Module 3.5 - Installing SURF (opencv_contrib) on OpenCV3.1

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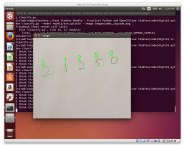
enliteneer 9d

So running index_features.py I get the dreaded error:

```
cv2.FeatureDetector_create("SURF")
AttributeError: 'module' object has no attribute 'FeatureDetector_create'
```

So I'm following the procedure from here:



Install OpenCV 3 and Python 2.7+ on Ubuntu - PyimageSearch

Click here to get my detailed, foolproof install instructions on installing OpenCV 3.0 and Python 2.7+ on your Ubuntu 14.04 system.

2d ago

But after I enter:

```
=ON -D OPENCV_EXTRA_MODULES_PATH=~/opencv_contrib/modules -D BUILD_EXAMPLES=ON ..
```

from within root/OpenCV/opencv_contrib/build or from /home/guest/Desktop/OpenCV/opencv_contrib/build

I get the error that openvcv_contrib folder does not contain CMakeLists.txt, which I confirmed:.

```
root@debian:~/OpenCV/opencv_contrib# ls -la
total 52
drwxr-xr-x  7 root root 4096 Oct  8 19:10 .
drwxr-xr-x 14 root root 4096 Oct  8 19:10 ..
drwxr-xr-x  2 root root 4096 Oct  8 19:10 build
-rw-r--r--  1 root root  191 Oct  8 19:08 CONTRIBUTING.md
drwxr-xr-x  3 root root 4096 Oct  8 19:04 doc
drwxr-xr-x  8 root root 4096 Oct  8 19:08 .git
-rw-r--r--  1 root root   73 Oct  8 19:04 .gitattributes
-rw-r--r--  1 root root   75 Oct  8 19:04 .gitignore
-rw-r--r--  1 root root 2225 Oct  8 19:04 LICENSE
drwxr-xr-x 33 root root 4096 Oct  8 19:08 modules
-rw-r--r--  1 root root 2829 Oct  8 19:08 README.md
drwxr-xr-x  3 root root 4096 Oct  8 19:04 samples
-rw-r--r--  1 root root  287 Oct  8 19:08 .travis.yml
```

But I do see plenty of CMakeLists.txt inside each module folder (ex. opencv_contrib/modules/xfeatures2d).

I assume the idea is to run cmake once and install all the opencv_contrib modules, but where is the master CMakeLists.txt?

Also, I apparently have 2 OpenCV folders (one under root and one under home/guest), I think I originally tried installing as non-root, and then later as root, but I'm not sure which one is actually the one I could use as either root/non-root. How can I find if there's a redundant one to safely delete?

marchampson 8d

Hi,

I'm not sure about the build side of things but I don't believe those commands work in cv3. Have you tried:

surf = cv2.xfeatures2d.SURF_create()

sift = cv2.xfeatures2d.SIFT_create()

I could be wrong, but quick to test.

Cheers,
Marc

Adrian Chief PyImageSearcher **8d**

@marchampson is correct. To access SIFT and SURF inside OpenCV 3 you need to use `cv2.xfeatures2d.SURF_create()` and `cv2.xfeatures2d.SIFT_create()`, respectively.

As for the `build` directory you should only have one of those. Create one in `opencv` and then run all CMake scripts there.

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enliteneer **6d**

Unfortunately, since I can't get opencv_contrib to build first, if I try to call SURF, I get the error : object has no attribute 'xfeatures2d'

As root, from the folder I downloaded/uncompressed opencv_contrib I ran the the cmake command from above.

But while it looks like it tries to compile, it ultimately says "Configuration incomplete, errors occurred!"

