Computer Vision: Lab 2 – Image Operations and Videos using OpenCV

Prerequisites: Python basics, numpy, pandas, matplotlib, OpenCV, etc.

Image operations.

1. Take sample images and modify the brightness and contrast of the images based on user input.

2. Take ROIs for sample images using the following link.

https://docs.opencv.org/4.x/d7/d16/tutorial_py_table_of_contents_core.html

3. Use the inbuilt threshold function to convert an image into grayscale.

4. Use Bitwise operations on images as given in the below link.

https://docs.opencv.org/4.x/d0/d86/tutorial_py_image_arithmetics.html

Video Operations:

1. Take input from a video.

2. Using the video object, horizontal flip and resize the frames by half width and height and write it to another video.

(Optional)

Extract the optical flow feature from the consecutive frames of the videos and visualize them.