

Compile OpenCV 3.0.0 + OpenCV Contrib for Python on Raspberry Pi 2B

Step 1:

update and upgrade before anything further

1. \$ sudo apt-get update
2. \$ sudo apt-get upgrade
3. \$ sudo rpi-update (can be skipped, but recommended)

Step 2:

\$ sudo apt-get install build-essential cmake pkg-config

Step 3:

\$ sudo apt-get install libjpeg8-dev libtiff4-dev libjasper-dev libpng12-dev

Step 4:

\$ sudo apt-get install libgtk2.0-dev

Step 5:

\$ sudo apt-get install libavcodec-dev libavformat-dev libswscale-dev libv4l-dev

Step 6:

1. \$ sudo apt-get install libatlas-base-dev gfortran
2. \$ sudo apt-get install python-numpy python-scipy python-matplotlib
3. \$ sudo apt-get install default-jdk ant
4. \$ sudo apt-get install libgtkglext1-dev
5. \$ sudo apt-get install v4l-utils

Step 7:

install pip

1. \$ wget https://bootstrap.pypa.io/get-pip.py
2. \$ sudo python get-pip.py

Step 8:

\$ sudo apt-get install python2.7-dev

Step 9:

\$ pip install numpy

Step 10:

download OpenCV 3.0.0 and unpack it

```
1. $ cd ~
2. $ wget -O opencv.zip
   https://github.com/Itseez/opencv/archive/3.0.0.zip
3. $ unzip opencv.zip
```

Contrib Libraries

```
1. $ wget -O opencv_contrib.zip
   https://github.com/Itseez/opencv_contrib/archive/3.0.0.zip
2. $ unzip opencv_contrib.zip
```

Step 11:

preparing the build

```
1. $ cd ~/opencv-3.0.0/
2. $ mkdir build
3. $ cd build
4. $ cmake -D CMAKE_BUILD_TYPE=RELEASE \
           -D CMAKE_INSTALL_PREFIX=/usr/local \
           -D INSTALL_C_EXAMPLES=ON \
           -D INSTALL_PYTHON_EXAMPLES=ON \
           -D OPENCV_EXTRA_MODULES_PATH=~/opencv_contrib-
3.0.0/modules \
           -D BUILD_EXAMPLES=ON ..
```

Step 12:

takes about 3.5 to 4 hours

```
$ make -j4 (I prefer -j3, because it doesn't use all the cores so it
keeps the RasPi cool enough)
```

Step 13:

installing the build prepared in step 11

```
1. $ sudo make install
2. $ sudo ldconfig
```

Step 14:

```
1. $ sudo nano /etc/ld.so.conf.d/opencv.conf
```

opencv.conf will be blank, add the following line, then save and exit nano:

```
/usr/local/lib          # enter this in opencv.conf, NOT at the
command line            (leave a blank line at the end of opencv.conf)
```

save opencv.conf by pressing ctrl+o

get back again to the command line by pressing ctrl+x

```
2. $ sudo ldconfig
```

```
3. $ sudo nano /etc/bash.bashrc
```

```
# add the following lines at the bottom of bash.bashrc
```

```
PKG_CONFIG_PATH=$PKG_CONFIG_PATH:/usr/local/lib/pkgconfig  
export PKG_CONFIG_PATH
```

```
# (leave a blank line at the end of bash.bashrc)  
# save bash.bashrc changes (ctrl+o), then back at the command line  
(ctrl+x),
```

Step 15:

```
# Reboot
```

```
$ sudo shutdown -r now
```

Step 16 Last Step:

```
# verifying the installation
```

Open Python 2 IDLE on RasPi

```
# Type the following lines in the python shell:
```

```
>>> import cv2
```

```
>>> print cv2.__version__
```

```
# the following line should appear then:
```

```
'3.0.0'
```

Done

Osama Abbas