REPORT ASSIGNMENT: II

Introduction

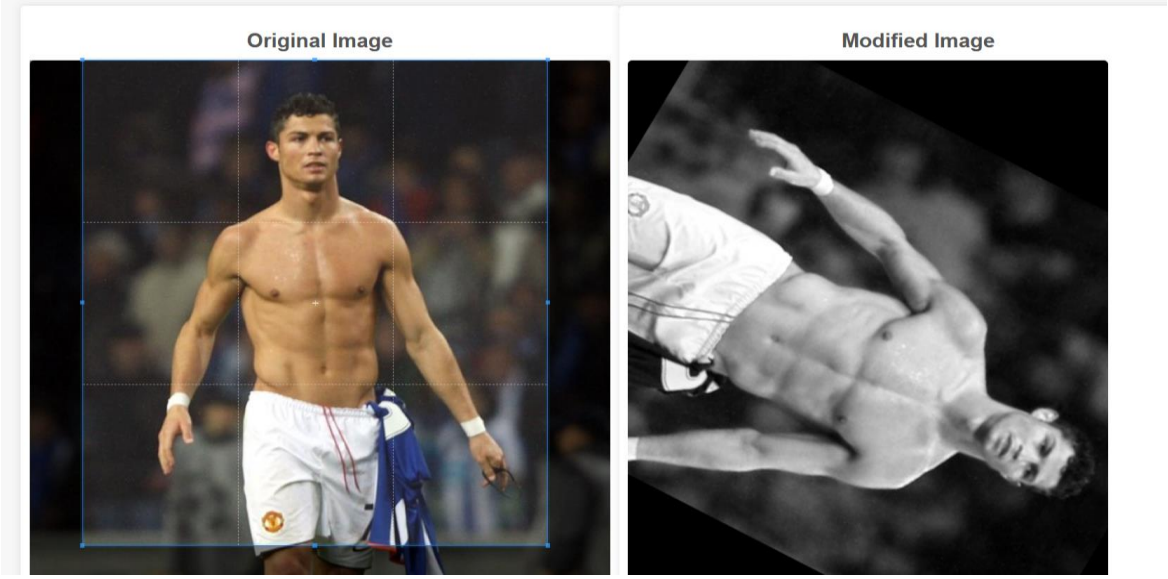
This web application is based on python FLASK for making an image editor by using some libraries and do some modifications like crop, blur, rotate.

Libraries and functions used

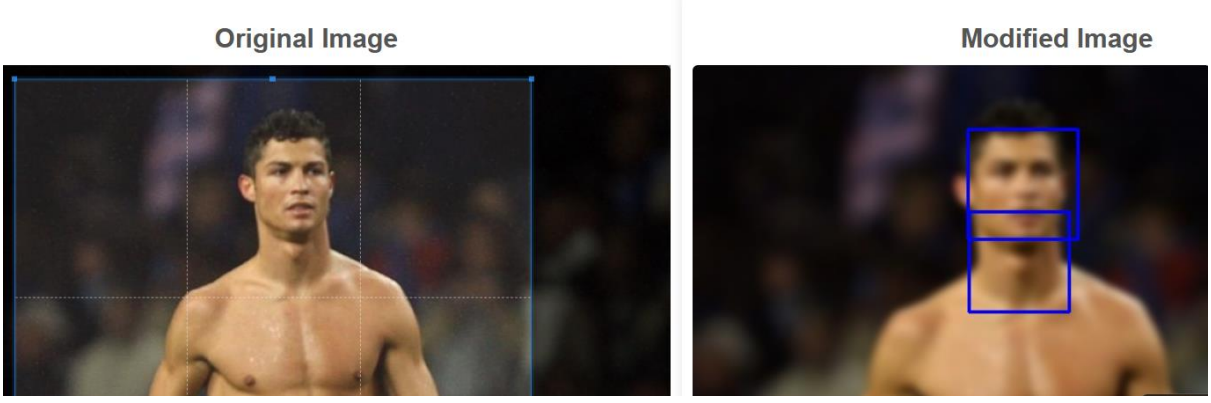
- Use **FLASK** for creating a web application for applying these methods or functions. Use **os** for construct the path for save the uploaded image.
- Use **cv2** for applying this modification for rotation, blur, crop, to change in grayscale, for applying sepia filter.
- Use **shutil** for clearing the modified image folder.

