deeplearning.ai

Convolutional Neural Networks

Convolutional neural network example

Neural network example

CONV1

POOL1

CONV2

POOL2

$f=5$
$s=1$

$32 \times 32 \times 3$

$28 \times 28 \times 6$

maxpool
$f=2$
$s=2$

$14 \times 14 \times 6$

$f=5$
$s=1$

$10 \times 10 \times 16$

maxpool
$f=2$
$s=2$

$5 \times 5 \times 16$

$= $

(400)

Layer 1

Layer 2

FC3

FC4

$W^{[3]}$ (120, 400)

$b^{[3]}$ (120)

(120)

84

$\rightarrow$ O Softmax

(10 outputs)

$0, 1, 2, \ldots 9$

$n_H, n_W \downarrow$

$n_C \uparrow$

越来越小

越来越长

CONV — POOL — CONV — POOL — FC — FC — FC — SOFTMAX

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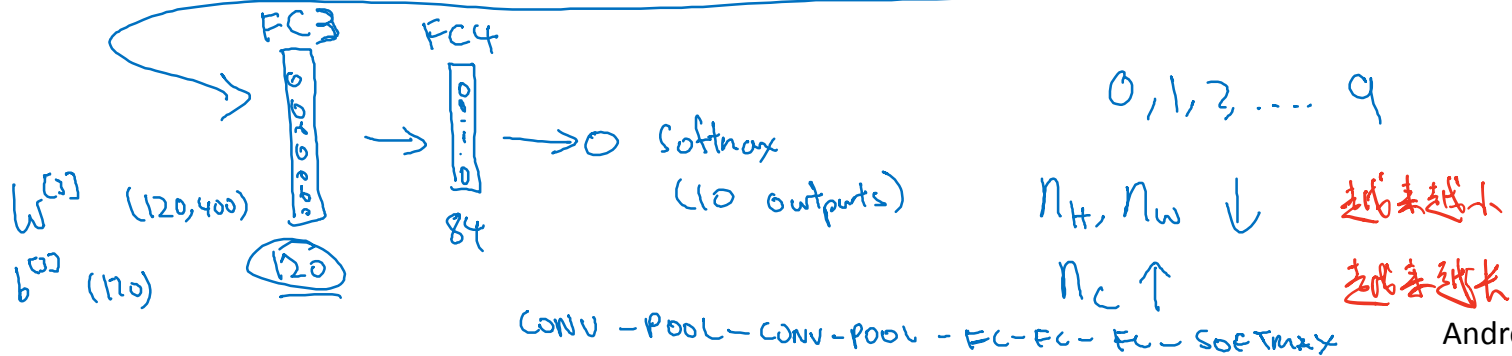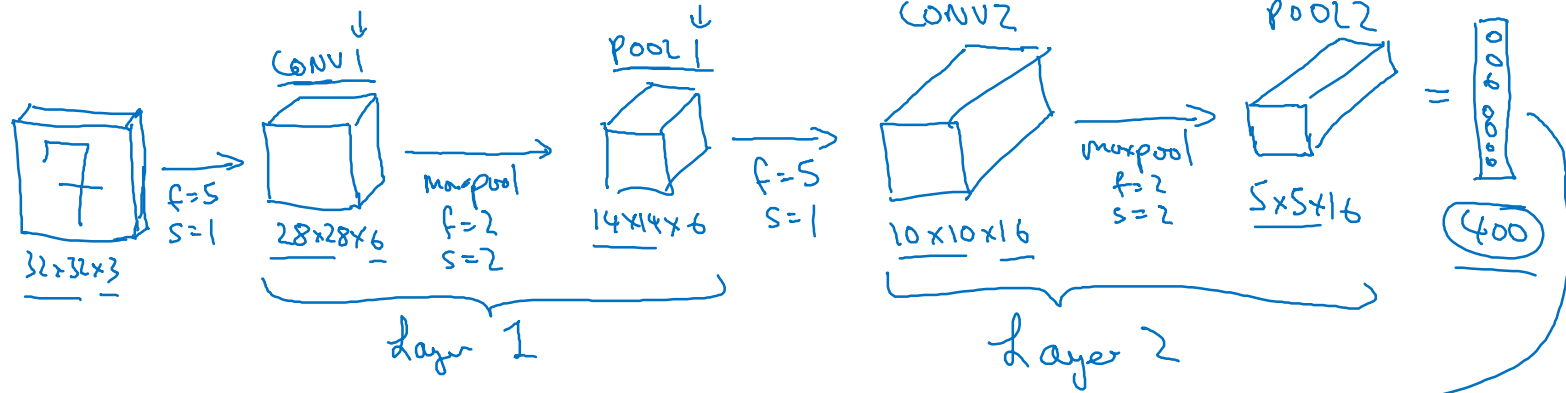
Neural network example

	Activation shape	Activation Size	# parameters
Input:	(32,32,3)	— 3,072 $a^{[0]}$	0
CONV1(f=5, s=1)	(28,28,8)	6272	608 ←
POOL1	(14, 14, 8)	1,568	0 ←
CONV2(f=5, s=1)	(10, 10, 16)	1,600	3,216 ←
POOL2	(5, 5, 16)	400	0 ←
FC3	(120, 1)	120	48,120 } 参数主
FC4	(84, 1)	84	10,164 } 要分在 这儿
Softmax	(10, 1)	10	850

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