Image Understanding and Processing (OpenCv-Python)

Lab Exercise – 02

Year 4   **Semester 1, 2024**

Goal

In this practical, you will learn how to convert images from one color-space to another, like BGR ↔ Gray, BGR ↔ HSV, etc.

In addition to that, we will create an application to extract a colored object in a video.

Changing Color-space

There are more than 150 color-space conversion methods available in OpenCV. But we will look into only two, which are most widely used ones: BGR ↔ Gray and BGR ↔ HSV.

```python
import cv2 as cv
flags = [i for i in dir(cv) if i.startswith('COLOR_')]
print( flags )
```

Object Tracking

- Take each frame of the video.
- Convert from BGR to HSV color-space.
- Threshold the HSV image for a range of blue color.
- Now extract the blue object alone.