

Computer Vision

Assignment 2

1. Write a Python code that changes the colour value of the first 100X100 pixels of an image to black (0,0,0).
2. Write a program to combine two images side by side and display them using OpenCV.
3. Write an OpenCV code to load an image, extract a specific image region, and display both the original and extracted regions using Python.
4. Implement a Python script that reads an image and calculates and plots the histogram of its grayscale version. Save the histogram plot as an image file.
5. Create a program that reads an image and applies a Gaussian blur to it using the filter shown in the image below. Display both the original image and the blurred image. (To apply a filter, you have to convolve the filter with the image)

$$\frac{1}{16}$$

1	2	1
2	4	2
1	2	1

NOTE: Please do all the assignments without inbuilt libraries except for basic reading and writing commands.

Convolution operation:

