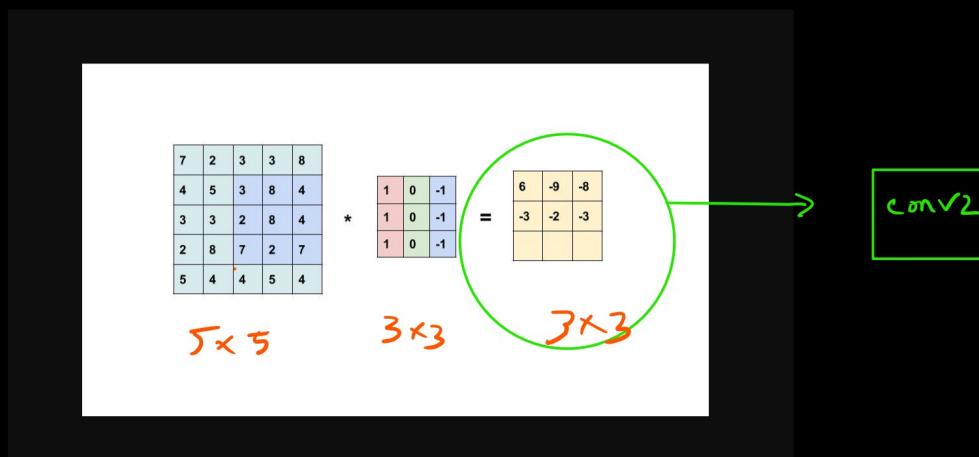


Agenda:

① padding in CNN

② strides in CNN

$$(n-f+1) \times (n-f+1)$$



0	0	0	0	0	0	0	0
0	7	2	3	3	8	0	0
0	4	5	3	8	4	0	0
0	3	3	2	8	4	0	0
0	2	8	7	2	7	0	0
0	5	4	4	5	4	0	0
0	0	0	0	0	0	0	0

7x7

Tensorflow
handles

→ Same → padding
→ valid → no padding

padding

1	0	-1
1	0	-1
1	0	-1

=

7x7

3x3

$$\begin{aligned}
 & (n-f+1) \leftarrow \\
 \Rightarrow & (n+2p-f+1) \leftarrow \\
 \Rightarrow & (7+2(1)-3+1) \\
 \Rightarrow & (7+2-3+1) \\
 \Rightarrow & (7)
 \end{aligned}$$

32

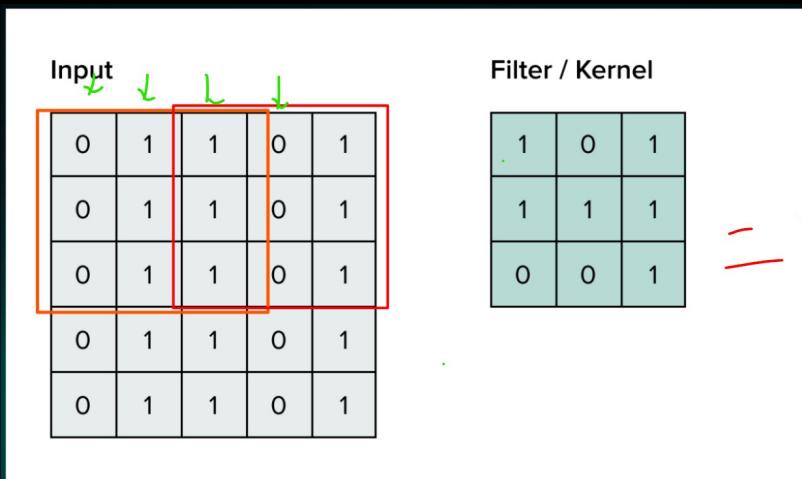


5

Fm
32

F₂

F3



$$\rightarrow \text{state} = 0$$
$$\rightarrow \text{state} = 1$$

$$\left\lceil \frac{n-f}{s} + 1 \right\rceil$$

$$\Rightarrow \left\lceil \frac{5-3}{2} + 1 \right\rceil$$

$$\Rightarrow \frac{2}{2} + 1$$

$$\Rightarrow \frac{1+1}{2}$$

$(5 \times 5) \rightarrow (3 \times 3)$
stride = 2

pooling Layer