

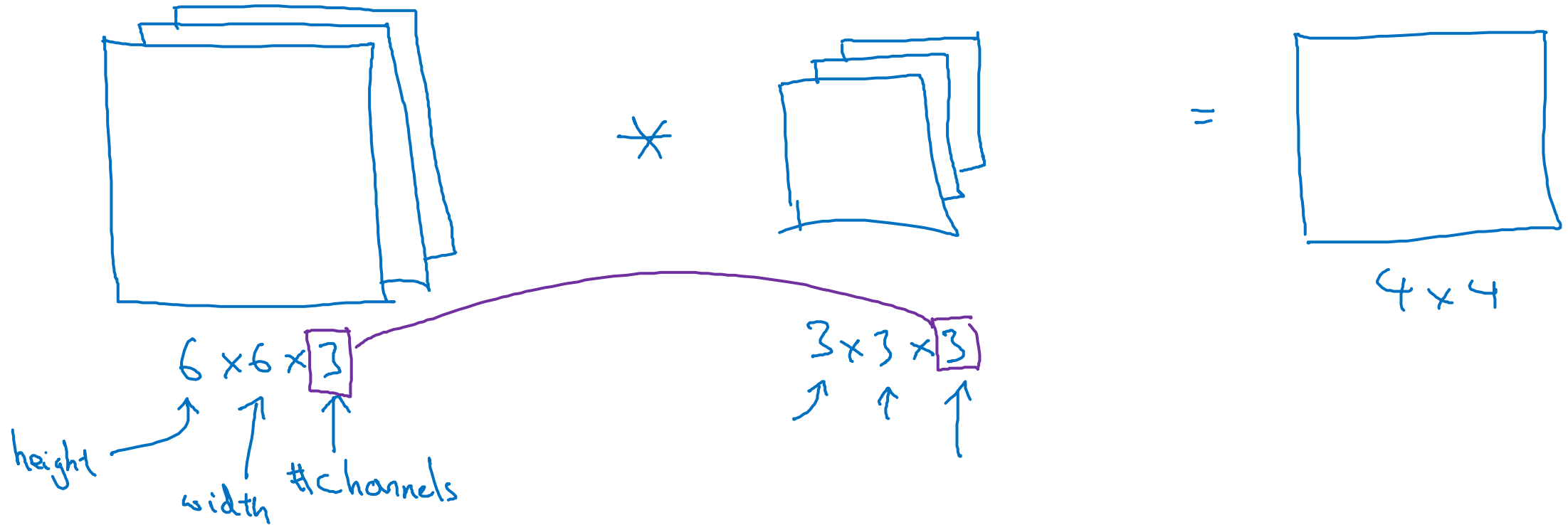


deeplearning.ai

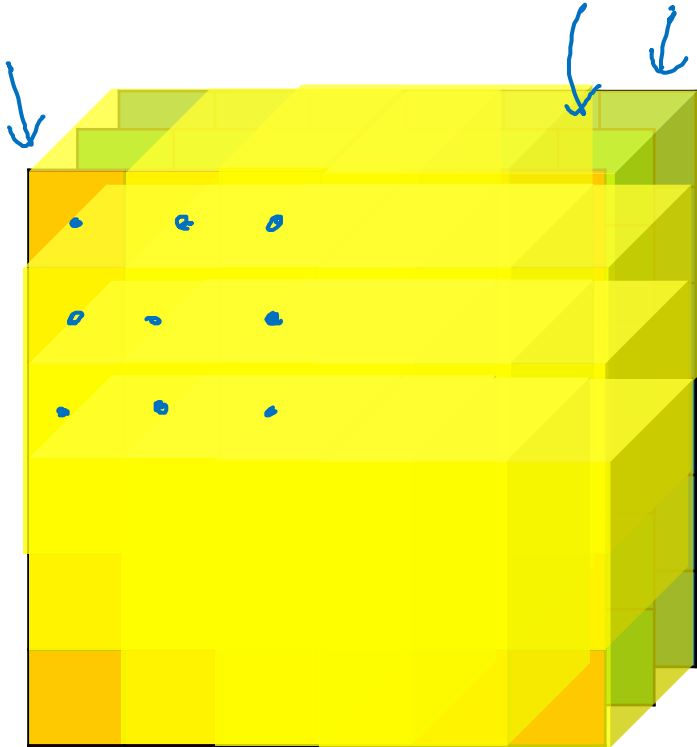
Convolutional Neural Networks

Convolutions over volumes

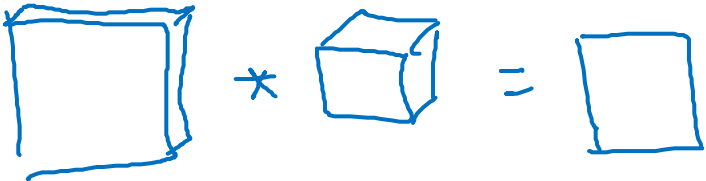
Convolutions on RGB images



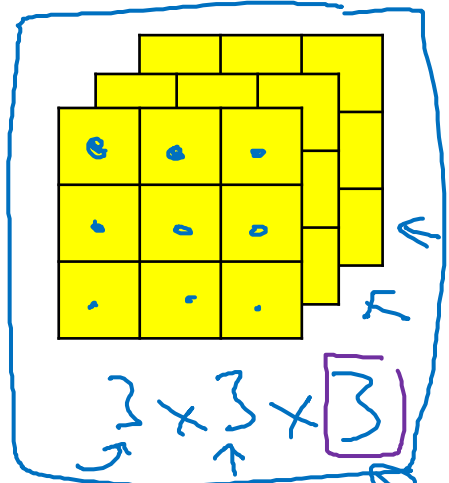
Convolutions on RGB image



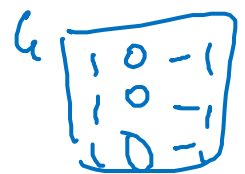
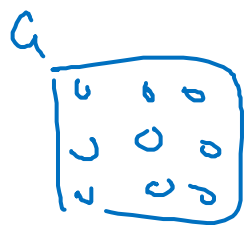
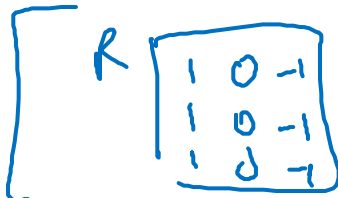
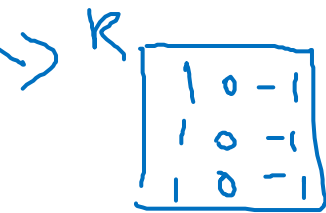
$6 \times 6 \times 3$
↑ ↑ ↑



