Assignment 1
Image Cartoonifier
Report

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Explanation of The Code:

Firstly, we import OpenCV and numpy libraries.

Our code is divided into some functions which all meet in the end to do the requirements of this assignment.

The first function is (display_image) which is responsible for showing image.

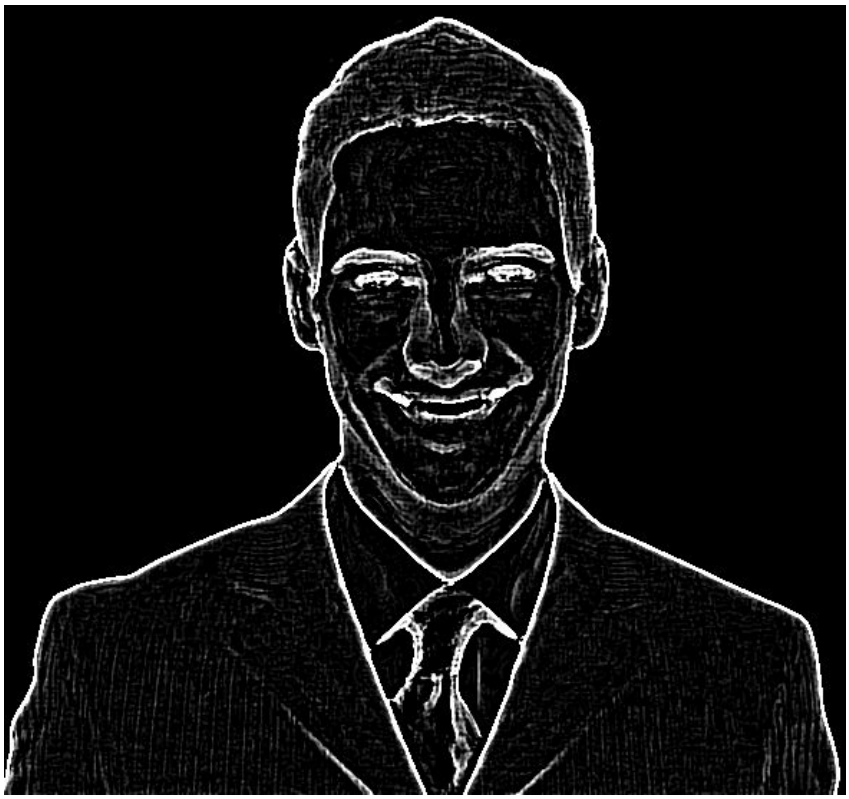
test_image_1

test_image_2

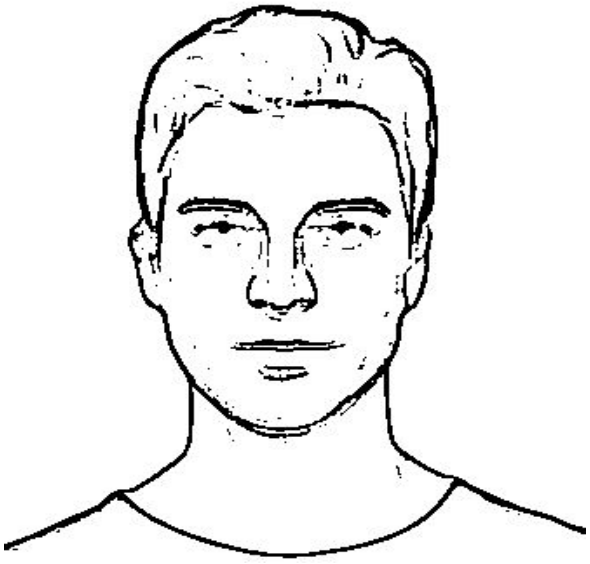
The second function is (RGB_to_greyscale) which is responsible for converting the rgb image to grayscale one.

The third function is (blur_image) which is responsible for erasing the noise by using medianBlur which is a built in function in OpenCV library.

The fourth function is (laplace_filter) which is responsible for determining the edges in the image.



The fifth function is (threshold_image) which is responsible for applying a fixed threshold on all array elements.



The sixth function is (bilateral_filter) which is responsible for smoothing the image and prevent averaging across edges.

The seventh function is (add_images) which is responsible for merging the two images the original image after applying the bilateral filter on it and the thresholded image together to form the final cartoonized image.