<u>Help</u>

akanchha_ece v

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☆ Course / Week 1: Prediction Problems / Comprehension Quiz 1

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< Previous</pre> Next > Quiz 1

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Comprehension Quiz due Nov 4, 2023 14:52 CET Completed

Problem 1

1/1 point (graded)

Suppose you have collected a set of 1,000,000 labeled data points and you build a nearest neighbor classifier from them. You then choose 100 of these points at random, and find that your classifier returns the correct answer on all of them. Can you conclude that your algorithm works with a 0% error rate on any input? Why or why not?

Yes, you have empirical evidence indicating a 0% error
Yes, since there were 100 random experiments, all of which returned the right answer
O No, more random experiments are required because the data set is large
No, the randomly selected points are from the training set, so nearest neighbor gets them right
✓
Submit
Problem 2
1/1 point (graded) What are the differences between test error and training error?
 Test error is a poor indicator of model accuracy; training error provides an accurate indication of model accuracy.
Test error is the error a model exhibits on new data; training error is the error a model exhibits on data that it has already seen.
Test error decreases as the test set grows; training error increases as the training set grows.
Submit
Problem 3
1/1 point (graded) Let's say you develop a classification algorithm and you are given a training set of 100,000 points. Your algorithm requires a parameter, $m{k}$, on which the accuracy of the model depends. Which of the following is most likely to determine a value of $m{k}$ that will result in a low error rate?
\bigcirc Choose the value of $m{k}$ that minimizes the error on the training set
\bigcirc Use a subset of the training set as a validation set and choose the value of \pmb{k} that results in the lowest error rate on this validation set when the classifier is trained on the remainder of the training set
Use a subset of the training set as a validation set and choose the value of k that results in the lowest error rate on this validation set when the classifier is trained on the entire training set

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roblem 4	
	d) $\log a$ value of $m{k}$ for $m{k}$ -nearest neighbor classification, a larger value of $m{k}$ will necessarily maller error rate.
○ True	
False	
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Problem 10

1/1 point (graded)

A key difference between algorithms and machine learning is that an algorithm designer provides a clearly defined process for mapping an input to an output, whereas a person designing a classifier does not need to provide a clearly defined process for mapping inputs to outputs.

True			
False			
~			
Submit			

Problem 11

1/1 point (graded)

What type of output space do classification problems have?

Discrete	
○ Continuous	
O Probability Values	

Problem 12

Submit

1/1 point (graded)

hich of the following are possible output values for probability estimation?		
$\bigcirc \ (-\infty,\infty)$		
$\bigcirc \ [0,\infty)$		
$\bigcirc \ \{true, false\}$		
● [0, 1]		



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