Functions and Filters used

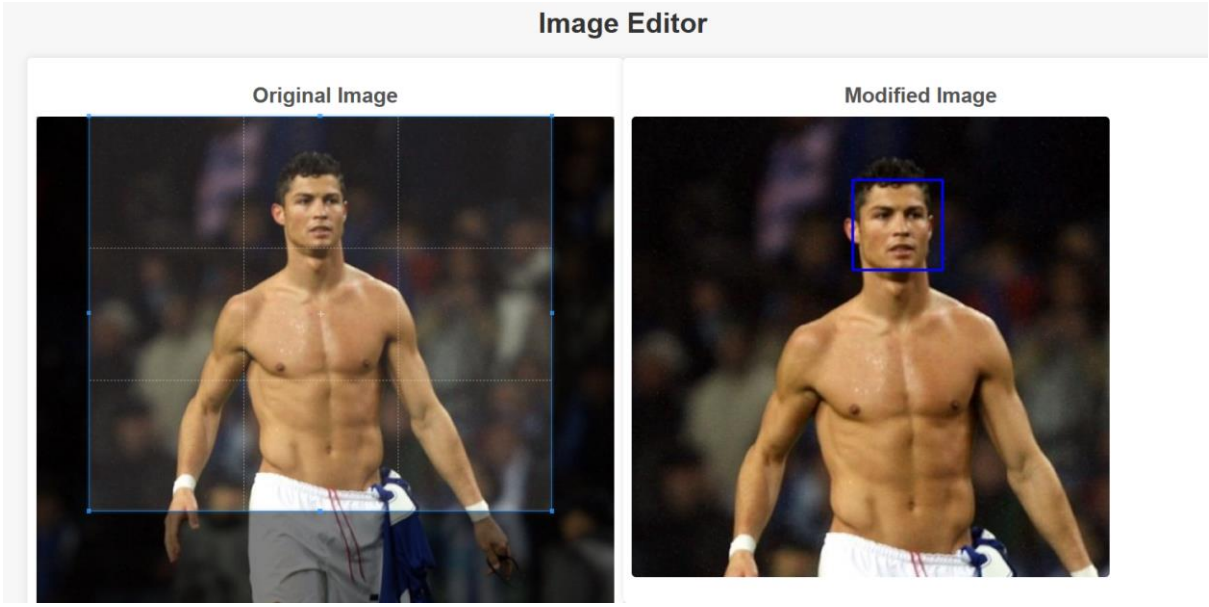
- **Rotate functions for rotating the image.**



