

REPORT

ASSN. 4

Alignment:

The image provided is rotated by 34 degrees approx.

Method:

To align images I first did a canny edge detection and then hough transform to get all the edges and then rounded them off by the angles they were making with x- axis. Then I rotated the image with this angle to obtain the required image.

Form-Field Segmentation:

Method:

First of all, I did the adaptive and OTSU segmentation. Then from that image, I obtained a vertical and horizontal line using morphological operations and used them to form all possible rectangles. Then from that, I chose the rectangle with the right size and color. To obtain a list of all rectangles I used contour method.

For different image types, I changed variables in morphological operations to get the best results.

Character Segmentation:

In this part for each form-field detected I passed that area of the image to a different function which dilates the image to enhance characters. Then I did a few more morphological operations varying according to image types. Then I used contour detection to finally detect the character and draw contour in that part of the original image to get the required image.

Due to restriction in file size submitted, I am submitting only a few images here. The rest are drive link below:

https://drive.google.com/open?id=1EE5_rx79hH0dOBC8aJww255Z0i51bT_m