The basics of ConvNets

10/10 points (100.00%)

测验, 10 个问题

✔ 　**恭喜！您通过了！**

　　　　　　　　　　　　　　　　　　　　　　　　　　　┌──────────────┐
　　　　　　　　　　　　　　　　　　　　　　　　　　　│　　　　下一项　　　　│
　　　　　　　　　　　　　　　　　　　　　　　　　　　└──────────────┘

✔　　1/1 分

1.

What do you think applying this filter to a grayscale image will do?

$$\begin{bmatrix} 0 & 1 & -1 & 0 \\ 1 & 3 & -3 & -1 \\ 1 & 3 & -3 & -1 \\ 0 & 1 & -1 & 0 \end{bmatrix}$$

✔　　1/1 分

2.

Suppose your input is a 300 by 300 color (RGB) image, and you are not using a convolutional network. If the first hidden layer has 100 neurons, each one fully connected to the input, how many parameters does this hidden layer have (including the bias parameters)?

✔　　1/1 分

3.

Suppose your input is a 300 by 300 color (RGB) image, and you use a convolutional layer with 100 filters that are each 5x5. How many parameters does this hidden layer have (including the bias parameters)?

✔　　1/1 分

4.

You have an input volume that is 63x63x16, and convolve it with 32 filters that are each 7x7, using a stride of 2 and no padding. What is the output volume?

The basics of ConvNets

测验, 10 个问题

10/10 points (100.00%)

✓ 1/1 分

5.
You have an input volume that is 15x15x8, and pad it using "pad=2." What is the dimension of the resulting volume (after padding)?

✓ 1/1 分

6.
You have an input volume that is 63x63x16, and convolve it with 32 filters that are each 7x7, and stride of 1. You want to use a "same" convolution. What is the padding?

✓ 1/1 分

7.
You have an input volume that is 32x32x16, and apply max pooling with a stride of 2 and a filter size of 2. What is the output volume?

✓ 1/1 分

8.
Because pooling layers do not have parameters, they do not affect the backpropagation (derivatives) calculation.

✓ 1/1 分

9.
In lecture we talked about "parameter sharing" as a benefit of using convolutional networks. Which of the following statements about parameter sharing in ConvNets are true? (Check all that apply.)

✓ 1/1 分

10.
In lecture we talked about "sparsity of connections" as a benefit of using convolutional layers. What does this mean?

The basics of ConvNets

10/10 points (100.00%)

测验, 10 个问题