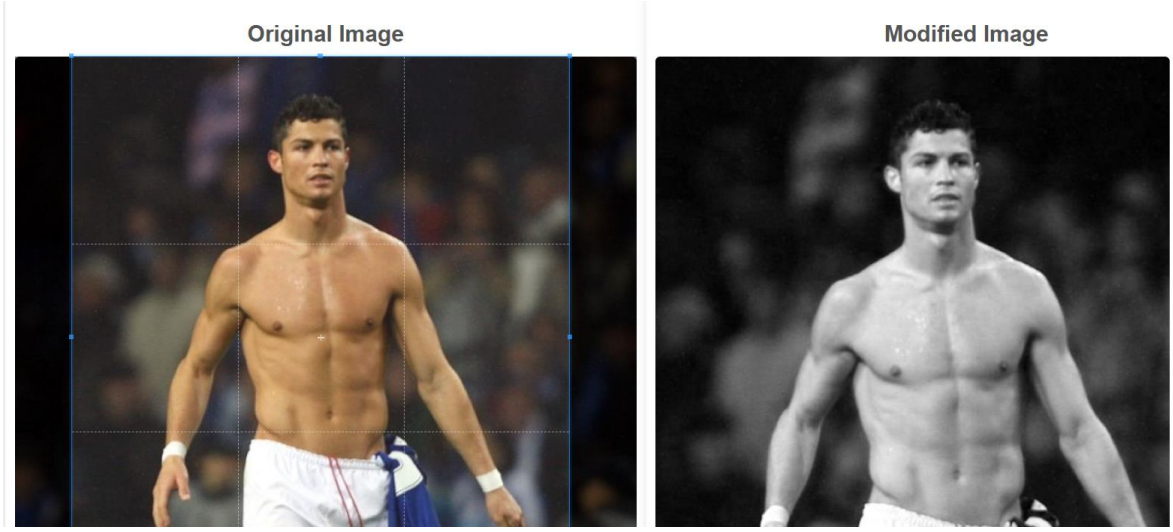
- **Blur filter for blur the image.**



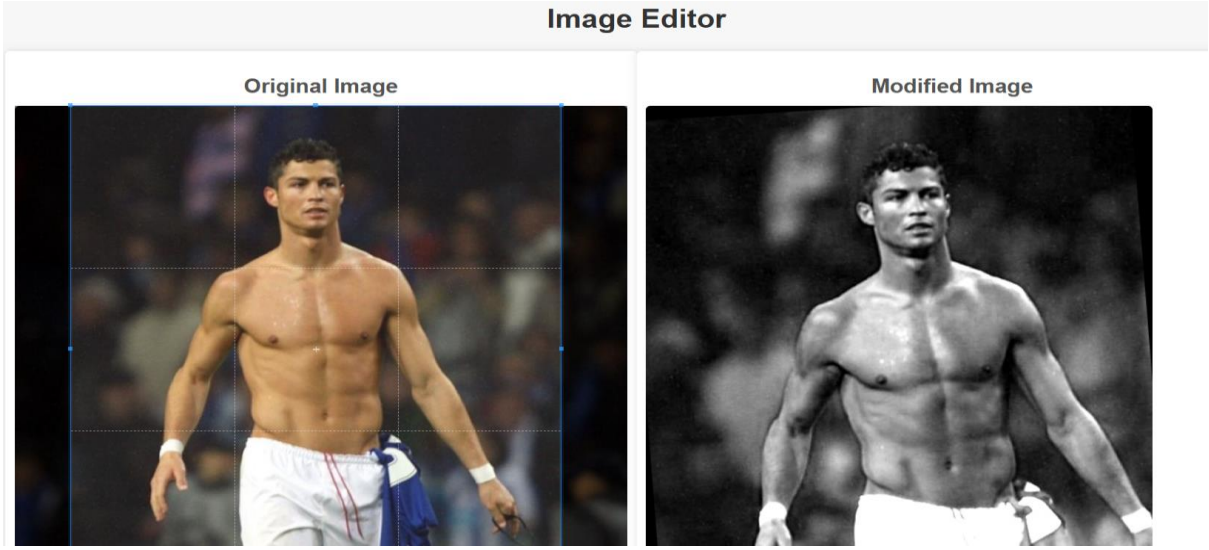
- **Crop filter for cut the image.**



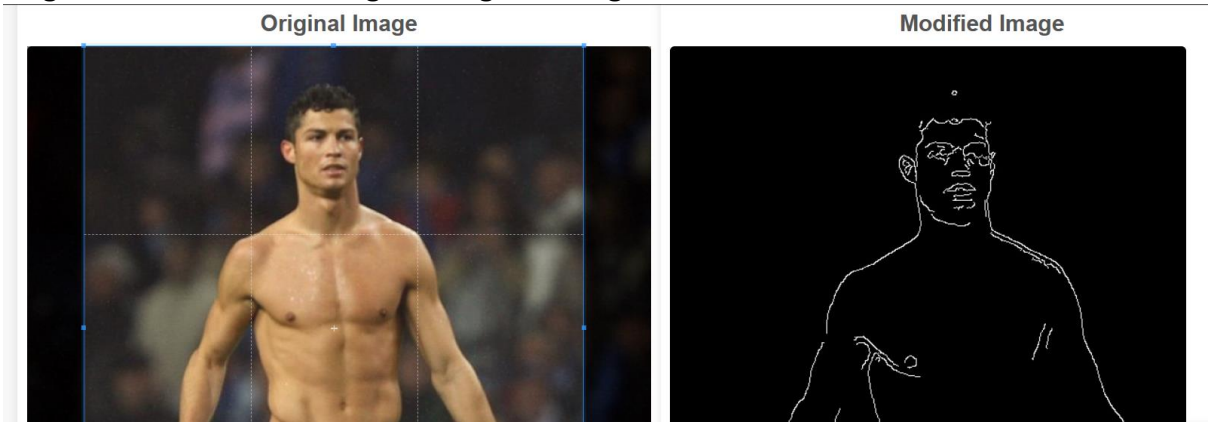
- **Grayscale to change the color of image into gray.**



