**Opencv**

**OpenCV Tutorial in Python**

<https://www.geeksforgeeks.org/python/opencv-python-tutorial/>

OpenCV, short for Open Source Computer Vision Library, is an open-source computer vision and machine learning software library. Originally developed by Intel, it is now maintained by a community of developers under the OpenCV Foundation.

In this article, we delve into **OpenCV**, exploring its functionalities, applications, and practical examples.

**OpenCV- Introduction**

**Opencv**is a huge open-source library for [computer vision](https://www.geeksforgeeks.org/a-quick-overview-to-computer-vision/), [machine learning](https://www.geeksforgeeks.org/ml-machine-learning/), and [image processing](https://www.geeksforgeeks.org/components-of-image-processing-system/). Now, it plays a major role in real-time operation which is very important in today's systems. By using it, one can process images and videos to identify objects, faces, or even the handwriting of a human.

When it is integrated with various libraries, such as [NumPy,](https://www.geeksforgeeks.org/python-numpy/) [python](https://www.geeksforgeeks.org/python-programming-language/) is capable of processing the opencv array structure for analysis. To Identify an image pattern and its various features we use vector space and perform mathematical operations on these features.   
  
The first OpenCV version was 1.0. OpenCV is released under a BSD license and hence it’s free for both **academic** and **commercial** use. It has [C++](https://www.geeksforgeeks.org/c-plus-plus/), [C](https://www.geeksforgeeks.org/c-programming-language/), Python, and Java interfaces and supports Windows, Linux, Mac OS, iOS and Android. When opencv was designed the main focus was real-time applications for computational efficiency. All things are written in optimized C/C++ to take advantage of multi-core processing.