

# OpenCV for Unity

**iOS & Android** support

**Win & Mac** Standalone support

Support for preview in the **Editor**

**Work with Unity Free & Pro**

## System Requirements

**Build Win Standalone & Preview Editor** : Windows7 or later

**Build Mac Standalone & Preview Editor** : OSX 10.8 or later

**OpenCV for Unity** is an Assets Plugin for using **OpenCV** from within **Unity**.

- Since this package is **a clone of OpenCV Java**, you can use as it is **all** the API Reference OpenCV Java 2.4.10 ([link](#)). ("org.opencv.android" and "SURF and SIFT of org.opencv.features2d" are excluded)
- You can image processing in **real-time** by using the **WebCamTexture** capabilities of Unity. (**real-time face detection works smoothly in iPhone 5**)
- Provides a method to interconversion of **Unity's Texture2D** and **OpenCV's Mat**.
- Includes many classes from OpenCVForUnity, and implements **IDisposable**. You can manage the resources with the **"using"** statement.

Please download [Demo Application](#) for Android and watch [tutorial video](#).

SampleCode using OpenCV for Unity is available.

- [MarkerBased AR Sample](#)

## Version changes

**1.0.9** [Common]Support for Unity5.

**1.0.8** [Common]Update to OpenCV2.4.10

**1.0.7** [iOS]Support for arm64 build target.(Unity 4.6.1p3 or higher) [Common]Add Constructor VideoCapture(string filename). [Common]Add Method copyToMat(),copyFromMat().

**1.0.6** [Android]Support for x86 build target.(Unity 4.6 or higher)

**1.0.5** [Common] Bug fixes SampleScene.

**1.0.4** [Common]Add Method matToTexture2D( Mat mat, Texture2D texture2D, Color32[] bufferColors = null).

**1.0.3** [Common]Support for preview in the Editor.(Pro only) [Common]Support for Win & Mac Standalone.(Pro only) [Android]Change of location of the file that you want to use for Utils.getPath().Changed to use "Assets/StreamingAssets/" folder. [iOS] Add the file that you want to use for Utils.getPath() to Xcode project is no longer required.Changed to use"Assets/StreamingAssets/" folder.

**1.0.2** [iOS]fix library(libjpeg,libpng) version conflicts.

**1.0.1** Initial version

## Upgrade Guide

**From 1.0.8** [Common]change the method name from WebCamTextureToMat() to webCamTextureToMat().

**From 1.0.5** [Android]"OpenCVForUnity/Plugins/Android/"folder has been changed file configuration. Please delete "OpenCVForUnity/Plugins/Android/\*\*\*\*\*.so".

**From 1.0.2** [Android] If "Error: Duplicate file(s) in apk" occurs , Please delete the file with the same name in the "Plugins/Android/assets/"folder. [iOS] Add the cascade file to Xcode project is no longer required.

## Android Setup

### Unity4

- Copy from “OpenCVForUnity/Plugins/Android/” to “Assets/Plugins/Android/” folder.( libnative\_camera\_r\*.\*.so is only required when using the VideoCapture.)

### Unity5

- “OpenCVForUnity/Plugins/Android/opencvforunity.jar” – Select platform Android in Inspector.
- “OpenCVForUnity/Plugins/libs/armeabi-v7a/\*.so” - Select platform Android and CPU ARMv7 in Inspector. ( libnative\_camera\_r\*.\*.so is only required when using the VideoCapture.)
- “OpenCVForUnity/Plugins/libs/x86/\*.so” – Select platform Android and CPU x86 in Inspector.( libnative\_camera\_r\*.\*.so is only required when using the VideoCapture.)
- Put the file that you want to use for Utils.getFilePath() in the “Assets/StreamingAssets/” folder. (haarcascade\_frontalface\_alt.xml is for OpenCVForUnitySample.scene. Please copy only when necessary.)

## iOS Setup

### Unity4

- Delete “OpenCVForUnity/Plugins/iOS/unity5/libopencvforunity.a” and “OpenCVForUnity/iOS for Xcode/unity5/opencv2.framework”.
- Copy from “OpenCVForUnity/Plugins/iOS/” to “Assets/Plugin/iOS/” folder.
- Link “OpenCVForUnity/iOS for Xcode/unity4/opencv2.framework” to Xcode project. (in Xcode project. Build Phases > Link Binary with Libraries > Add opencv2.framework . recommend to use PostprocessBuildPlayer.)

### Unity5

- Delete “OpenCVForUnity/Plugins/iOS/unity4/libopencvforunity.a” and “OpenCVForUnity/iOS for Xcode/unity4/opencv2.framework”.
- “OpenCVForUnity/Plugins/iOS/unity5/libopencvforunity.a” – Select platform iOS in Inspector.
- Link “OpenCVForUnity/iOS for Xcode/unity5/opencv2.framework” to Xcode project. (in Xcode project. Build Phases > Link Binary with Libraries > Add opencv2.framework . When a link error occurs, please add framework after delete once. recommend to use PostprocessBuildPlayer.)
- Put the file that you want to use for `Utils.getFilePath()` in the “Assets/StreamingAssets/” folder. (haarcascade\_frontalface\_alt.xml is for OpenCVForUnitySample.scene. Please copy only when necessary.)
- If use `webCamTextureToMat()`, Please choose OpenGL ES in [PlayerSettings]-[Other Settings]-[Configuration]-[Graphics API].

## Win Standalone Setup

### Unity4

- Copy from “OpenCVForUnity/Plugins/x86/” to “Assets/Plugins/x86/” folder.
- Copy from “OpenCVForUnity/Plugins/x86\_64/” to “Assets/Plugins/x86\_64/” folder.

### Unity5

- “OpenCVForUnity/Plugins/x86/opencvforunity.dll” – Select platform Editor, Standalone and CPU x86 and OS Windows in Inspector.
- “OpenCVForUnity/Plugins/x86\_64/opencvforunity.dll” – Select platform Editor, Standalone and CPU x86\_64 and OS Windows in Inspector.
- Put the file that you want to use for `Utils.getFilePath()` in the “Assets/StreamingAssets/”. (haarcascade\_frontalface\_alt.xml is for OpenCVForUnitySample.scene. Please copy only when necessary.)
- If you use the “VideoCapture(string filename)”, require setup.
  - 1)Download "OpenCV for Windows Version 2.4.10"(<http://opencv.org/downloads.html>).
  - 2)Set Path to "opencv\_ffmpeg2410.dll"
    - if 32bit, "C:\opencv\build\x86\vc10\bin\".
    - if 64bit, "C:\opencv\build\x64\vc10\bin\".

## Mac Standalone Setup

### Unity4

- Copy from “OpenCVForUnity/Plugins/opencvforunity.bundle” to “Assets/Plugins/” folder.
- Put the file that you want to use for `Utils.getFilePath()` in the “Assets/StreamingAssets/”. (haarcascade\_frontalface\_alt.xml is for OpenCVForUnitySample.scene. Please copy only when necessary.)

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