**Status of current tests**

1 Both version good

Needs rotation

rotation is based only on the extracted card. If the height is is more then the width then the card will be rotated counter **clockwise**

2 Both versions Black

I have run through all combinations of parameters and it keeps recognizing the wrong black image so I decided to crop the original image to only include the card and ran through every iteration between 0.1 - 1.5, 0.1 - 1.5, 0.03 - 1.2 (total of 288 different combination of parameters) and it just does not want to recognize that card as a rectangle or box

1 1 1| 1 1 2| 1 1 3| 1 1 4| 1 1 5| 1 1 6| 1 1 7| 1 1 8| 1 2 1| 1 2 2| 1 2 3| 1 2 4| 1 2 5| 1 2 6| 1 2 7| 1 2 8| 1 3 1| 1 3 2| 1 3 3| 1 3 4| 1 3 5| 1 3 6| 1 3 7| 1 3 8| 1 4 1| 1 4 2| 1 4 3| 1 4 4| 1 4 5| 1 4 6| 1 4 7| 1 4 8| 1 5 1| 1 5 2| 1 5 3| 1 5 4| 1 5 5| 1 5 6| 1 5 7| 1 5 8| 1 6 1| 1 6 2| 1 6 3| 1 6 4| 1 6 5| 1 6 6| 1 6 7| 1 6 8| 2 1 1| 2 1 2| 2 1 3| 2 1 4| 2 1 5| 2 1 6| 2 1 7| 2 1 8| 2 2 1| 2 2 2| 2 2 3| 2 2 4| 2 2 5| 2 2 6| 2 2 7| 2 2 8| 2 3 1| 2 3 2| 2 3 3| 2 3 4| 2 3 5| 2 3 6| 2 3 7| 2 3 8| 2 4 1| 2 4 2| 2 4 3| 2 4 4| 2 4 5| 2 4 6| 2 4 7| 2 4 8| 2 5 1| 2 5 2| 2 5 3| 2 5 4| 2 5 5| 2 5 6| 2 5 7| 2 5 8| 2 6 1| 2 6 2| 2 6 3| 2 6 4| 2 6 5| 2 6 6| 2 6 7| 2 6 8| 3 1 1| 3 1 2| 3 1 3| 3 1 4| 3 1 5| 3 1 6| 3 1 7| 3 1 8| 3 2 1| 3 2 2| 3 2 3| 3 2 4| 3 2 5| 3 2 6| 3 2 7| 3 2 8| 3 3 1| 3 3 2| 3 3 3| 3 3 4| 3 3 5| 3 3 6| 3 3 7| 3 3 8| 3 4 1| 3 4 2| 3 4 3| 3 4 4| 3 4 5| 3 4 6| 3 4 7| 3 4 8| 3 5 1| 3 5 2| 3 5 3| 3 5 4| 3 5 5| 3 5 6| 3 5 7| 3 5 8| 3 6 1| 3 6 2| 3 6 3| 3 6 4| 3 6 5| 3 6 6| 3 6 7| 3 6 8| 4 1 1| 4 1 2| 4 1 3| 4 1 4| 4 1 5| 4 1 6| 4 1 7| 4 1 8| 4 2 1| 4 2 2| 4 2 3| 4 2 4| 4 2 5| 4 2 6| 4 2 7| 4 2 8| 4 3 1| 4 3 2| 4 3 3| 4 3 4| 4 3 5| 4 3 6| 4 3 7| 4 3 8| 4 4 1| 4 4 2| 4 4 3| 4 4 4| 4 4 5| 4 4 6| 4 4 7| 4 4 8| 4 5 1| 4 5 2| 4 5 3| 4 5 4| 4 5 5| 4 5 6| 4 5 7| 4 5 8| 4 6 1| 4 6 2| 4 6 3| 4 6 4| 4 6 5| 4 6 6| 4 6 7| 4 6 8| 5 1 1| 5 1 2| 5 1 3| 5 1 4| 5 1 5| 5 1 6| 5 1 7| 5 1 8| 5 2 1| 5 2 2| 5 2 3| 5 2 4| 5 2 5| 5 2 6| 5 2 7| 5 2 8| 5 3 1| 5 3 2| 5 3 3| 5 3 4| 5 3 5| 5 3 6| 5 3 7| 5 3 8| 5 4 1| 5 4 2| 5 4 3| 5 4 4| 5 4 5| 5 4 6| 5 4 7| 5 4 8| 5 5 1| 5 5 2| 5 5 3| 5 5 4| 5 5 5| 5 5 6| 5 5 7| 5 5 8| 5 6 1| 5 6 2| 5 6 3| 5 6 4| 5 6 5| 5 6 6| 5 6 7| 5 6 8| 6 1 1| 6 1 2| 6 1 3| 6 1 4| 6 1 5| 6 1 6| 6 1 7| 6 1 8| 6 2 1| 6 2 2| 6 2 3| 6 2 4| 6 2 5| 6 2 6| 6 2 7| 6 2 8| 6 3 1| 6 3 2| 6 3 3| 6 3 4| 6 3 5| 6 3 6| 6 3 7| 6 3 8| 6 4 1| 6 4 2| 6 4 3| 6 4 4| 6 4 5| 6 4 6| 6 4 7| 6 4 8| 6 5 1| 6 5 2| 6 5 3| 6 5 4| 6 5 5| 6 5 6| 6 5 7| 6 5 8| 6 6 1| 6 6 2| 6 6 3| 6 6 4| 6 6 5| 6 6 6| 6 6 7| 6 6 8

5 Both version good

6 Both version good

7 Both version good

Needs rotation

rotation is based only on the extracted card. If the height is is more then the width then the card will be rotated counter **clockwise**

8 Custom parameters good

Needs rotation

rotation is based only on the extracted card. If the height is is more then the width then the card will be rotated counter **clockwise**

9 Both version good

D Both version good

**To do**

1. Can program detect which parameters to use? Use basic set & if image not good, try other set?

The program will not ask for any parameters and will try a few automatically it no detection is made. I removed the command line parameters. Please view the crop.bat file

1. Image 9: Can we stitch two images back together

I cannot find a solution to this as the program can only detect one box

1. Images 3, 4 & B. Is there anything we can do to resolve problems with reflection? Image 5 has a similar reflection – but works.

No solution to hotspot removal, I have queried online and it seems that this is problem area of opencv.

1. Image 8 is being cropped correctly – but is returning a status of “Image not Readable”

FIXED

1. Look at other contractor’s code. He was able to crop E. Can your code do this?

I tried the other edge detection code (other programmer, auto\_canny) but it seems not effective at detecting edges on my version of opencv

I tried to use his exact code and run it on card E. I encountered the same findcontours import problem that we had initially because of the cv2 version. So I just made a small alteration so that it fixes that, however it seems that it does not want to work? Please view the Capture1 screen shot.

I then imported the whole section of his code into my version as “last\_try” but on inspection it does not detect correctly. Please view Capture2

Note: The other images are being rejected properly.

**My notes**

I made internal changes by merging two of the functions. This is not relevant to how you use the program from the outside (command line)