



## **Technocation Freelancing Training Institute And Software House**

### **Open CV Certification Module**

#### **MODULE 1: Introduction to OpenCV**

- OpenCV is a tool that helps computers “see.”
- We use it with Python to work on pictures and videos.
- It is used in games, robots, and apps.
- Kids can make fun projects with OpenCV.

#### **MODULE 2: Working with Images**

- Learn how to load a picture on the computer.
- Show the picture on the screen with code.
- Save the picture in different formats.
- Practice with your own photos.

#### **MODULE 3: Working with Videos**

- Open a video using OpenCV.
- Play video frame by frame.
- Stop, pause, and close video windows.
- Try with a short cartoon clip.

#### **MODULE 4: Drawing Shapes**

- Draw a line with code.
- Make circles and rectangles on pictures.
- Add colors to shapes.
- Create a “digital doodle board.”

#### **MODULE 5: Adding Text**

- Write text on an image.
- Choose font style and size.
- Change text color.

- Make your own “poster” with text and shapes.

## **MODULE 6: Colors in OpenCV**

- Learn about RGB colors.
- Change a picture to black and white.
- Convert to gray scale or sepia.
- Experiment with color filters.

## **MODULE 7: Image Transformations**

- Resize pictures to big or small.
- Rotate images left or right.
- Crop a part of the picture.
- Make a funny stretched image.

## **MODULE 8: Edge Detection**

- Find the outlines of objects in a picture.
- Use Canny edge detector.
- Highlight borders of shapes.
- See how sketches are made by code.

## **MODULE 9: Face Detection**

- Detect faces in a photo.
- Mark faces with a rectangle.
- Use webcam to detect live faces.
- Try with family or friends’ photos.

## **MODULE 10: Object Detection Basics**

- Learn what object detection means.
- Detect simple objects like balls or books.
- Use Haar cascade models.
- See how robots “spot” things.

## **MODULE 11: Fun Filters & Effects**

- Add a cartoon filter to a photo.
- Try funny face filters like glasses.
- Mix filters with colors.
- Create a “photo booth” project.

## **MODULE 12: OpenCV Mini Projects**

- Make a motion detector with webcam.
- Build a smile detector.
- Create a doodle app with shapes.
- Combine everything learned in one project.

## **MODULE 13: Certification Module**

- Revise all modules with a quiz.
- Submit a small project (face filter or motion detector).
- Earn the “**Junior OpenCV Creator**” **Certificate**.
- Celebrate your coding success!

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