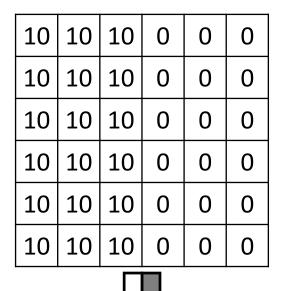


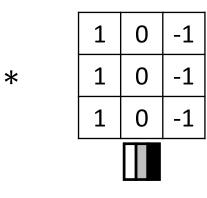
Convolutional Neural Networks

More edge detection

Vertical edge detection examples

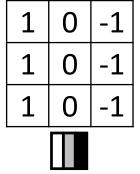
*





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

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



0	-30	-30	0
0	-30	-30	0
0	-30	-30	0
0	-30	-30	0

Vertical and Horizontal Edge Detection

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

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

Vertical

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

Horizontal

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

Learning to detect edges

1	0	-1
1	0	-1
1	0	-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

w_1	w_2	W_3
w_4	W_5	W_6
w_7	W_8	W_9

