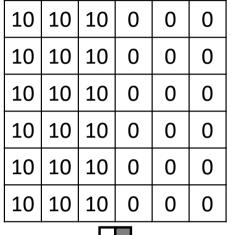
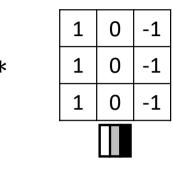


Convolutional Neural Networks

More edge detection

Vertical edge detection examples





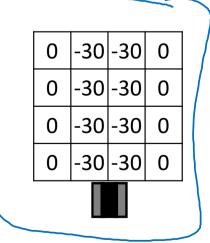
0	30	30	0
0	30	30	0
0	30	30	0
0	30	30	0

	->	>	
0	0	0	1(

0	0	10	10	10
0	0	10	10	10
0	0	10	10	10
0	0	10	10	10
0	0	10	10	10
0	0	10	10	10
	0 0 0	0 0 0 0 0 0 0 0	0 0 10 0 0 10 0 0 10 0 0 10 0 0 10	0 0 10 10 0 0 10 10 0 0 10 10 0 0 10 10

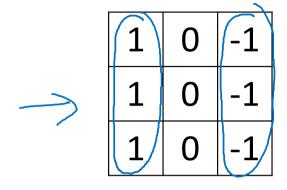
 \rightarrow

	1	0	-1
*	1	0	-1
	1	0	-1

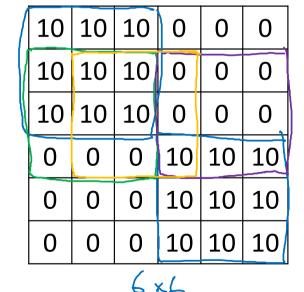


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Vertical and Horizontal Edge Detection







0 0 0 -1 -1 -1

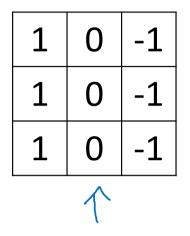
Horizontal

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

0	0	0	0
30	10	-10	-30
30	10	-10	-30
0	0	0	0

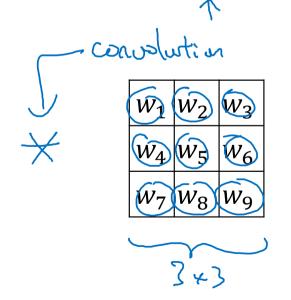


Learning to detect edges

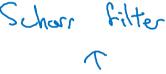


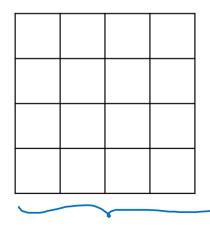
1	3	0	1	2	7	4
	1	5	8	9	3	1
	2	7	2	5	1	3
	0	1	3	1	7	8
	4	2	1	6	2	8
	2	4	5	2	3	9

	(0	- (
-	N	0	-2
	1	O	-1
,	Sol	0	Cilter



M	0	7
0	Ò	1
3	C	-3
S. la sa Silta		





Andrew Ng