Cédric Verstraeten

We can't solve our problems with the same thinking we used when we created them - Einstein .

Back to overview

Install OpenCV on Raspberry Pi

Posted on 2014-02-12 07:27:19 by Cédric Verstraeten

OpenCV is released under a BSD license and hence it’s free for both academic and commercial use. It has C++, C, Python and Java interfaces and supports Windows, Linux, Mac OS, iOS and Android. OpenCV was designed for computational efficiency and with a strong focus on real-time applications. Written in optimized C/C++, the library can take advantage of multi-core processing. Enabled with OpenCL, it can take advantage of the hardware

acceleration of the underlying heterogeneous compute platform. Adopted all around the world, OpenCV has more than 47 thousand people of user community and estimated number of downloads exceeding 7 million. Usage ranges from interactive art, to mines inspection, stitching maps on the web or through advanced robotics.

Installation

(original source: http://eduardofv.com/read_post/185-Installing-OpenCV-on-the-Raspberry-Pi)

Installing OpenCV (2.4.2) on the Raspberry Pi is pretty easy using the base Debian Squeeze image and following these instructions for Debian/Ubuntu. Btw you can check out the security cam tutorial, after you installed OpenCV. You will need to have more space on the root partition so I recommend resizing it to at least 3GB (see the video tutorial using GParted or follow these instructions). Here they are with some comments on the few issues I found:

I found an error trying to install cmake for the first time, so first do

```
sudo apt-get update
```

two times before anything else. The first time I did the update an error on “duplicate sources” was shown thus the second update was necessary.

Install in the following order:

```
sudo apt-get install build-essential
sudo apt-get install cmake
sudo apt-get install pkg-config
sudo apt-get install libpng12-0 libpng12-dev libpng++
sudo apt-get install libpnglite-dev libpngwriter0-dev
sudo apt-get install zlib1g-dbg zlib1g zlib1g-dev
sudo apt-get install pngtools libtiff4-dev libtiff4 l
sudo apt-get install libjpeg8 libjpeg8-dev libjpeg8-d
sudo apt-get install ffmpeg libavcodec-dev libavcodec
sudo apt-get install libgstreamer0.10-0-dbg libgstrea
sudo apt-get install libxine1-ffmpeg  libxine-dev lib
sudo apt-get install libunicap2 libunicap2-dev
sudo apt-get install libdc1394-22-dev libdc1394-22 li
sudo apt-get install swig
sudo apt-get install libv4l-0 libv4l-dev
sudo apt-get install  python-numpy
sudo apt-get install libpython2.6 python-dev python2.
sudo apt-get install libgtk2.0-dev pkg-config
```

The package build-essential was already installed on my device so maybe you don't need to install it. Note that for the eighth line the original link says "libjpeg-prog" but it must be "libjpeg-progs". Also, check the last step that is not included on the original instructions but it's needed for this platform.

Get the sources (check the version you want to install):

```
wget http://downloads.sourceforge.net/project/opencvl
```

Uncompress the sources and create a directory inside it (I called it 'release'). Chdir to it. Run cmake to configure, compile and install. Compilation will take a while, about a couple of hours:

```
tar -xvzf OpenCV-2.4.2.tar.bz2
cd OpenCV-2.4.2
mkdir release
cd release
cmake -D CMAKE_BUILD_TYPE=RELEASE -D CMAKE_INSTALL_PR
make
sudo make install
```

Back to overview

Hey, I'm Cédric a motivated **M. Sc. in Engineering**, always ready to broaden my horizon and to discover and learn new methodologies. With a huge interest in math, physics, digital image processing, **artificial intelligence** and **bioinformatics**, I try to understand our mountainous world a little bit better. I defended my dissertation with honors for world's largest steel company, ArcelorMittal: Development of algorithms for **label recognition**. These days I'm functioning as a **Technical consultant** at Threon.