

By OnlineInterviewQuestions.com

OpenCV interview questions

What is OpenCV ?

OpenCV is Open Source Computer Vision Library released under BSD license. Below you find some latest interview questions and answers on **OpenCV**.

Q1. What is OpenCV?

OpenCV is Open Source Computer Vision Library released under the BSD license, which is free for both commercial and academic use. OpenCV provides a programming interface for Python, C, C++, and Java and supports various platforms like Windows, Linux, iOS, and Android.

Q2. Enlist different types of video filters available in OpenCV ?

Blurring, Smoothing, Distortion, Warp Stabilizer, alpha extract, bilateral, color matrix, chrome hold are few video filters available in OpenCV.

Q3. What is use of Mat class in OpenCV?

The **primary use of the Mat class** in OpenCV is to store and obtain the values of any image. This class is used in representing the n-dimensional array and is utilized in storing data of the image of grayscale or color images, vector fields, point clouds, voxel volumes and so on. Mat stands for Matrix and is contained in the namespace of OpenCV. They are represented using a type number of a certain manner.

Q4. How to read and display an image in OpenCV?

The **cv2.imread()** and **cv2.imshow()** method is used by the OpenCV to read and show images.

- **Cv2.imread()** - It requires an argument that is the path of the image file. The second option is optional. They are **cv2.IMREAD_COLOR**, **cv2.IMREAD_GRAYSCALE**, **cv2.IMREAD_UNCHANGED** and they define to load a colored image, grayscale image, and load image with the alpha channel. This method returns the numpy array that contains the pixel values of the image in RGB.
- **Cv2.imshow()** - It accepts two argument. The first is the name of the window where the image should be displayed and the second argument is the name of the image itself.

Q5. What is use of sobel operation in OpenCV?

The **Sobel** is a filter in the OpenCV to detect the edge of an image. It detects the edge in both horizontal and vertical directions.

Syntax

```
Sobel(src, dst, ddepth, dx, dy)
```

Here **src** is the object representing the source of the image. **Dst** is the object representing the output image. **Ddepth** is the variable representing the depth of the image. **Dx** and **dy** are variables representing the x & y derivative.

Q6. Which function is used to draw line in OpenCV ?

The **cv2.line()** method in the OpenCV is used to draw a line.

Syntax

```
cv2.line(image, start_point, end_point, color, thickness)
```

Here the **image** is the source image where the line should be drawn. **Start_point** and **end_point** are the coordinates for the starting and ending point of the line. They are represented as a tuple value of x & y. **color** represents the color for the line. BGR represents the Blue Green Red color values of the line. **Thickness** represents the thickness of the line in px.

Q7. Where opencv libraries are installed?

The libraries of the OpenCV are installed in the folder **/usr/lib** in the ubuntu and directly under the **lib** folder present in your OpenCV directory on Windows.

Q8. What is cv_8ucl in opencv?

cv_8uc1 is an 8-bit single-channel array. It has 2 parts, the depth, and various numbers of channels. There is a flexible system that is enough to let the users define some new types with up to 215 channels. CV_8UC1 makes the code more clear that how many numbers of channels is the code is working with. If someone is dealing with a matrix that contains 10 channels or even more than that, the person needs to specify the number of channels that will be included.

Q9. Enlist different types of filters available in OpenCV?

The different types of linear and non-linear filter that you can apply to a picture using OpenCV are, BaeColumn filter, Base filter, BaseRow filter, FilterEngine, Bilateral filter, AdaptiveBilateral Filter, Blur, BorderInterpolate, BoxFilter, BuildPyramid, copyMakeBorder, createBoxFilter, createDerivFilter, createGuassionFilter, createLinear filter, createMorphology filter, createSeparableLinear filter, dilate, erode, filter2D, GuassianBlur, getDerivKernels, getKernelType, getStructuringElement, medianBlur, morphologyEx, Laplacian, pyrDown, pyrUp, pyrMeanShiftFiltering, sepFilter2D, Smooth, Sobel, Scharr.

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