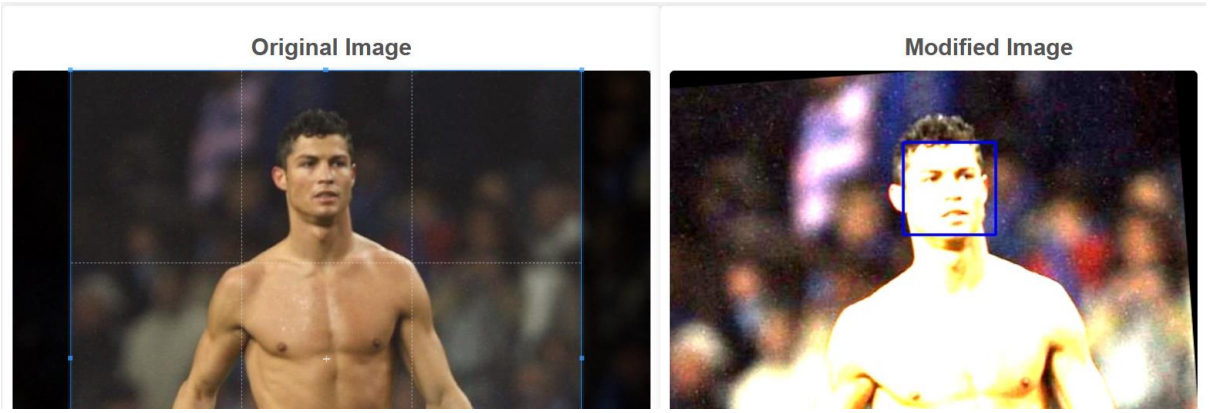
- **Sepia to change the color tone into brownish tone for vintage look.**



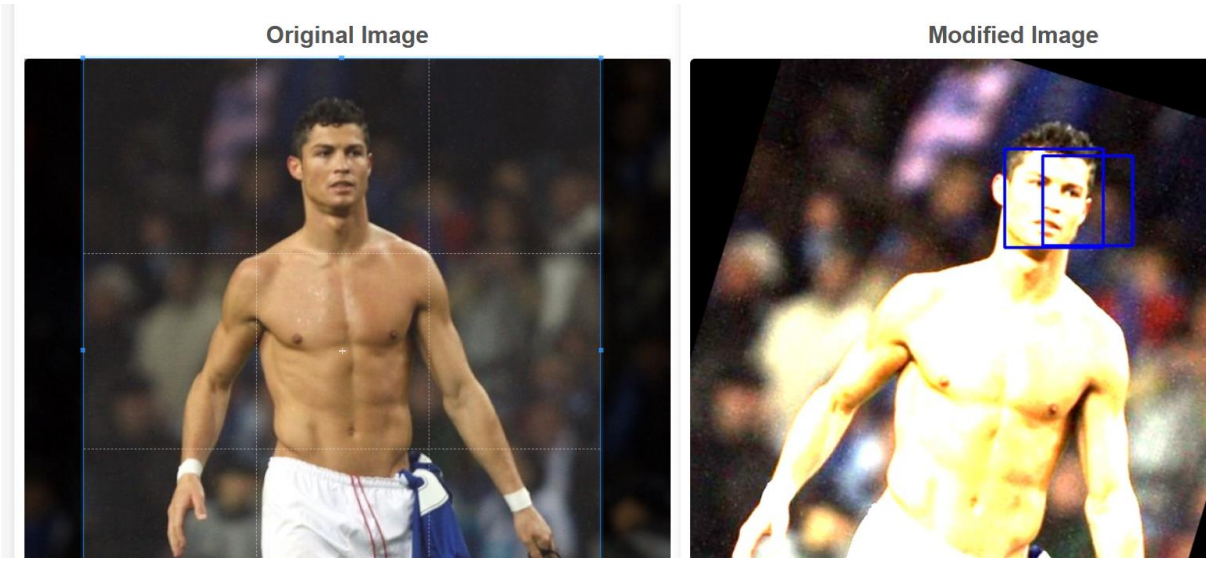
- **Edge detection for defining the edge of image.**



