S2 - Quiz

Due 13 May at 9:00 **Points** 100 **Questions** 9

Available 6 May at 13:00 - 13 May at 9:00 Time limit 30 Minutes

Instructions

Instructions:

- 1. You have 30 minutes to attempt the quiz
- 2. Once you start the quiz, you cannot go back and re-attempt it
- 3. You will not find answers online, so please make sure you are ready for the quiz
- 4. For Multiple Answer Questions, ALL the answers must be correct to score any point

Sometimes you might see multiple empty options. Please do not consider those empty options, that's some rendering issue, the options you see are the only options available for that question.

Attempt history

	Attempt	Time	Score
LATEST	Attempt 1	5 minutes	97.5 out of 100

Score for this quiz: 97.5 out of 100

Submitted 12 May at 10:39 This attempt took 5 minutes.

Question 1	10 / 10 pts
If we perform convolution with a kerne size would be?	el of size 3x3 on 47x49, the output
Convolution cannot be performed of	on a rectangular channel
○ 45x45	

Which of these are true, w.r.t. what we discussed in Session

We add as many layers as required to reach full image/object size

We normally add padding to keep the output channel size same as the input channel

We nearly always use kernels with stride of 1, unless we need to pool the layers

We always use a kernel with size 3x3

How many 3x3 layers do we need to add to reach a receptive field of 21x21? 11 9

Question 4 10 / 10 pts

Let us assume we have an image of size 100x100. What is the minimum number of **convolution layers** do we need to add such that

- 1. you cannot use max-pooling without convolving twice or more
- 2. the output is at least 2-3 convolution layers away from max-pooling
- 3. You can stop either at 2x2 or 1x1 based on how you have used your layers
- 4. we will always "not consider" the last rows and columns in an odd-resolution channel while performing max-pooling)
- 5. "do not" count the max-pooling layer

Correct!

10			
9			
O 11			
O 13			

	Question 5 10 / 10 pts	
	If the input layer has 128 channels, how many kernels do we need to add?	
	O Exactly 128	-
Correct!	Number of Kernels do not depend on input channels	
	O 32	

64

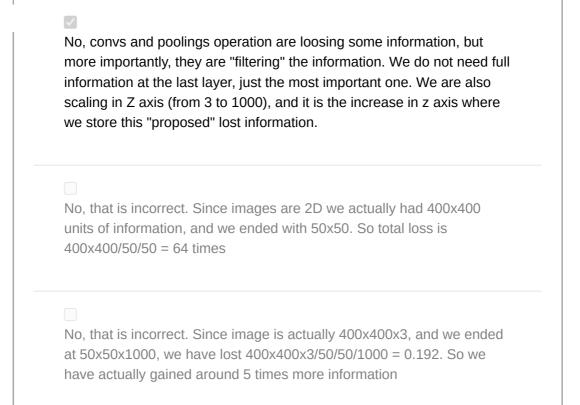
	Question 6 10 / 10 pts
	Consider the following layers 49x49x256 Convolved with 512 kernels of size 3x3 What is the total number of kernel parameters we just added?
Correct!	1179648
	O 2304
	O 4608
	O 314703872

Consider this network 400x400x3 | 32x(3x3x3) | 398x398x32 | 64x(3x3x32) | 396x396x64 | 128x(3x3x64) | 394x394x128 | 256x(3x3x128) | 392x392x256 | 512x(3x3x256) | 390x390x512 | 1024x(3x3x512) | MaxPooling(2x2) ... Assume this network is trained and we are doing inference on an image. Before we hit the max-pooling layer, how many channels of size

more than 350x350 are there in the GPU RAM?

Question 9	15 / 15 pts
If we start with an image of 400x400 color, and du MaxPooling 4 times, reducing the image size to 40 used convs with padding, so convs did not reduce have we lost 4 times the information we started with 1000 channels.	00>200>100>50 (we the image size),
Yes, that's correct, that is what information theory	y would predict

Correct!



Quiz score: **97.5** out of 100