




Robert Castle Consulting

augmented reality, computer vision, Unity, mobile and desktop apps

[Robert Castle Consulting](#) augmented reality, computer vision, Unity, mobile and desktop apps

- [Home](#)
- [Consulting](#)
- [Portfolio](#)
- [Software »](#)
- [Publications »](#)
- [About](#)
- [Contact](#)
- 

News

You are here: [Home](#) → [Computer Vision](#) → [How To](#) → [Platforms](#) → [Raspberry Pi](#) → Installing OpenCV on a Raspberry Pi

[← raspberrypi.local](#)

[3 Years In, The Adventure Continues... →](#)

Installing OpenCV on a Raspberry Pi

By [Robert Castle](#) • February 22, 2014 • [Computer Vision](#), [How To](#), [Raspberry Pi](#) • Comments Off

This guide assumes you are using Raspbian Linux, you have ssh enabled and are doing everything through the terminal. This install was done on a fresh Raspbian install.

Update

Make sure Raspbian is up to date:

```
sudo apt-get update
sudo apt-get upgrade
```

Install dependencies

First do this:

```
sudo apt-get -y install build-essential cmake cmake-curses-gui pkg-config libpng12-0 libpng12-
```

you can add in `cmake-qt-gui` if you want a GUI for `cmake`, and don't like `ccmake`.

This site uses Cookies - By using this site or closing this you agree to our [Cookies policy](#).

.....

```
sudo apt-get -y install libjpeg8 libjpeg8-dev libjpeg8-dbg libjpeg-progs ffmpeg libavcodec-dev
```

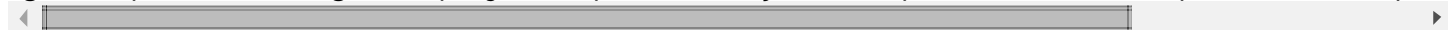
You don't need the lib1394 libraries as there is no FireWire on the Raspberry Pi, but something in this list will grab them anyway (sigh). We install in two stages as there is a possibility of broken package errors if the install order is wrong. It may be fine, but why risk having to fix it.

Install OpenCV

Download OpenCV from <http://opencv.org/downloads.html>

e.g. the latest download link at time of writing

```
wget http://sourceforge.net/projects/opencvlibrary/files/opencv-unix/2.4.8/opencv-2.4.8.zip/do
```



Or get the latest snapshot from the git repo:

```
git clone https://github.com/Itseez/opencv.git
```

Unzip and prepare for build

```
unzip opencv-2.4.8.zip
cd opencv-2.4.8
mkdir release
cd release
ccmake ../
```

