Convolutional
Neural Networks

Convolutional neural
network example

deeplearning.ai

Neural network example (LeNet-5)

CONV1 ↓

POOL1 ↓

CONV2

POOL2

32×32×3

$f=5$
$s=1$

28×28×6

maxpool
$f=2$
$s=2$

14×14×6

$f=5$
$s=1$

10×10×16

maxpool
$f=2$
$s=2$

5×5×16

(400)

$\underbrace{\qquad\qquad\qquad\qquad}_{\text{Layer 1}}$

$\underbrace{\qquad\qquad\qquad\qquad}_{\text{Layer 2}}$

FC3

FC4

→ O Softmax
(10 outputs)

0, 1, 2, ... 9

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

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

(120)

84

n_H, n_W ↓

n_C ↑

CONV - POOL - CONV - POOL - FC - FC - FC - SOFTMAX

Andrew Ng
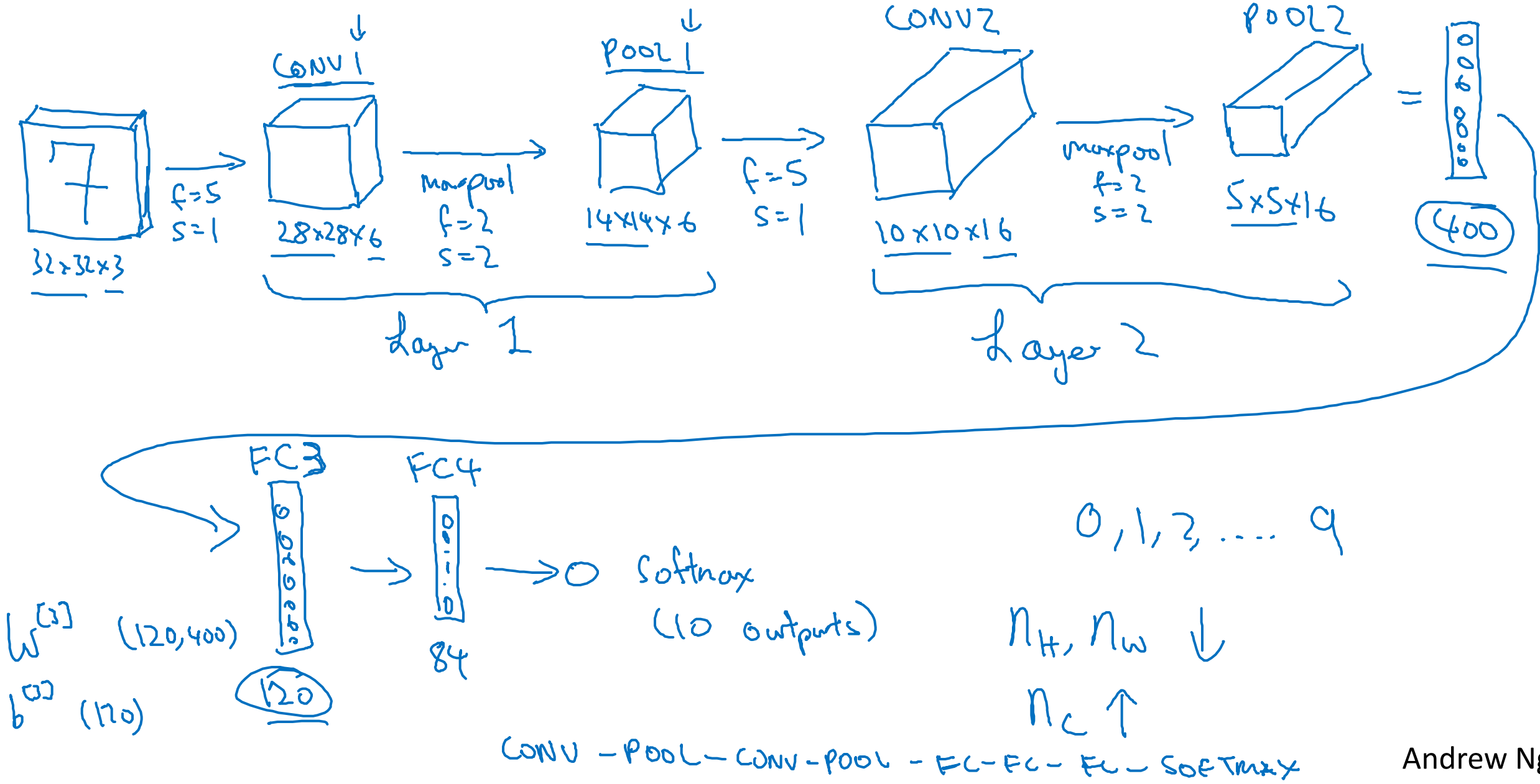
Neural network example

	Activation shape	Activation Size	# parameters
Input:	(32,32,3)	3,072 $a^{[0]}$	0