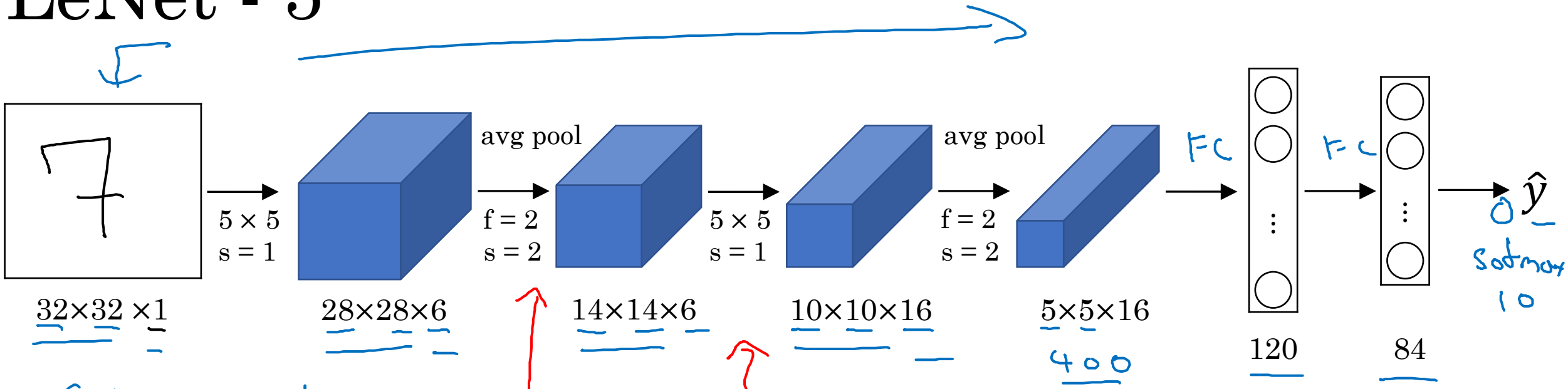
deeplearning.ai

Case Studies

Classic networks

LeNet - 5



60k parameters.

$n_H, n_W \downarrow$ $n_C \uparrow$

Non-linearity after pooling

$n_H \times n_W \times n_C$ $f \times f \times n_C$

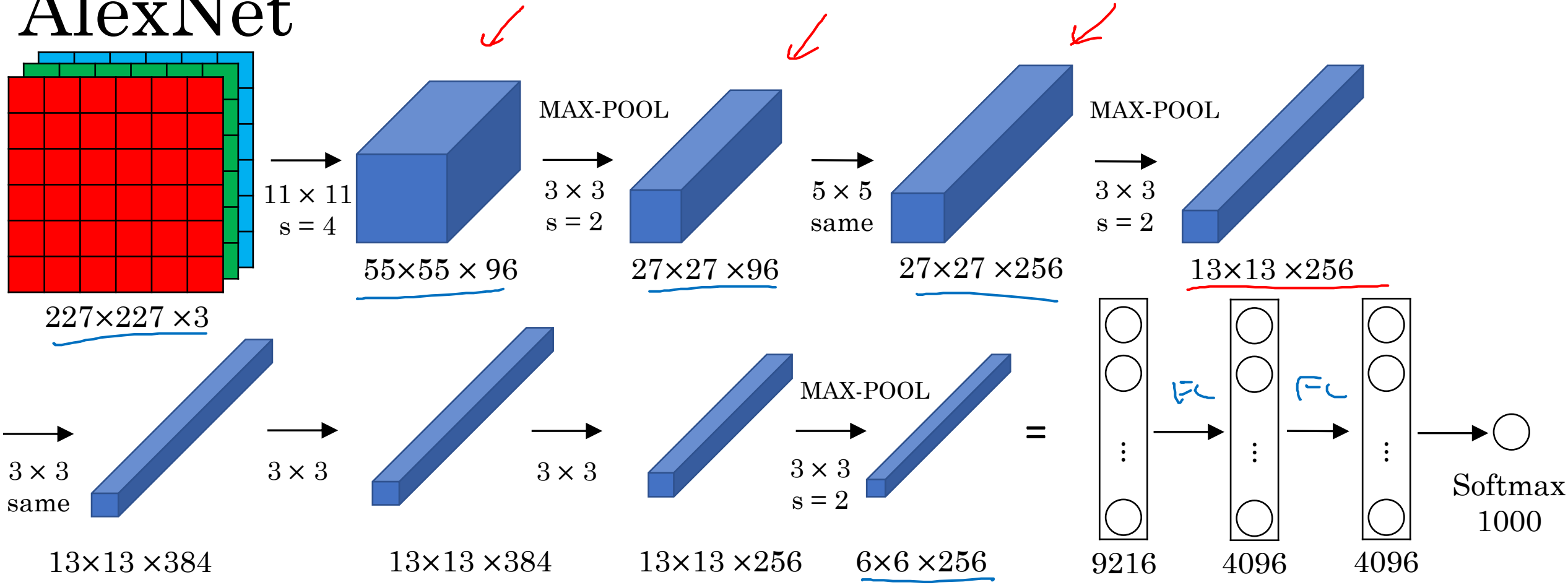
conv pool conv pool fc fc output

Advanced: sigmoid/tanh ReLU

II III.

[LeCun et al., 1998. Gradient-based learning applied to document recognition]

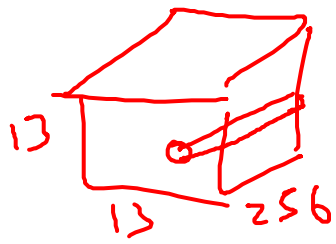
AlexNet



- Similar to LeNet, but much bigger.
- ReLU
- Multiple GPUs.
- Local Response Normalization (LRN)

9216

60M parameters

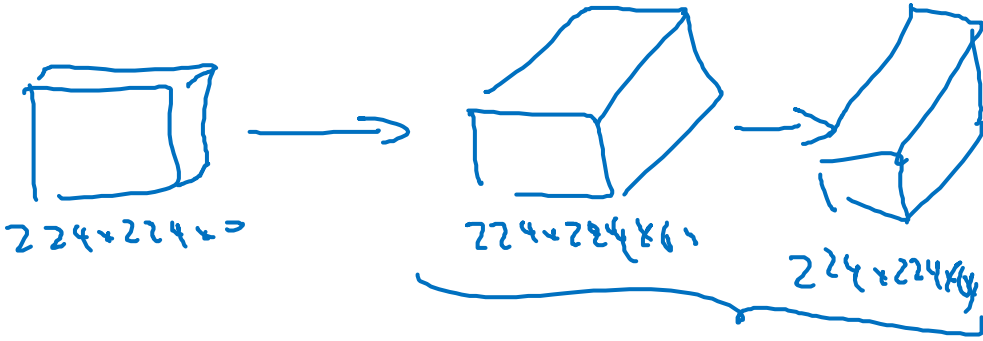


[Krizhevsky et al., 2012. ImageNet classification with deep convolutional neural networks]

VGG - 16

VGG-19

CONV = 3×3 filter, s = 1, same MAX-POOL = 2×2 , s = 2



$n_H, n_W \downarrow$ $n_c \uparrow$ ~138M

[Simonyan & Zisserman 2015. Very deep convolutional networks for large-scale image recognition]

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