Computer Vision LAB REPORT

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Submitted by

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Experiment No 1

Aim: To perform basic operations on RGB Image and read video from local file and web cam.

Software:
Opencv,python,numpy

Steps to be followed:
The tasks to be done are as follows:
1. Read an image and display it.
2. Check the colour spaces of the image
3. Separate the colour planes from a given image.
4. Convert the image to the rgb,grayscale and black and white.
5. Scale down the image to half of its size and scale up the image to the double size.
6. Either read video from a local file or directly from a webcam.

I have written a function for each task to execute so whatever task we want to do we can call that function.

read_and_display_image
In this function we read and show that image.

check_colour_space_image
In this function we split the image into Blue,Green,Red and then display them.

seperate_color_planes_image
In this function we show the different channels or planes of the image like blue,green and red.

img_to_rgb_grayscale_bw

In this function we convert the image from bgr to rgb,grayscale and black and white.

scale_down_up_image

In this function we scale down to 50% and scale up to 200% for the given image.

read_video

In this function we accept a mode which can be [' video','camera']. Based on the mode we either read the video from a local file and convert it to frames and display or directly read from a webcam and display the frames.

Conclusion

By Performing all the various operations on image and reading video, you are able to learn the basics of image reading and displaying and perform few basic operations on them.