

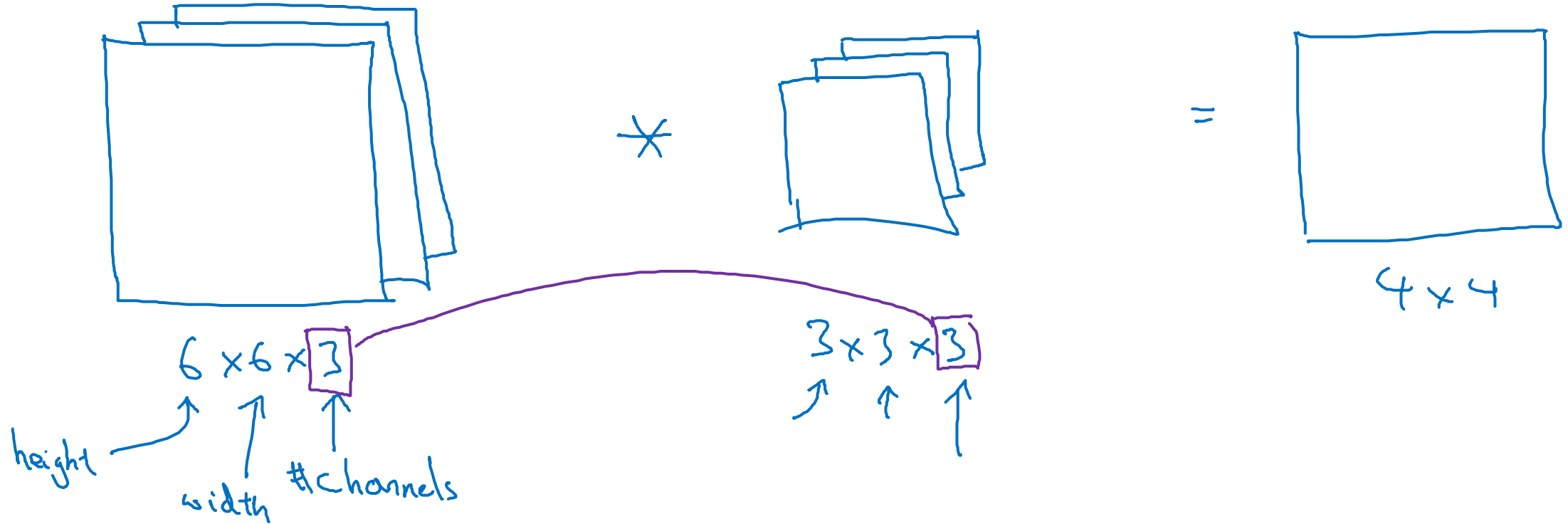


deeplearning.ai

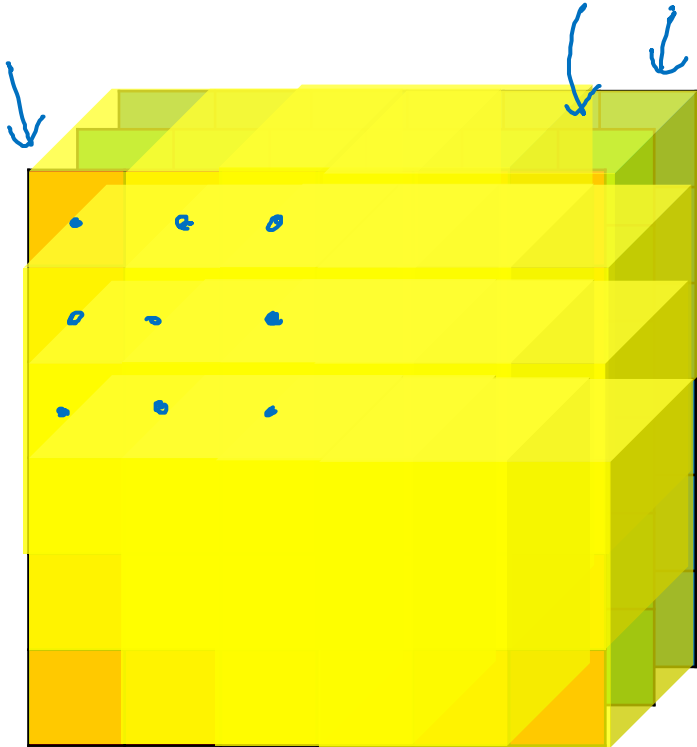
Convolutional Neural Networks

Convolutions over volumes

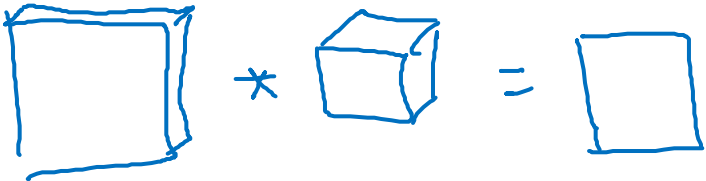
Convolutions on RGB images



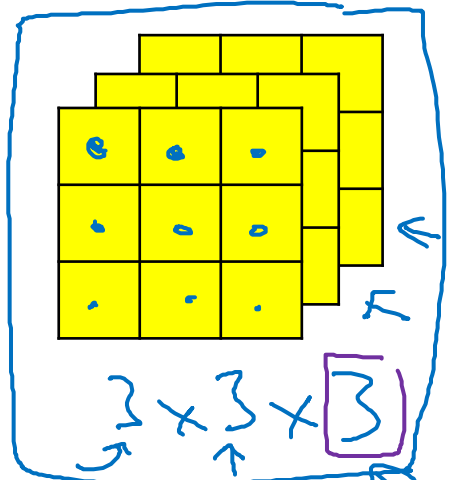
Convolutions on RGB image



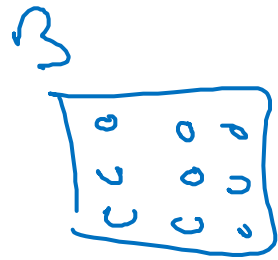
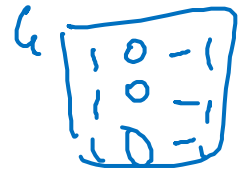
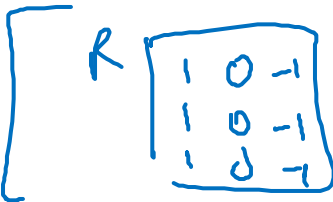
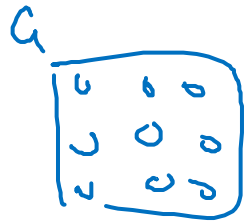
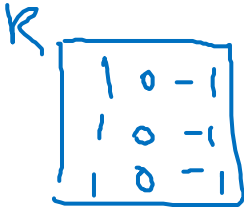
$6 \times 6 \times 3$
↑ ↑ ↑



