Assignment 12

The due date for submitting this assignment has passed. Due on 2020-04-22, 23:59 IST. As per our records you have not submitted this assignment.

COMMON DATA FOR QUESTIONS 1 TO 5
Consider a neural network with the following layer configurations for a 1000 class classification problem. We train using stochastic gradient descent, i.e. instead of passing the entire input dataset at one go, we iterate over the dataset and for each individual input example, we perform the forward pass, calculate the loss and then perform the backward pass to update the training parameters. The dimensions of the input image is [3x227x227]. The layer specification is as follows.

CONV1: Convolution Layer with 96 11x11 filters at stride 4, pad 0
MAX POOL1: Max Pooling Layer with 3x3 filters at stride 2
CONV2: Convolution Layer with 256 5x5 filters at stride 1, pad 2
MAX POOL2: Max Pooling Layer with 3x3 filters at stride 2
CONV3: Convolution Layer with 384 3x3 filters at stride 1, pad 1
CONV4: Convolution Layer with 384 3x3 filters at stride 1, pad 1
CONV5: Convolution Layer with 256 3x3 filters at stride 1, pad 1
MAX POOL3: Max Pooling Layer with 3x3 filters at stride 2

After the last layer, the image volume is linearized and fed to a Fully Connected Layer that would yield a vector of 1000 class scores.

The possible intermediate dimensions of the outputs of each layer are as follows.

i) [96x27x27]
ii) [96x55x55]
iii) [256x27x27]
iv) [256x13x13]
v) [384x13x13]
vi) [256x6x6]

1) What are the dimensions for the output of layer CONV1?

A. i)  
B. ii)  
C. iv)  
D. v)

No, the answer is incorrect.
Score: 0
Accepted Answers:
B.
2) What are the dimensions for the output of layer CONV2?

A. i)
B. ii)
C. iii)
D. iv)

No, the answer is incorrect.
Score: 0
Accepted Answers: C.

3) What are the dimensions for the output of layer MAXPOOL2?

A. ii)
B. iii)
C. iv)
D. v)

No, the answer is incorrect.
Score: 0
Accepted Answers: C.

4) What are the dimensions for the output of layer MAXPOOL3?

A. iii)
B. iv)
C. v)
D. vi)

No, the answer is incorrect.
Score: 0
Accepted Answers: D.

5)
What are the dimensions for the weight matrix in the last fully connected layer?

A. 9216 x 1000  
B. 384x1000  
C. 256 x 1000  
D. 96 x 1000

No, the answer is incorrect.
Score: 0
Accepted Answers: 
A.