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Details

Questions

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Question

1 pts

In the discriminative approach to solving classification problems, we model the conditional probability of the labels given the observations.

Answer

 True False

Question

1 pts

Which is true about generative and discriminative models?

Answer

 Generative models model the joint distribution $P(\text{class} = C \text{ AND sample} = x)$ Perceptron is a generative model

Answer

 Logistic regression is a discriminative model

Answer

 The naive Bayes classifier is a generative model

Question

1 pts

Assume you are learning a generative naive Bayes model with some training data of which the label distribution does not reflect the real-world label distribution (and that of the test data).

Which of the following probabilities would you use to best estimate whether or not to predict y_0 given input X ?

$P(X|y_0)P(y_0)$

$P(X|y_0)$

$P(X, y_0)$

$P(X)P(y_0)$

answer

⋮ Question

1 pts

Assume you have a program that prints one of the 3 labels A, B, C every time you run it. The distribution of the printed result of each run is $P(A)=m$, $P(B)=m$, $P(C)=1-2m$.

Assume in a single trial, you run this program 15 times and observe 3 times of A, 1 time of B and 11 times of C in the printed outputs, according to MLE, what is the estimation of m ?

1/15

2/15

1/6

1/5

answer

⋮ Question

1 pts

When estimating probabilities, why do we need smoothing?

When the data is too sparse, the estimate is not accurate.

When the data is too dense, the estimate is not accurate.

To give unseen examples in test data a non-zero probability.

answer

answer

To give examples in training data more weights than unseen examples in test data.

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