

Image Processing using OpenCV

Introduction

- About OpenCV
- Installation
- About Images

Basic operations on Images

- Read & Writing an Image
- Access pixel properties, values & modifying
- Splitting &
- Merging of image channels
- Arithmetic Operation
- Bitwise Operation

GUI Features

- Display images in window
- Getting started with video capturing
- Drawing Functions like circle,
- line, rectangle, polyline
- Plotting functions
- Changing Color Spaces

Geometric Transforms

- Scaling
- Translation
- Rotation of Image

Histograms

- About Histogram
- Histogram Calculation
- Histogram Equalization

Filters

- About Convolution
- Different types of filters like Averaging, Blurring,
- Gaussian and Median

Thresholding

- About Thresholding
- Adaptive Thresholding

Edge Detection

- Different type of edge detection like Canny, Sobel and
- Laplacian
- edge detectors

Image Transformation

Query Session

After completing workshop there will be a query session which will help students to clear all their doubts.

Competition

After the hand on theory and practical experience from the workshop, Competition will be conducted for the participants.

Certificate Distribution

Participants will get Participation Certificate and winners will get winning Certificates.