

## Installation of specific version of OpenCV 4.x.x

Recently I ran into some issues with the homebrew installed `opencv` as the latest version from brew is set to use `python 3.8` as it's dependency. Since `3.8` version is still not the mainstream version of `python3` and also the fact that I was not prepared to make the move to this version of `python` I was looking for ways to switch back to the previous version with `python 3.7.7` dependency.

One way I could do is using the `virtualenv` of `python`, but that will be out of the default homebrew way. Also, I didn't wanted to spend that much time in setting up my new `virtualenv` and build `cv` over it.

I got some pretty good information about how to switch to the previous versions smoothly from an old link posted by [Zoltan Altfatter](#).

(thanks to Zoltan)

## Installation of the previous version.

For installing the previous version of `OpenCV`, I followed the below steps using the link as a reference.

- Browse to the homebrew core as below.

```
cd "$(brew --repo homebrew/core)"
```

which on my machine took me to the below path:

```
/usr/local/Homebrew/Library/Taps/homebrew/homebrew-core|master
```

- Now check the history of the commits to pick the one we are interested in.

```
git log master -- Formula/opencv.rb

# or
# git log Formula/opencv.rb

...
commit 9193059621d2af66599074df90524b0ea202b5d8
Author: BrewTestBot <homebrew-test-bot@lists.sfconservancy.org>
Date:   Sun Apr 5 09:20:43 2020 +0000

    opencv: update 4.2.0_4 bottle.

commit 9950e80c1ea4e3e5a3dda296b5900d251535acb1
Author: Alexander Bayandin <a.bayandin@gmail.com>
Date:   Mon Dec 2 19:26:00 2019 +0000

    opencv: revision bump for python@3.8
```

```

commit 54deb66bf88b9987e5243c6f8580ff6b75c29607
Author: Mike McQuaid <mike@mikemcquaid.com>
Date: Thu Mar 12 20:54:57 2020 +0000

    opencv: autofix rubocop Style/IfUnlessModifier.

commit 38a5da9f70ee39258180ce925ce336ed5f448a59
Author: BrewTestBot <homebrew-test-bot@lists.sfconservancy.org>
Date: Fri Mar 6 03:08:25 2020 +0000

    opencv: update 4.2.0_3 bottle.
...

```

The commit I was interested in is 54deb66bf88b9987e5243c6f8580ff6b75c29607, which can be checked out as below:

- Do a git checkout of the selected commit branch.

```

git checkout -b opencv-4.2.0 54deb66bf88b9987e5243c6f8580ff6b75c29607

Switched to a new branch 'opencv-4.2.0'

```

- Unlink the previous version of OpenCV

If we have any previous version(s) of opencv already installed, they need to be unlinked using `brew unlink opencv`. In my case I already uninstalled it, so it gave me a warning when I ran the command. Here is the command which can do the unlinking.

```
brew unlink opencv
```

- Now install opencv by running the below:

```
HOMEBREW_NO_AUTO_UPDATE=1 brew install opencv
```

The option `HOMEBREW_NO_AUTO_UPDATE` will force `homebrew` not to update itself.

The installation should continue normally with this by fetching any required dependencies as needed.

```

apple:/usr/local/Homebrew/Library/Taps/homebrew/homebrew-core|opencv-4.2.0
  brew -v unlink opencv
Error: No such keg: /usr/local/Cellar/opencv
apple:/usr/local/Homebrew/Library/Taps/homebrew/homebrew-core|opencv-4.2.0
  HOMEBREW_NO_AUTO_UPDATE=1 brew -v install opencv
==> Downloading https://homebrew.bintray.com/bottles/cmake-3.16.5.catalina.bottle.tar.gz

```

- Stop updates using pin

Once the installation is completed, we can set the `pin` option to prevent `homebrew` from further updating self and also to stop certain formulae from being

updated. This may be done as under.

```
brew pin opencv
```

Finally we can check the installed component status which should show the appropriate version.

```
apple:~| brew info opencv
opencv: stable 4.2.0 (bottled) [pinned at 4.2.0_3]
Open source computer vision library
https://opencv.org/
/usr/local/Cellar/opencv/4.2.0_3 (756 files, 223.2MB) *
  Poured from bottle on 2020-05-18 at 21:54:19
From: https://github.com/Homebrew/homebrew-core/blob/master/Formula/opencv.rb
==> Dependencies
Build: cmake , pkg-config
Required: ceres-solver , eigen , ffmpeg , glog , harfbuzz ,
jpeg , libpng , libtiff , numpy , openblas , openexr ,
protobuf , python , tbb , webp
==> Analytics
install: 16,302 (30 days), 50,281 (90 days), 185,396 (365 days)
install-on-request: 14,943 (30 days), 45,447 (90 days), 167,202 (365 days)
build-error: 0 (30 days)
```

Check the installed OpenCV version from the python repl.

```
Python 3.7.7 (default, Mar 10 2020, 15:43:33)
Type 'copyright', 'credits' or 'license' for more information
IPython 7.14.0 -- An enhanced Interactive Python. Type '?' for help.

In [1]: import cv2

In [2]: cv2.__version__
Out[2]: '4.2.0'
```

- checking the pkg-config

```
$ pkg-config --modversion opencv4
4.2.0

$ pkg-config --libs --cflags opencv4 | tr ' ' '\n'
-I/usr/local/Cellar/opencv/4.2.0_3/include/opencv4/opencv
-I/usr/local/Cellar/opencv/4.2.0_3/include/opencv4
-L/usr/local/Cellar/opencv/4.2.0_3/lib
-lopenv_gapi
-lopenv_stitching
-lopenv_aruco
```

```
-lopencv_bgsegm
-lopencv_bioinspired
-lopencv_ccalib
-lopencv_dnn_objdetect
-lopencv_dnn_superres
-lopencv_dpm
-lopencv_highgui
-lopencv_face
-lopencv_freetype
-lopencv_fuzzy
-lopencv_hfs
-lopencv_img_hash
-lopencv_line_descriptor
-lopencv_quality
-lopencv_reg
-lopencv_rgbd
-lopencv_saliency
-lopencv_sfm
-lopencv_stereo
-lopencv_structured_light
-lopencv_phase_unwrapping
-lopencv_superres
-lopencv_optflow
-lopencv_surface_matching
-lopencv_tracking
-lopencv_datasets
-lopencv_text
-lopencv_dnn
-lopencv_plot
-lopencv_videostab
-lopencv_videoio
-lopencv_xfeatures2d
-lopencv_shape
-lopencv_ml
-lopencv_ximgproc
-lopencv_video
-lopencv_xobjdetect
-lopencv_objdetect
-lopencv_calib3d
-lopencv_imgcodecs
-lopencv_features2d
-lopencv_flann
-lopencv_xphoto
-lopencv_photo
-lopencv_imgproc
```

```
-lopencv_core
```

## Cleanups and further updates

Later, if we really want to clean this up and go for the regular update, we can perform the necessary cleanup process as under.

```
git checkout master  
git branch -d opencv-4.2.0  
brew cleanup && brew prune
```