

INT3404E 20 - Image Processing: Homework 1

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1 The original image

This is the original image to be processed (The color is not correct due to running in Google Colaboratory).

Original Image



Figure 1: The original image

2 Function *grayscale_image*

This function will convert an image to grayscale. Convert the original image to a grayscale image. In a grayscale image, the pixel value of the 3 channels will be the same for a particular X, Y coordinate. The argument of this function is the *image* to be grayscaled.



Figure 2: Result of the function *grayscale_image*

3 Function *flip_image*

This function will flip an image horizontally using OpenCV. The argument of this function is the *image* to be flipped.



Figure 3: Result of the function *flip_image*

4 Function *rotate_image*

This function will rotate an image using OpenCV. The arguments of this function are the *image* to be rotated and the *angle* of the rotation which is in degrees.



Figure 4: Result of the function *rotate_image* with angle 45°