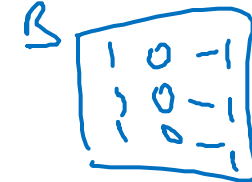
*



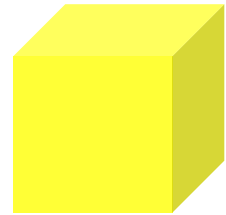
27 numbers



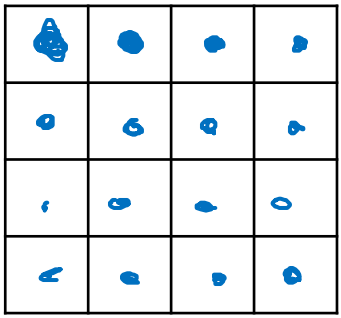
→ $3 \times 3 \times 3$



→ $3 \times 3 \times 3$

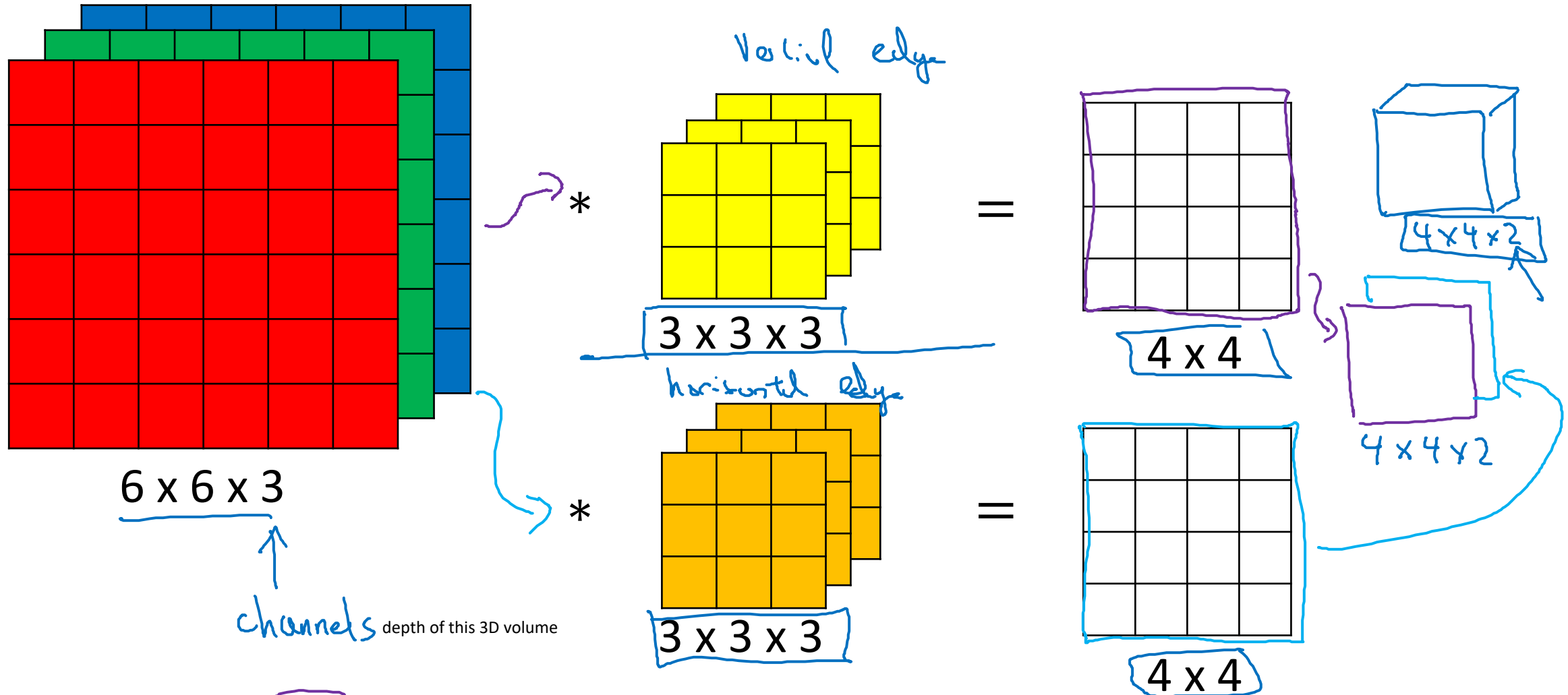


=



4 x 4

Multiple filters



Summary:

$$n \times n \times n_c \times f \times f \times n_c \rightarrow \frac{n-f+1}{4} \times \frac{n-f+1}{4} \times \frac{n_c}{2} \times \# \text{ filters}$$

6 x 6 x 3 3 x 3 x 3 4 x 4 x 2