

## Training program on Image Processing using Open CV (12th Oct, 2022 to 11th Nov, 2022)

Image processing using OpenCV (Open Source Computer Vision) involves utilizing the OpenCV library, a powerful open-source computer vision and machine learning software library. OpenCV provides a wide range of functions and tools for image processing tasks, making it a popular choice for computer vision applications. A 30 Days Image Processing using Open CV Masterclass was organized for the students from 12<sup>th</sup> Oct, 2022 to 11<sup>th</sup> Nov, 2022. Dr. Souvik Ganguli from the Department of Electrical and Instrumentation Engineering, Thapar Institute of Engineering and Technology, Patiala was the coordinator for the program. The program link for the above program is provided for reference:

<https://www.youtube.com/watch?v=umSnzdui0BE&t=412s>

The collage consists of 12 video thumbnails arranged in a 4x3 grid. Each thumbnail has a blue background with white and yellow text and icons. The thumbnails are:

- Top Left:** "Image processing using Open CV | L D College of Engg, Ahmedabad | Pantech eLearning". Title: "What is Open-CV?". Text: "Open-CV is a cross-platform library using which we can develop real-time computer vision applications. It mainly focuses on image processing, video capture and analysis including features like face detection and object detection."
- Top Right:** "Google Maps Ridesharing Apps Like Uber and Lyft". Shows a map of India with Uber and Lyft logos.
- Middle Left:** "Smart home devices". Shows a smart home diagram and a person using a laptop.
- Middle Right:** "NumPy". Text: "NumPy is a Python package which stands for 'Numerical Python'. To install Python NumPy 'pip install numpy'. It is a powerful N-dimensional array object which is in the form of rows and columns. go to your IDE and simply import it by typing: 'import numpy as np'".
- Bottom Left (Row 3):** "matplotlib". Shows various data plots like line graphs, bar charts, and pie charts.
- Bottom Left (Row 4):** "HOW TO DEVELOP IMAGE PROCESSING USING PYTHON & OPENCV | WEBINAR | Pantech ...". Title: "Computer Vision Vs Image Processing". Text: "Image processing deals with image-to-image transformation. The input and output of image processing are both images. Computer vision is the construction of explicit, meaningful descriptions of physical objects from their image. The output of computer vision is a description or an interpretation of structures in 3D scene."
- Bottom Right:** "Reading, Writing & Displaying Image". Shows a code editor window with Python code for image operations and a list of functions: "cv2.imread is used to read the particular image file.", "cv2.imwrite is used to write the image file.", "cv2.imshow is used to display the particular image file."