

05.01 Worksheet: Building and Evaluating Classifiers



Name

Class

Question 1

- a) What is the difference between a training dataset and a testing dataset?





- b) Jacki ran out of time in building her sound classifier, so just decided to use the same dataset recordings for both training and testing. What could happen as a result of doing this and explain how this might be a disadvantage for her classifier.

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Question 2

Predicted

	 Dog	 Cat	
Actual	 Dog	17	3
	 Cat	5	10

Fill in the table below:





Images of dogs which were correctly classified as dogs	
Images of dogs which were incorrectly classified as cats	
Images of cats which were incorrectly classified as dogs	
Images of cats which were correctly classified as cats	
Total images of cats	
Total images of dogs	

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Question 3

Predicted

		Drums 	Bell 
Actual	Drums 	5	5
	Bell 	8	7

Fill in the table below:

Sounds of drums which were incorrectly classified as bells	
Sounds of bells which were incorrectly classified as drums	
Sounds of bells which were correctly classified as bells	
Sounds of drums which were correctly classified as drums	
Total sounds of bells	
Total sounds of drums	

Do you think this is a very accurate classifier? Why or why not?

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Question 4

Your task is to build an image classifier that detects two classes of sushi:

- Tuna Nigiri
- Salmon Nigiri

In the training process, remember to use at least 20 images of each class.

In the testing process, use at least 10 images of each class which were not used in the training set.

Fill in the confusion matrix below once you have completed testing:

		Predicted	
		Tuna Nigiri	Salmon Nigiri
Actual	Tuna Nigiri		
	Salmon Nigiri		

Fill in the table below:

Images of Salmon which were correctly classified as Salmon	
Images of Salmon which were incorrectly classified as Tuna	
Images of Tuna which were correctly classified as Tuna	
Images of Tuna which were incorrectly classified as Salmon	
Total Images of Salmon	
Total Images of Tuna	

Do you think your classifier was accurate? Why or why not?

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How do you think a classifier like this could be used in the real world?

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