

How to install OpenCV

1. Download the source code from <http://opencv.org/downloads.html> for Linux/Mac. Version 2.3.1 is recommended, although newer versions may work too.
2. Unzip the folder containing the source code in the desired folder.
3. With the terminal, change to OpenCV's directory.
4. Type: “cmake -DBUILD_EXAMPLES=ON -DWITH_EIGEN=ON -DHAVE_LIBV4L=ON -DWITH_GTK=ON -DWITH_FFMPEG=OFF” to set some of the flags to configure the building.
5. Type: “make”.
6. Wait for ~10 minutes.

How to compile software with OpenCV's libraries with a Makefile

1. In the terminal, change to the software's main directory.
2. Open the Makefile, if it exists. If not, create a new one.
3. The Makefile should look like the following. Assuming that:
 1. The output name of the executable is “v4l2stereo”.
 2. All *.cpp files should be compiled, and the ones inside “calibration” and “elas” folders too.
 3. The folder containing OpenCV is “/home/helen/Downloads”.

all:

```
g++ -O3 -o v4l2stereo *.cpp calibration/*.cpp elas/*.cpp -msse3 -pedantic -fopenmp
-I/home/helen/Downloads/OpenCV-2.4.0/include/opencv -I/home/helen/Downloads/OpenCV-
2.4.0/include -I/home/helen/Downloads/OpenCV-2.4.0/modules/core/include/
-I/home/helen/Downloads/OpenCV-2.4.0/modules/imgproc/include
-I/home/helen/Downloads/OpenCV-2.4.0/modules/video/include -I/home/helen/Downloads/OpenCV-
2.4.0/modules/features2d/include -I/home/helen/Downloads/OpenCV-2.4.0/modules/flann/include
-I/home/helen/Downloads/OpenCV-2.4.0/modules/calib3d/include -I/home/helen/Downloads/OpenCV-
2.4.0/modules/objdetect/include -I/home/helen/Downloads/OpenCV-2.4.0/modules/legacy/include
-I/home/helen/Downloads/OpenCV-2.4.0/modules/highgui/include -I/home/helen/Downloads/OpenCV-
2.4.0/modules/highgui/include/opencv2/highgui -I/home/helen/Downloads/OpenCV-
2.4.0/modules/photo/include -I/home/helen/Downloads/OpenCV-2.4.0/modules/ml/include
-I/home/helen/Downloads/OpenCV-2.4.0/modules/contrib/include -I/usr/include/gstreamer-0.10
-I/usr/include/glib-2.0 -I/usr/lib/i386-linux-gnu/glib-2.0/include -I/usr/include/libxml2
/home/helen/Downloads/OpenCV-2.4.0/lib/libopencv_calib3d.so /home/helen/Downloads/OpenCV-
2.4.0/lib/libopencv_contrib.so /home/helen/Downloads/OpenCV-2.4.0/lib/libopencv_core.so
/home/helen/Downloads/OpenCV-2.4.0/lib/libopencv_features2d.so /home/helen/Downloads/OpenCV-
2.4.0/lib/libopencv_flann.so /home/helen/Downloads/OpenCV-2.4.0/lib/libopencv_gpu.so
/home/helen/Downloads/OpenCV-2.4.0/lib/libopencv_highgui.so /home/helen/Downloads/OpenCV-
2.4.0/lib/libopencv_imgproc.so /home/helen/Downloads/OpenCV-2.4.0/lib/libopencv_legacy.so
/home/helen/Downloads/OpenCV-2.4.0/lib/libopencv_ml.so /home/helen/Downloads/OpenCV-
2.4.0/lib/libopencv_nonfree.so /home/helen/Downloads/OpenCV-2.4.0/lib/libopencv_objdetect.so
/home/helen/Downloads/OpenCV-2.4.0/lib/libopencv_photo.so /home/helen/Downloads/OpenCV-
2.4.0/lib/libopencv_stitching.so /home/helen/Downloads/OpenCV-2.4.0/lib/libopencv_ts.so
/home/helen/Downloads/OpenCV-2.4.0/lib/libopencv_video.so /home/helen/Downloads/OpenCV-
```

2.4.0/lib/libopencv_videostab.so

debug:

```
g++ -g -o v4l2stereo *.cpp calibration/*.cpp elas/*.cpp -I/usr/include/opencv -L/usr/lib `pkg-config opencv --cflags --libs` -msse3 -Wall -pedantic -fopenmp
```

clean:

```
rm -f v4l2stereo
```