Machine Learning System Design

Quiz, 5 questions

5/5 points (100%)

✔ Congratulations! You passed!

Next Item

✔ 1 / 1 points

1.

You are working on a spam classification system using regularized logistic regression. "Spam" is a positive class (y = 1) and "not spam" is the negative class (y = 0). You have trained your classifier and there are m = 1000 examples in the cross-validation set. The chart of predicted class vs. actual class is:

	Actual Class: 1	Actual Class: 0
Predicted Class: 1	85	890
Predicted Class: 0	15	10

For reference:

- Accuracy = (true positives + true negatives) / (total examples)
- Precision = (true positives) / (true positives + false positives)
- Recall = (true positives) / (true positives + false negatives)
- F_1 score = (2 * precision * recall) / (precision + recall)

What is the classifier's F_1 score (as a value from 0 to 1)?

Enter your answer in the box below. If necessary, provide at least two values after the decimal point.

✔ 1 / 1 points

2.

Suppose a massive dataset is available for training a learning algorithm. Training on a lot of data is likely to give good performance when two of the following conditions hold true.

Which are the two?

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1 / 1 points

3.
Suppose you have trained a logistic regression classifier which is outputing $h_\theta(x)$.

Currently, you predict 1 if $h_\theta(x) \geq \text{threshold}$, and predict 0 if $h_\theta(x) lt \text{threshold}$, where currently the threshold is set to 0.5.

Suppose you **decrease** the threshold to 0.1. Which of the following are true? Check all that apply.

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1 / 1 points

4.
Suppose you are working on a spam classifier, where spam

emails are positive examples ($y = 1$) and non-spam emails are

negative examples ($y = 0$). You have a training set of emails

in which 99% of the emails are non-spam and the other 1% is

spam. Which of the following statements are true? Check all

that apply.

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1 / 1 points

5.
Which of the following statements are true? Check all that apply.