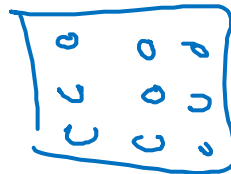
*



27 numbers

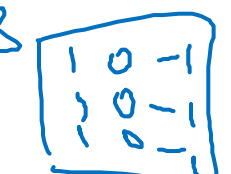


3

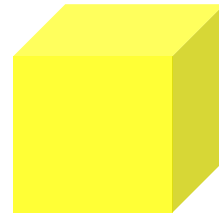


→ $3 \times 3 \times 3$

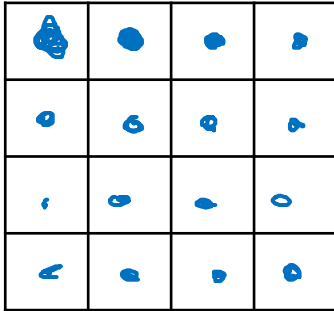
3



→ $3 \times 3 \times 3$

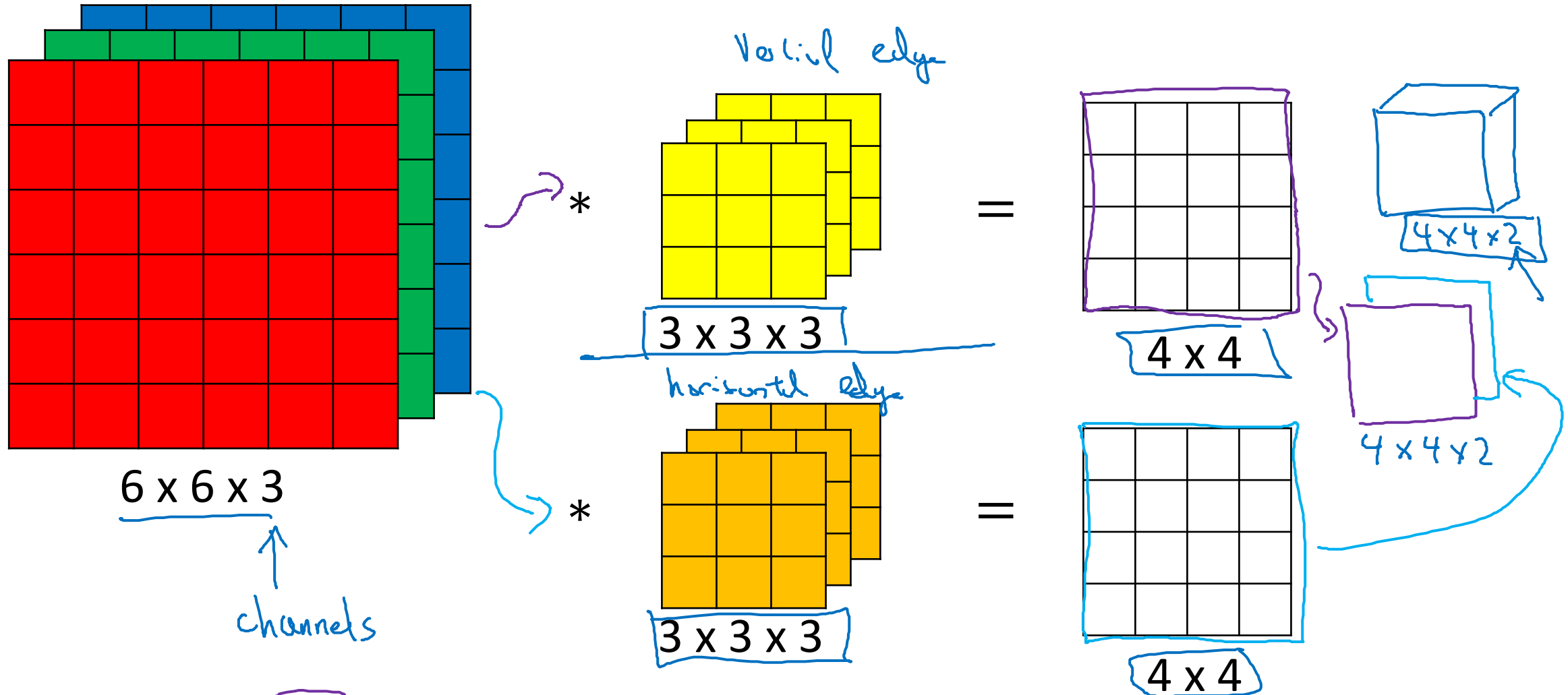


=



4 x 4

Multiple filters



Summary: $n \times n \times n_c$ \times $f \times f \times n_c$ \rightarrow $\frac{n-f+1}{4} \times \frac{n-f+1}{4} \times n_c'$

$6 \times 6 \times 3$ $3 \times 3 \times 3$ $4 \times 4 \times 2$ \uparrow #filters