Configuring

press 'c' to configure

once done toggle the options you want. This were mine:

```
ANT_EXECUTABLE          ANT_EXECUTABLE-NOTFOUND
BUILD_DOCS              ON
BUILD_EXAMPLES         ON
BUILD_JASPER            ON
BUILD_JPEG              ON
BUILD_OPENEXR          ON
BUILD_PACKAGE          ON
BUILD_PERF_TESTS       ON
BUILD_PNG               ON
BUILD_SHARED_LIBS      ON
BUILD_TBB               OFF
BUILD_TESTS            ON
BUILD_TIFF              ON
BUILD_WITH_DEBUG_INFO  ON
BUILD_ZLIB              ON
BUILD_opencv_apps      ON
BUILD_opencv_calib3d   ON
BUILD_opencv_contrib   ON
BUILD_opencv_core      ON
BUILD_opencv_features2d ON
BUILD_opencv_flann     ON
BUILD_opencv_gpu       ON
BUILD_opencv_highgui   ON
BUILD_opencv_imgproc   ON
BUILD_opencv_legacy    ON
BUILD_opencv_ml        ON
BUILD_opencv_nonfree   ON
BUILD_opencv_objdetect ON
BUILD_opencv_ocl       ON
BUILD_opencv_photo     ON
BUILD_opencv_python    ON
```

```

BUILD_opencv_stitching      ON
BUILD_opencv_superres      ON
BUILD_opencv_ts            ON
BUILD_opencv_video         ON
BUILD_opencv_videostab    ON
BUILD_opencv_world        OFF
CLAMDBLAS_INCLUDE_DIR     CLAMDBLAS_INCLUDE_DIR-NOTFOUND
CLAMDBLAS_ROOT_DIR        CLAMDBLAS_ROOT_DIR-NOTFOUND
CLAMDFFT_INCLUDE_DIR      CLAMDFFT_INCLUDE_DIR-NOTFOUND
CLAMDFFT_ROOT_DIR        CLAMDFFT_ROOT_DIR-NOTFOUND
CMAKE_BUILD_TYPE          Release
CMAKE_CONFIGURATION_TYPES  Debug;Release
CMAKE_INSTALL_PREFIX      /usr/local

CMAKE_VERBOSE             OFF
CUDA_BUILD_CUBIN          OFF
CUDA_BUILD_EMULATION      OFF
CUDA_HOST_COMPILER        /usr/bin/gcc
CUDA_SDK_ROOT_DIR         CUDA_SDK_ROOT_DIR-NOTFOUND
CUDA_SEPARABLE_COMPILATION OFF
CUDA_TOOLKIT_ROOT_DIR     CUDA_TOOLKIT_ROOT_DIR-NOTFOUND
CUDA_VERBOSE_BUILD        OFF
EIGEN_INCLUDE_PATH        /usr/include/eigen3
ENABLE_NEON               OFF
ENABLE_NOISY_WARNINGS     OFF
ENABLE_OMIT_FRAME_POINTER ON
ENABLE_PRECOMPILED_HEADERS ON
ENABLE_PROFILING          OFF
ENABLE_SOLUTION_FOLDERS   OFF
ENABLE_VFPV3              OFF
EXECUTABLE_OUTPUT_PATH    /home/pi/opencv-2.4.8/release/bin
GIGEAPI_INCLUDE_PATH      GIGEAPI_INCLUDE_PATH-NOTFOUND
GIGEAPI_LIBRARIES         GIGEAPI_LIBRARIES-NOTFOUND
INSTALL_CREATE_DISTRIB    OFF
INSTALL_C_EXAMPLES        OFF
INSTALL_PYTHON_EXAMPLES  OFF
INSTALL_TO_MANGLED_PATHS  OFF
OPENCV_CONFIG_FILE_INCLUDE_DIR /home/pi/opencv/opencv-2.4.8/release
OPENCV_EXTRA_MODULES_PATH
OPENCV_WARNINGS_ARE_ERRORS OFF
OPENEXR_INCLUDE_PATH      OPENEXR_INCLUDE_PATH-NOTFOUND
PVAPI_INCLUDE_PATH        PVAPI_INCLUDE_PATH-NOTFOUND
PYTHON_NUMPY_INCLUDE_DIR  /usr/lib/pymodules/python2.7/numpy/core/include
PYTHON_PACKAGES_PATH      lib/python2.7/dist-packages
SPHINX_BUILD              SPHINX_BUILD-NOTFOUND
WITH_1394                 OFF
WITH_CUBLAS               OFF
WITH_CUDA                 OFF
WITH_CUFFT                OFF
WITH_EIGEN                 ON
WITH_FFmpeg                ON
WITH_GIGEAPI               OFF
WITH_GSTREAMER             ON
WITH_GTK                   ON
WITH_JASPER                ON
WITH_JPEG                  ON
WITH_LIBV4L                ON
WITH_NVCUVID              OFF

WITH_OPENCL                ON
WITH_OPENCLAMDBLAS        ON
WITH_OPENCLAMDFFT         ON
WITH_OPENEXR              ON
WITH_OPENGL                ON
WITH_OPENMP                OFF

```

```

WITH_OPENNI          OFF
WITH_PNG              ON
WITH_PVAPI            ON
WITH_QT               OFF
WITH_TBB              OFF
WITH_TIFF             ON
WITH_UNICAP           OFF
WITH_V4L              ON
WITH_XIMEA            OFF
WITH_XINE             OFF

```

press 'c' again to configure with your new settings

press 'g' to generate the Makefile

And finally, build. This will take a long time (about 10 hours!).

```

make
sudo make install

```

Other install guides

Here are a few of other install guides that may be helpful

- http://docs.opencv.org/doc/tutorials/introduction/linux_install/linux_install.html#linux-installation
- <http://mitchtech.net/raspberry-pi-opencv/>
- <http://miloq.blogspot.co.uk/2012/12/install-opencv-ubuntu-linux.html>

Tags: [Computer Vision](#), [How To](#), [OpenCV](#), [Raspberry Pi](#)

Comments are closed.

Contact Robert

Phone: +44 (0) 7414097308

Email: robert@robertcastle.com



Tags

[Apple](#) [Augmented Reality](#) [Backup](#) [Code Sample](#) [Code Snippet](#) [Computer Vision](#) [Consulting](#) [Desktop Apps](#) [Developer](#) [Encryption](#) [GitHub](#) [How To](#) [iOS](#) [Linux](#) [Mobile Apps](#) [NAS](#) [Octave](#) [OpenCV](#) [OpenGL](#) [OS X](#) [Plugin](#) [PTAM](#) [PTAMM](#) [Raspberry Pi](#) [Resources](#) [Site](#) [SLAM](#) [Source Code](#) [Synology](#) [Tips](#) [UI](#) [Design](#) [UK](#) [Unity](#) [University of Oxford](#) [VAT](#) [Visualization](#) [Xcode](#)

Recent Posts

- [EgoXproject Released](#)
- [Automatically patch CMVideoSampling.mm when using Xcode 6 and Unity 4.3.4](#)
- [Apple Developer Programs and VAT](#)
- [3 Years In, The Adventure Continues...](#)
- [Installing OpenCV on a Raspberry Pi](#)

Robert Castle Consulting © 2011-2015. All Rights Reserved.