It generates 2 log files, but not sure how to decipher. I couldn't attach them here (jpg only) so I uploaded:

http://pastebin.com/iTAz6fzW

```
Determining if the system is big endian passed with the following output:
Change Dir: /root/OpenCV/opencv_contrib/CMakeFiles/CMakeTmp

Run Build Command:"/usr/bin/make" "cmTryCompileExec2773442458/fast"
/usr/bin/make -f CMakeFiles/cmTryCompileExec2773442458.dir/build.make CMakeF
make[1]: Entering directory '/root/OpenCV/opencv_contrib/CMakeFiles/CMakeTmp
/usr/bin/cmake -E cmake_progress_report /root/OpenCV/opencv_contrib/CMakeFil
Building C object CMakeFiles/cmTryCompileExec2773442458.dir/TestEndianess.c.
/usr/bin/cc   -fsigned-char -W -Wall -Werror=return-type -Werror=non-virtual
Linking C executable cmTryCompileExec2773442458
```

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http://pastebin.com/d8cRGJrf

```
The system is: Linux - 3.16.0-4-amd64 - x86_64
Compiling the CXX compiler identification source file "CMakeCXXCompilerId.cp
Compiler: /usr/bin/c++
Build flags:
Id flags:

The output was:
0
```

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What can I try in order to build xfeatures2d?

Adrian Chief PyImageSearcher **5d**

Can you send the terminal output of `make` and `cmake` rather than the raw log files? The raw logs include a ton of extra information that makes it harder to sift through (no pun intended).

Also, a quick note on this:

> enliteneer:
>
> Unfortunately, since I can't get opencv_contrib to build first, if I try to call SURF, I get the error : object has no attribute 'xfeatures2d'

You don't need to build `opencv_contrib` first. You *only* build `opencv`. Your CMake command will point to `opencv_contrib` and then everything will compile.

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enliteneer **5d**

Thanks, I don't think I had opencv_contrib when I originally built opencv. This is the cmake output:

http://pastebin.com/6iYvXmCn

```
root@debian:~/OpenCV/opencv_contrib# cmake -D CMAKE_BUILD_TYPE=RELEASE -D
-- Detected version of GNU GCC: 49 (409)
-- Found ZLIB: /usr/lib/x86_64-linux-gnu/libz.so (found suitable version "1.
-- Found ZLIB: /usr/lib/x86_64-linux-gnu/libz.so (found version "1.2.8")
-- Found OpenEXR: /usr/lib/x86_64-linux-gnu/libIlmImf.so
-- checking for module 'gtk+-3.0'
--   package 'gtk+-3.0' not found
-- checking for module 'gstreamer-base-1.0'
--   package 'gstreamer-base-1.0' not found
-- checking for module 'gstreamer-video-1.0'
```

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Adrian Chief PyImageSearcher **3d**

You don't need to build `opencv_contrib` explicitly. Notice how I compile OpenCV in this blog post:

```
$ 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/modules \
        -D BUILD_EXAMPLES=ON ..
```

Specifically, pay attention to this line:

```
-D OPENCV_EXTRA_MODULES_PATH=~/opencv_contrib/modules \
```

That's all you need to do -- supply the path to `opencv_contrib`. You *do not* need to explicitly compile it.

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enliteneer **2d**

Sorry, I can't get it to work regardless of the path. Since cv2/3 works but was never installed with opencv_contrib could that be the problem?

http://pastebin.com/arMqWxfk

```
root@debian:~/OpenCV# pwd
/root/OpenCV
root@debian:~/OpenCV# ls
3rdparty  CMakeLists.txt   include       opencv_contrib
apps      CONTRIBUTING.md  LICENSE       platforms
build     data             modules       README.md
cmake     doc              opencv-3.1.0  samples
root@debian:~/OpenCV# cd build
root@debian:~/OpenCV/build#
```

```
root@debian:~/OpenCV/build# cmake -D CMAKE_BUILD_TYPE=RELEASE -D    CMAKE_IN
```

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It sucks getting stuck like this, but I have no idea what I'm doing wrong.

Adrian Chief PyImageSearcher **2d**

OpenCV already being installed isn't the issue. You need to *re-compile* and *re-install* OpenCV from scratch if you wish to have access to the extra functionality inside `opencv_contrib`.

I would suggest following my OpenCV 3 install tutorials *exactly*:

http://www.pyimagesearch.com/opencv-tutorials-resources-guides/

Based on your command outputs it seems that either (1) you are using a different tutorial or (2) you're not following the instructions I've detailed, hence these errors.

Give one of my tutorials a try for installing OpenCV 3 a try and let me know what the results are.