A05: MANUAL CNN

Team International Neural Intelligence

Professor Patricia McManus

ITAI 2376: Deep Learning
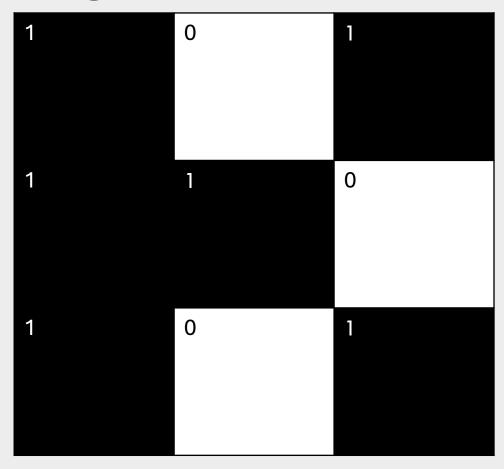
February 15, 2024

ORIGINAL IMAGE: LETTER "K"

3X3 FILTERS AND MANUAL CONVOLUTION

3X3 FILTERS AND MANUAL CONVOLUTION

3X3 FILTERS AND MANUAL CONVOLUTION

FILTERS

Vertical Edge Detection:

-1 0 1

-1 0 1

-1 0 1

Diagonal Edge Detection (Top-Left to Bottom-Right):

-1 0 0

 0 1 0

 0 0 -1

Diagonal Edge Detection (Bottom-Left to Top-Right):

0 0 -1

0 1 0

-1 0 0

Horizontal Edge Detection:

-1 -1 -1

0 0 0

1 1 1