



**E2MATRIX**

**Training and Research Institute**

[www.e2matrix.com](http://www.e2matrix.com)

## **OpenCV COURSE STRUCTURE**

OpenCV is a library of programming functions mainly aimed at real-time computer vision, developed by Intel. It is free for use under the open source BSD license. The library is crossplatform. It focuses mainly on real-time image processing. This Library majorly used in Image & Video Processing Applications because of its smart performance. Matlab like platforms cannot give you real time performance because of their architectures & has gradually outdated from industry, but OpenCV can give you much more processing power to process your heavy image & video data. Many companies like Google, Intel, IBM, Sony, Honda, Toyota, KPIT Cummins use this library to do many projects. This lightweight library can easily be used on Raspberry Pi for Video Processing application like Face Detection.



## **Module 1**

1. OpenCV Introduction & Installation
2. OpenCV Data Structure & Image Operations
3. Image / Video Load / Save + GUI Events

## **Module 2**

1. Image Processing Operations
2. Basic Image Transforms
3. Tracking & Motion (Basics, Optical Flow)

## **Module 3**

1. Hands-on experience from basic to advanced Image processing techniques using software
2. Implementation of real time Image Processing techniques
3. Practical session on Traffic Light Recognition and processing methods
4. Practical session on identifying and tracking the Object
5. Exposure to identification of the shape, color and tracking of an Object