



CLASS
ITAI 1378

Assignment 07

CONVOLUTIONAL LAYERS AND FILTERS IN IMAGE RECOGNITION

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ORIGINAL IMAGE

02

Square

1	1	1	1	1
1	0	0	0	1
1	0	0	0	1
1	0	0	0	1
1	1	1	1	1

FILTERS USED - TWO 3X3 KERNELS

Vertical Edge Detector

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

Horizontal Edge Detector

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

TWO 3X3 RESULTS

No Vertical Edge Detection

0	0	0
0	0	0
0	0	0

Horizontal Edge Detected

6	0	-6
9	0	-9
6	0	-6

FEATURE IDENTIFICATION

- High positive values indicate strong edge presence, as seen on the left side of the Horizontal Edge Detection grid.
- Values close to zero indicate no edge detected, as seen on the whole Vertical Edge Detection grid.
- High negative values indicate strong reverse edge presence, as seen on the right side of the Horizontal Edge Detection grid.

next

