

# Visual Recognition

## Progress Report

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IMT2018508

### Problem1

The task1 of the assignment is to count the number of books in bookshelf using image segmentation techniques

The progress made so far in the first problem of the assignment is:

- 1) Converted the coloured image to a grayscale image ie an image having only black and white pixels.
- 2) Have used the GaussianBlur function to remove the high frequency noise
- 3) The next step is to use edge detection techniques. I have used Canny edge detection with threshold values 10, 250
- 4) The next task is thresholding. The lower bound and upper bound values passed in the function are 180 and 255 ie any pixel value less than 180 will be white and anything between 180 to 255 will be black.
- 5) The final step is counting the objects. This is done using the findCounters method of openCV.



BLURRED IMAGE

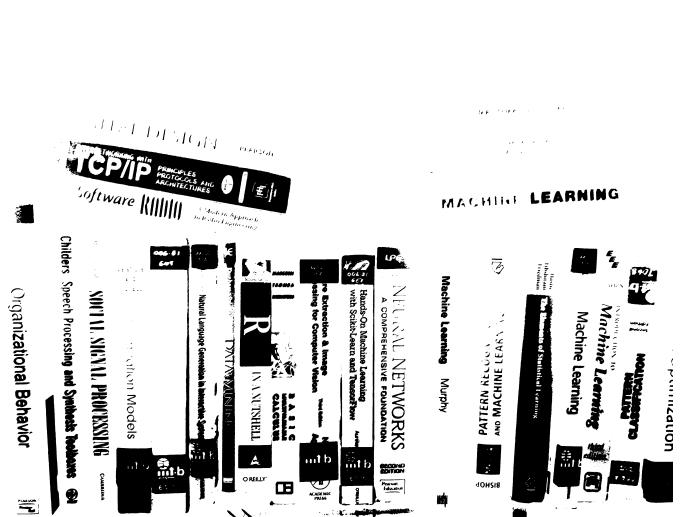
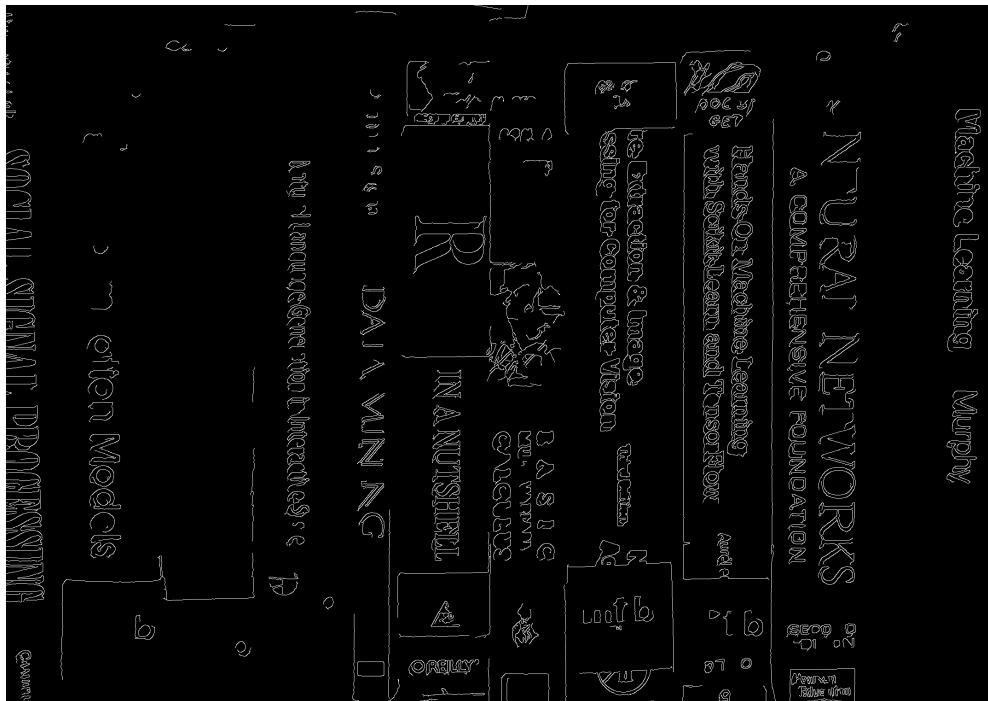


IMAGE AFTER THRESHOLDING



CANNY EDGE DETECTION(ZOOMED IN)

## Limitations

The issue with this method which needs to be corrected are

- 1) The horizontal books are not being detected.
- 2) There is text written on the book, different shades on the cover of the book, small rectangular logos on the book which are rectangular in shape and are being counted as counter.
- 3) Doesn't work if the colour of adjacent books is same.