



deeplearning.ai

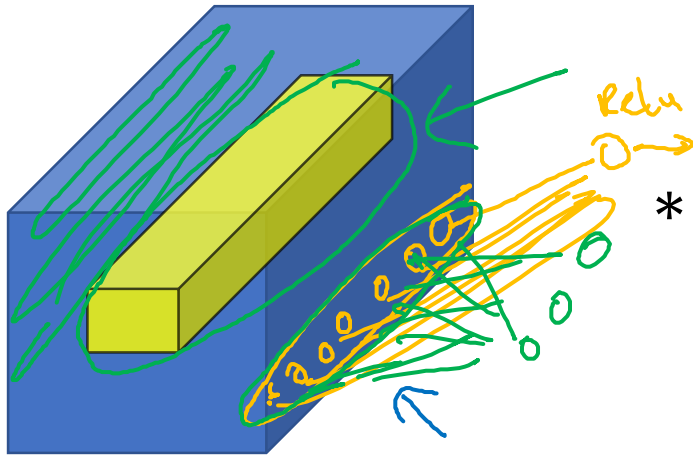
Case Studies

Network in Network
and 1×1 convolutions

Why does a 1×1 convolution do?

1	2	3	6	5	8
3	5	5	1	3	4
2	1	3	4	9	3
4	7	8	5	7	9
1	5	3	7	4	8
5	4	9	8	3	5

$6 \times 6 \times 1$



$6 \times 6 \times 32$

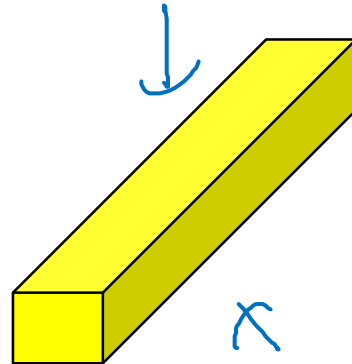
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2	4	6	...		

32 \rightarrow # filters.
 $n_c^{[l+1]}$

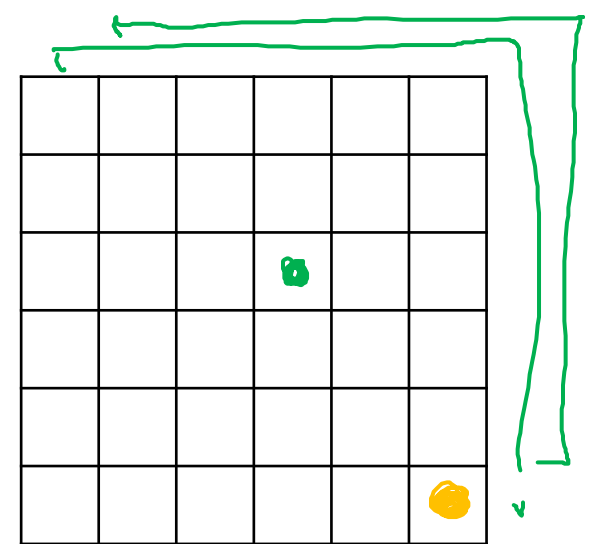


$1 \times 1 \times 32$

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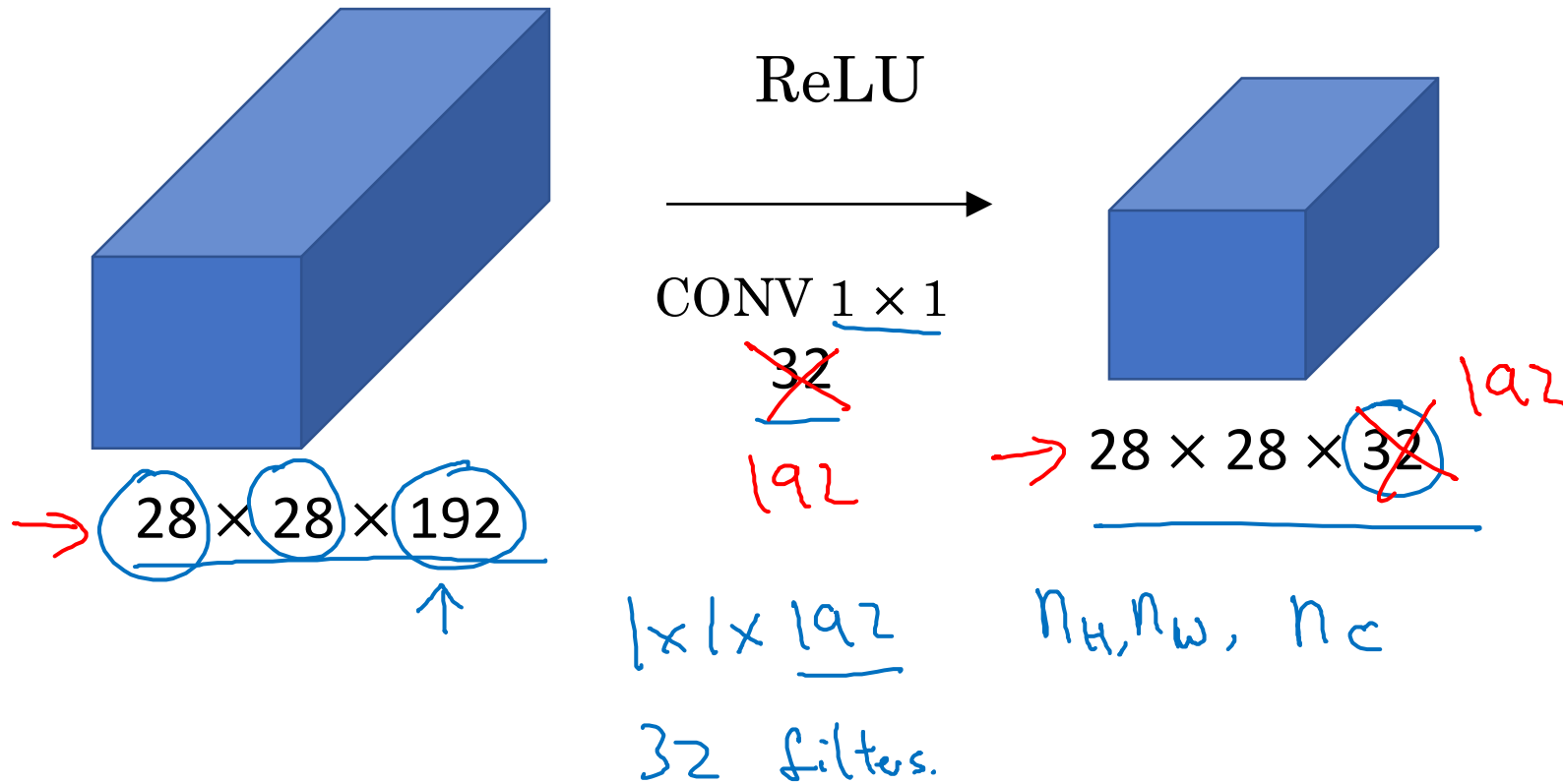
ReLU

Network in
Network



$6 \times 6 \times \# \text{ filters}$

Using 1×1 convolutions



Use 1×1 convolution to increase/decrease n_c