

tips for using OpenCV with Anaconda Python, Xcode

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*OpenCV is sooo buggy... Everytime I came across opencv, I would spend a hell lot of time setting up the environment. Whether working with python, C++, Xcode.... OK now I finally got a chance to write some tips down, HOPE THIS WOULD HELP! *3**

Mac OS Yosemite 10.10.2 || Xcode 6.1.1 || opencv 2.4.10.1

Opencv can be got from

- cmake
- homebrew install opencv
- conda install opencv

I have the first 2 versions installed. (I deleted the conda version. But not sure how to completely remove the cmake version.)

1. If you want to install opencv using homebrew:

homebrew requires linking numpy before installing opencv, but it can't link numpy because of some access error (Permission denied).

so...add access by the command "change owner"

sudo chown -R change /usr/local

```
172-16-208-183:1.9.1 Chenge$  
172-16-208-183:1.9.1 Chenge$  
172-16-208-183:1.9.1 Chenge$ brew install opencv  
==> Installing opencv from homebrew/homebrew-science  
Error: You must `brew link numpy` before opencv can be installed  
172-16-208-183:1.9.1 Chenge$ brew link numpy  
Linking /usr/local/Cellar/numpy/1.9.1... Error: Permission denied - /usr/local/l  
ib/python2.7/site-packages/numpy  
172-16-208-183:1.9.1 Chenge$ sudo chown -R chenge /usr/local/  
Password:  
172-16-208-183:1.9.1 Chenge$  
172-16-208-183:1.9.1 Chenge$  
172-16-208-183:1.9.1 Chenge$  
172-16-208-183:1.9.1 Chenge$ brew link numpy  
Linking /usr/local/Cellar/numpy/1.9.1... 391 symlinks created  
172-16-208-183:1.9.1 Chenge$ █
```

Now you should be able to "**brew link numpy**", and then you can go ahead and "**brew install opencv**".

```

172-16-208-183:1.9.1 Chenge$ brew link numpy
Linking /usr/local/Cellar/numpy/1.9.1... 391 symlinks created
172-16-208-183:1.9.1 Chenge$ brew install opencv
==> Installing opencv from homebrew/homebrew-science
==> Downloading https://downloads.sf.net/project/machomebrew/Bottles/science/ope
##### 100.0%
==> Pouring opencv-2.4.10.1.yosemite.bottle.tar.gz
Error: The `brew link` step did not complete successfully
The formula built, but is not symlinked into /usr/local
Could not symlink share/OpenCV/OpenCVConfig-version.cmake
Target /usr/local/share/OpenCV/OpenCVConfig-version.cmake
already exists. You may want to remove it:
  rm '/usr/local/share/OpenCV/OpenCVConfig-version.cmake'

To force the link and overwrite all conflicting files:
  brew link --overwrite opencv

To list all files that would be deleted:
  brew link --overwrite --dry-run opencv

Possible conflicting files are:
//% . . . a lot of files here//
==> Summary
🍺 /usr/local/Cellar/opencv/2.4.10.1: 219 files, 39M
172-16-208-183:1.9.1 Chenge$ rm /usr/local/share/OpenCV/OpenCVConfig-
version.cmake
172-16-208-183:1.9.1 Chenge$ brew link --overwrite opencv
Linking /usr/local/Cellar/opencv/2.4.10.1... 93 symlinks created
172-16-208-183:1.9.1 Chenge$ brew link --overwrite --dry-run opencv
Warning: Already linked: /usr/local/Cellar/opencv/2.4.10.1
To relink: brew unlink opencv && brew link opencv
172-16-208-183:1.9.1 Chenge$

```

There are some conflicting files because I already had the cmake version opencv installed. But I decided not to delete that and keep both.