- **Brightness filter to increases the brightness of image.**



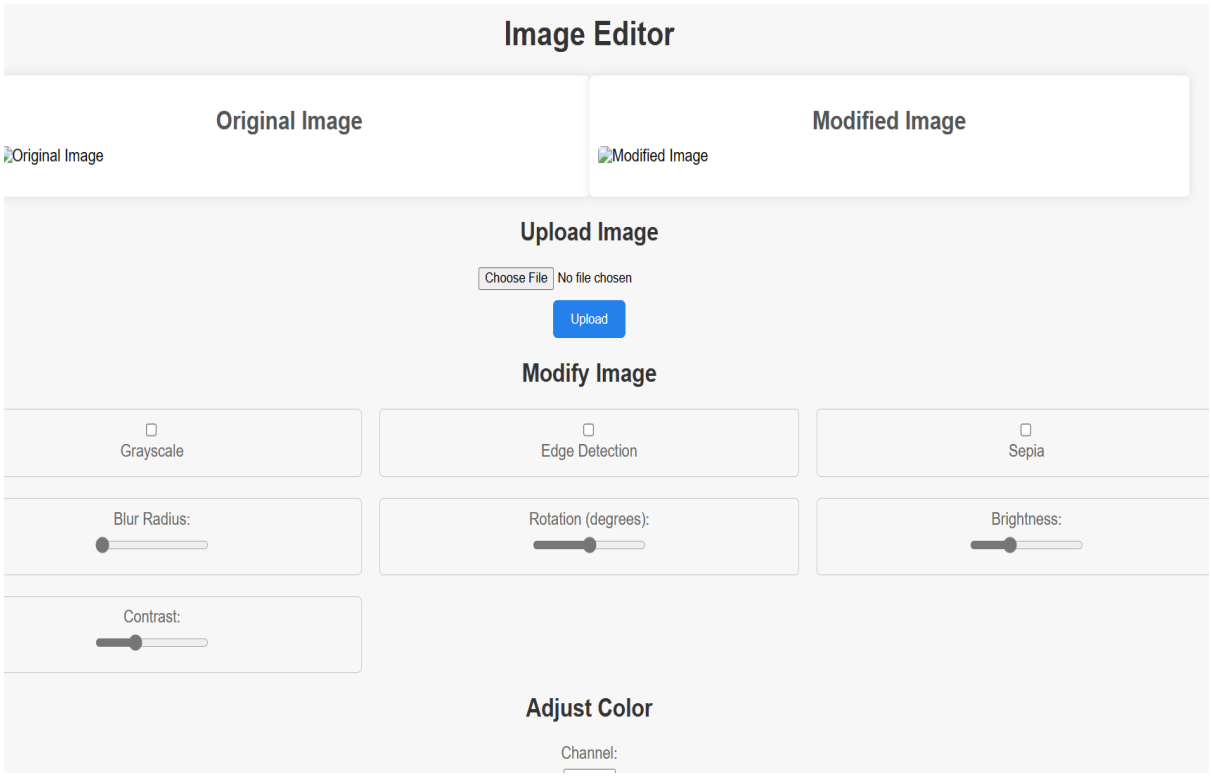
- **Contrast for changing the contrast of image**



Novelty

- I use **edge detection** filter which useful to find the edge of image this filter is useful to make sketch and pencil penting. this filter make artist life easy.

- I use Sepia filter for giving vintage look of image. This filter uses by image editor for making some nice pictures.



Smartphone feature	Brief description	Python implementation	Include in assignment-2 or not

crop	size of image can small, but image also cut in crop.	`crop_box:`
		`x1, y1, x2, y2 = crop_box`
		`image = image[y1:y2, x1:x2]`
			yes

Brightness high or low	Brightness for displaying, improving colour	`if brightness is not None:` `image = cv2.convertScaleAbs(image, alpha=brightness, beta=0)`	yes
Contrast	Contrast is use for differentiating the color between dark and light portion in an image.	`if 'contrast' in request.form:` `contrast = float(request.form['contrast'])`	yes
Blur	Make the color transition from one side of an edge in image to other.	`if 'blur' in request.form and request.form['blur']:` `blur_radius = int(request.form['blur'])`	yes
Saturation	Saturation in images refers to the intensity or purity of colors within the image	Not know yet	no
resize	Size of image can change but no part of image will cut only resolution will change.	image.reshape()	no
Rotate	Rotate image from any direction any angle to any direction.	`if 'rotate' in request.form and request.form['rotate']:` `rotation = int(request.form['rotate'])`	yes
Edge detector	For define the edge of image	`if detect_edges:` `image = cv2.Canny(image, 100, 200`	yes
Exposure	Exposure in images refers to the amount of light that reaches the camera sensor when a photograph is taken	not known yet	no

Sepia	Change color tone in vintage brownish and grayish look	`def apply_sepia_filter(image):`
		`sepia_filter = np.array([[0.393, 0.769, 0.189],`
		`[0.349, 0.686, 0.168],`
		`[0.272, 0.534, 0.131]])`
		`sepia_image = cv2.transform(image, sepia_filter)`
			yes

		`sepia_image = np.clip(sepia_image, 0, 255)`
		`sepia_image = np.uint8(sepia_image)`
		`return sepia_image`	

Sharpness	Sharpness in images refers to the clarity and level of detail present in the photograph	Not known yet	no
Grayscale	Change color into gray color		yes
Removing Background	Removing the background of an image.	Not known yet	no

- **I add table but in this table I use some direct python code, I directly use these code in my assignment.**