Case Studies

Inception network

deeplearning.ai

Inception module

Previous Activation
$28 \times 28 \times 192$

1×1 CONV
$28 \times 28 \times 64$

1×1 CONV 96
3×3 CONV
$28 \times 28 \times 128$

1×1 CONV 16
5×5 CONV
$28 \times 28 \times 32$

MAXPOOL $3 \times 3, s = 1$ same
$28 \times 28 \times 192$

1×1 CONV
$28 \times 28 \times 32$ ← 32 filters, $1 \times 1 \times 192$.

Channel Concat
$28 \times 28 \times 256$

28 28 32 32 128 64

So this is one inception module. And what the inception network does is more or less put a lot of these modules together.

Andrew Ng

Inception network

[Szegedy et al., 2014, Going Deeper with Convolutions]
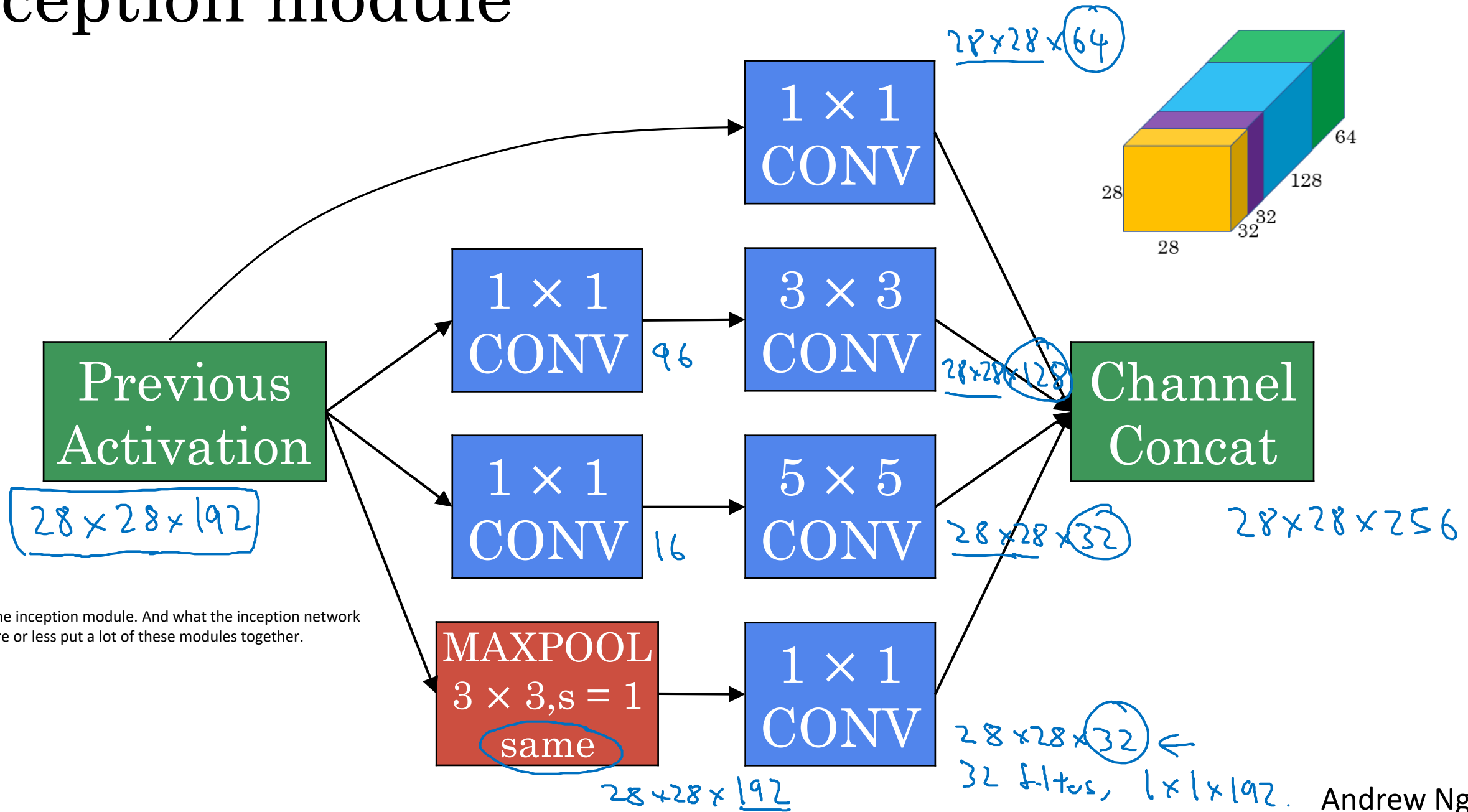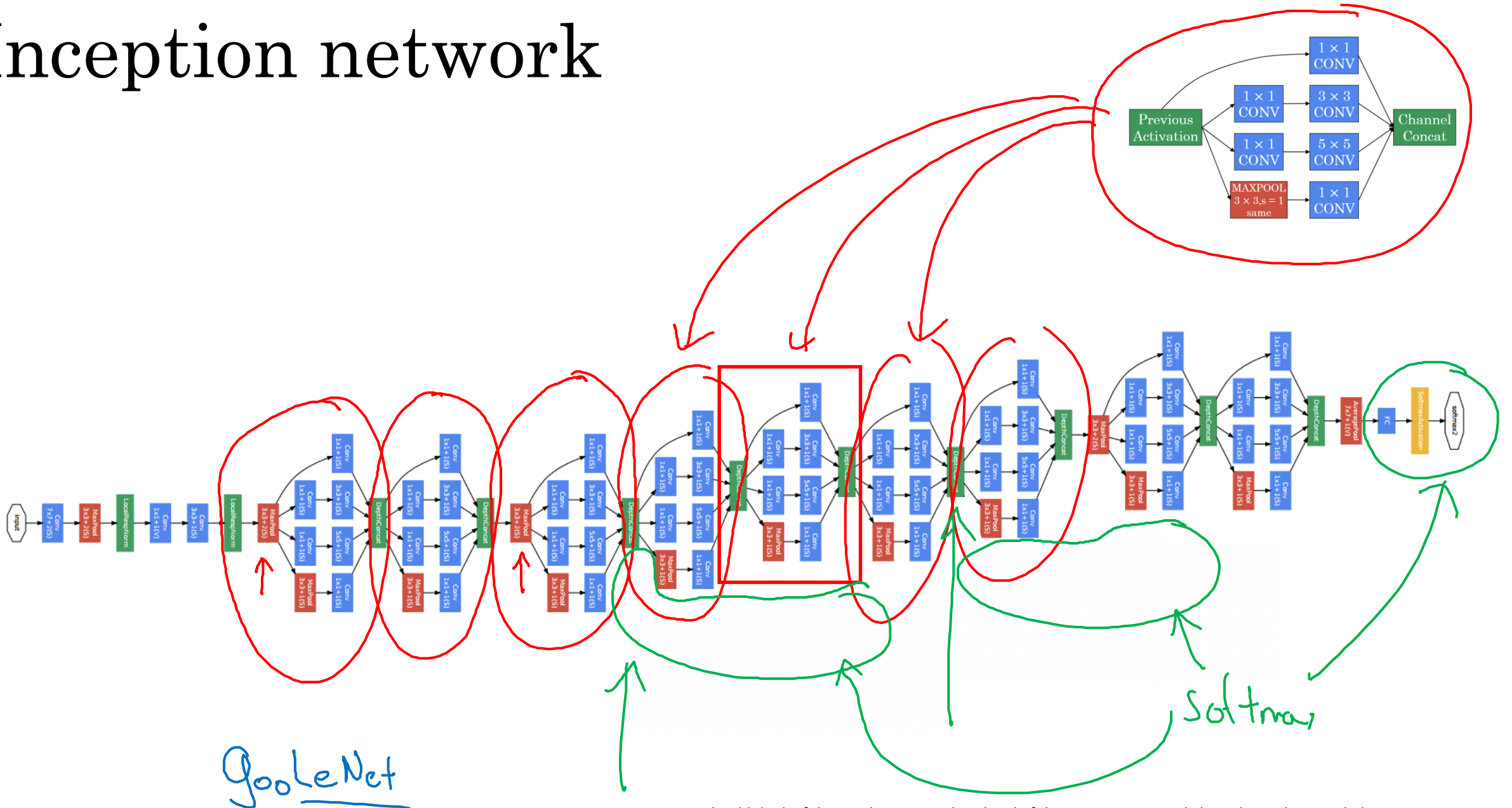
You should think of this maybe just another detail of the inception network, but what it does is it helps ensure that the features computed even in the hidden units even at that intermediate layers that they're not too bad for predicting output class of a image. And this appear to have a regularizing effect on the inception network and helps prevent this network from overfitting.

Andrew Ng

Inception network

[Szegedy et al., 2014, Going Deeper with Convolutions]

Andrew Ng

Andrew Ng