2. if you want to install opencv using Anaconda

conda install -c <https://conda.binstar.org/jjhelmus> opencv

```

172-16-208-183:site-packages Chenge$
172-16-208-183:site-packages Chenge$ conda install -c https://conda.binstar.org/
jjhelmus opencv
Fetching package metadata: .....
Solving package specifications: .....
Package plan for installation in environment /Users/Chenge/anaconda:

The following packages will be downloaded:

package | build
-----|-----
numpy-1.9.2 | py27_0 2.9 MB
opencv-2.4.10 | np19py27_0 8.4 MB
setuptools-13.0.2 | py27_0 436 KB
pip-6.0.8 | py27_0 1.5 MB
-----|-----
Total: 13.2 MB

The following NEW packages will be INSTALLED:

opencv: 2.4.10-np19py27_0

The following packages will be UPDATED:

numpy: 1.8.2-py27_0 --> 1.9.2-py27_0
pip: 1.5.6-py27_0 --> 6.0.8-py27_0
setuptools: 5.8-py27_0 --> 13.0.2-py27_0

Proceed ([y]/n)? █

```

Anaconda Python works fine with the conda version opencv. But I uninstalled Anaconda opencv: `conda uninstall opencv` , because I chose to *link anaconda python with the brewed opencv instead*:

- `cd /Users/Chenge/anaconda/lib/python2.7/site-packages/`
- `ln -s /usr/local/Cellar/opencv/2.4.10.1/lib/python2.7/site-packages/cv.py cv.py`
- `ln -s /usr/local/Cellar/opencv/2.4.10.1/lib/python2.7/site-packages/cv2.so cv2.so`

BTW, anaconda python path: `/Users/Chenge/anaconda/lib/python2.7/site-packages/`
there are packages like: `/Users/Chenge/anaconda/lib/python2.7/site-packages/numpy`)

3. Linking opencv with Xcode

choice 1: linking the brewed version:

- Under "Build Phases", "Link Binary With Libraries"
- Under "Build Settings", "Library Search Paths" (Set to `/usr/local/Cellar/opencv/2.4.10.1/lib`)
- Under "Build Settings", "Header Search Paths" (Set to `/usr/local/Cellar/opencv/2.4.10.1/include`)
- Last but not least, **you should add whatever dylib files you need to the project by Add Files to...**

choice 2: linking the cmake version:

- Under "Build Phases", "Link Binary With Libraries"
- Under "Build Settings", "Library Search Paths" (Set to /usr/local/opt/opencv/lib)
- Under "Build Settings", "Header Search Paths" (Set to /usr/local/opt/opencv/include/)
- Last but not least, **you should add whatever dylib files you need to the project by Add Files to...**

BTW, cmake version of opencv is at: /usr/local/opt/opencv/include/opencv
/usr/local/opt/opencv/include/opencv2
/usr/local/opt/opencv/lib

If you don't know which version you should use, you can add them both...but this is not a neat idea.

This might be helpful: <https://syncknowledge.wordpress.com/2014/11/02/using-opencv-2-4-9-with-xcode-6-1-on-os-x-yosemite/>

Now you should be able to:

- run Anaconda python with Anaconda opencv or homebrewed opencv.
- use cmake version of opencv or homebrewed opencv in Xcode.
- have no idea what I have just jabbered, still stuck somewhere nowhere? **Well...good luck! Or should I say, google with luck~! :D**

About opencv "segmentation fault 11"

Conda uninstall opencv doesn't delete cv files in the package folder. You need to delete the files manually if you want to link conda python with other CV (eg. Homebrewed OpenCV).

If there are still problems about segmentation fault. Try change the first line in **cv2.so** file.

About linking python to the homebrew version CV

useful links: <https://gist.github.com/welch/6468594>

firstly deleted all 3 cv files in the site-packages folder: **sudo rm cv.pyc sudo rm cv2.so sudo rm cv.py**

```
And link:  
cd /Users/Chenge/anaconda/lib/python2.7/site-packages/  
ln -s /usr/local/Cellar/opencv/2.4.10.1/lib/python2.7/site-packages/cv.py cv.py  
ln -s /usr/local/Cellar/opencv/2.4.10.1/lib/python2.7/site-packages/cv2.so  
cv2.so
```

after linking the 2 files, the pyc file doesn't appear

change the first line!!

```
sudo install_name_tool -change libpython2.7.dylib(the first line)  
/Users/Chenge/anaconda/lib/libpython2.7.dylib  
/Users/Chenge/anaconda/lib/python2.7/site-packages/cv2.so
```

changed! still no pyc file, but after run python>> pyc appears!

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