Installing VisualSFM on Ubuntu 12.04 with Cuda 5.5

This tutorial is adapted from [Scott Sawyer's tutorial](#). During the installation you may need to install some dependencies, like the GTK library, Lapack library, etc.

Step 1. Prepare all the dependent installers: [VisualSFM](#), [SiftGPU](#), [Multicore Bundle Adjustment](#), [PMVS-2](#), [CMVS](#), [Graclus1.2](#), [PMVS-2-fixed](#), [Mylapack](#).

Step 2. Build VisualSFM
> $ *unzip VisualSFM_linux_64bit.zip*
> $ *cd vsfm*
> $ *make*

Step 3. Build SiftGPU
> $ *unzip SiftGPU-V400.zip*
> $ *cd SiftGPU*
> $ *make*
> $ *cp bin/libsiftgpu.so ../vsfm/bin*

Step 4. Build Multicore Bundle Adjustment
> $ *unzip pba_v1.0.5.zip && cd pba*
> # go to folder *../vsfm/pba*, open **makefile**, change **native** to **core2**.
> $ *make*

Step 5. Hack PMVS-2
> $ *tar xf pmvs-2.tar.gz*
> $ *cd pmvs-2/program/main/*
> $ *cp mylapack.o mylapack.o.backup*
> $ *make clean*
> $ *cp mylapack.o.backup mylapack.o*
> $ *make depend*
> $ *make*

Step 6. Build Graclus 1.2
> $ *tar xf graclus1.2.tar.gz*
> $ *cd graclus1.2*
> #change Makefile.in to set "-DNUMBITS=64"
> $ *make*

Step 7. Hack CMVS
> $ *tar xf cmvs-fix2.tar.gz*
> $ *cp pmvs-2/program/main/mylapack.o cmvs/program/main/*
> # Open file "cmvs/program/base/cmvs/bundle.cc" and add two includes at the top of the

file

> *#include <vector>*
> *#include <numeric>*

Open file "cmvs/program/main/genOption.cc" and add the include statement at the top

> *#include <stdlib.h>*

Modify file "cmvs/program/main/Makefile":

> *# Your INCLUDE path (e.g., -I/usr/include)*
> *YOUR_INCLUDE_PATH =*
> *# Your metis directory (contains header files under graclus1.2/metisLib/)*
> *# YOUR_INCLUDE_METIS_PATH =*

-I/home/jiang/CvToolbox/vsfm/graclus1.2/metisLib

> *# Your LDLIBRARY path (e.g., -L/usr/lib)*
> *# YOUR_LDLIB_PATH = -L/home/jiang/CvToolbox/vsfm/graclus1.2*

 # Build CMVS
$ *cd ~/CvToolbox/vsfm/cmvs/program/main*
$ *make*
$ *cp cmvs ~/CvToolbox/vsfm/vsfm/bin*
$ *cp pmvs2 ~/CvToolbox/vsfm/vsfm/bin*
$ *cp genOption ~/CvToolbox/vsfm/vsfm/bin*

Step 8. Add Library Path to System Environment

$ *cd ~*

$ *sudo gedit .bashrc*

add the following sentence

> *export PATH=$PATH:/home/jiang/CvToolbox/vsfm/vsfm/bin*

> *export*

LD_LIBRARY_PATH=$LD_LIBRARY_PATH:/home/jiang/CvToolbox/vsfm/vsfm/bin

save and exit

Step 9. Run VisualSFM

Ctrl + Alt + T to **open a new terminal (so that .bashrc file will be reloaded)**

$ *VisualSFM&*

That's all, enjoy!

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