examples.

View Feedback

We keep your highest score

At a given node of a decision tree, 6 of 10 examples are cats and 4 of 10 are not cats. Which expression calculates the entropy $H(p_1)$ of this group of 10 animals?



Like



Dislike



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☒ $-(0.6) \log_2(0.6) - (1 - 0.4) \log_2(1 - 0.4)$

☐ $(0.6) \log_2(0.6) + (0.4) \log_2(0.4)$

☐ $-(0.6) \log_2(0.6) - (0.4) \log_2(0.4)$

☐ $(0.6) \log_2(0.6) + (1 - 0.4) \log_2(1 - 0.4)$

