

# Computer Vision Libraries in Python

## **1. imutils**

A series of convenience functions to make basic image processing functions such as translation, rotation, resizing, skeletonization, displaying, Matplotlib images, sorting contours and detecting edges, much more easier with OpenCV and Python.

## **2. OpenCV (Open Source Computer Vision)**

OpenCV is a library of programming mainly aimed at real-time computer vision. In simple languages it is a library used for image processing. It is highly efficient and facilitates real-time image processing.

## **3. dlib**

dlib is a open source C++ library implementing a variety of machine learning algorithms. While the library is originally written in C++, it has good, easy to use Python bindings. It is widely used for face detection and facial landmark detection.

## **4. scikit-learn**

scikit-learn is a free software machine learning library for the python programming language. It features various classification and clustering algorithms including support vector machines, random forests, gradient boosting, k-means, and DBSCAN. It is built on Matplotlib, NumPy and SciPy.

It has simple and efficient tools for data mining and data analysis. It is accessible to everybody and reusable in various contexts. It is open sourced and commercial usable — BSD license.

## **5. scikit-image**

scikit-image is an open-source image processing library for the python programming language. It includes algorithms for segmentation, geometric transformations, color space manipulation, analysis, filtering, morphology, feature detection and more. It is integrated with python numerical and scientific libraries NumPy and SciPy.

scikit-image is a collection of algorithms for image processing. It is free of charge and free of restrictions. It contains some algorithm implementations that OpenCV does not.

## **6. TensorFlow**

TensorFlow is an end-to-end open source platform for machine learning. It has a comprehensive, flexible ecosystems of tools, libraries and community resources that lets researchers push the state-of-the-art in ML and developers easily build and deploy ML powered applications.

It is a free and open-source software library for dataflow and differentiable programming across a range of tasks. It is used for both research and production at Google. It is often used for neural networks and as a computational backend for Keras.

## **7. Keras**

Keras is an open-source neural-network library written in python. It is capable of running on top of TensorFlow, Microsoft Cognitive Toolkit, Theano or PaidML.

It was developed with a focus on enabling fast experimentation. Keras doesn't handle low-level computation. Instead, it uses another library to do it, called the Backend. Keras make coding, training and deploying neural networks incredibly easy with its scikit-learn style API.

## **8. mxnet**

mxnet is an open-source deep learning framework used to train and deploy neural networks. It is extremely fast and efficient. It is capable of scaling across multiple GPUs and multiple machines.