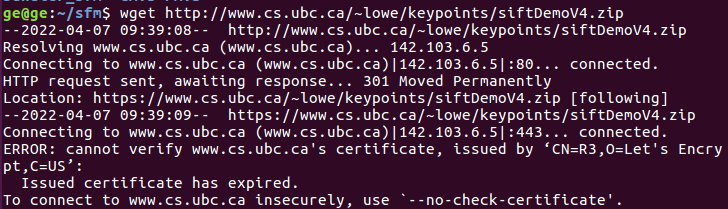
bundler的安装说明里，说了要用到SIFT，jhead和ImageMagick，

（1）SIFT如下网址下载：

http://www.cs.ubc.ca/~lowe/keypoints/

<http://www.cs.ubc.ca/~lowe/keypoints/siftDemoV4.zip>



直接下载出问题，需要安装证书软件

$ sudo apt-get install -y ca-certificates

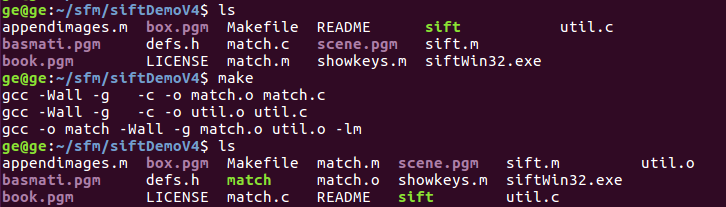
然后再运行：

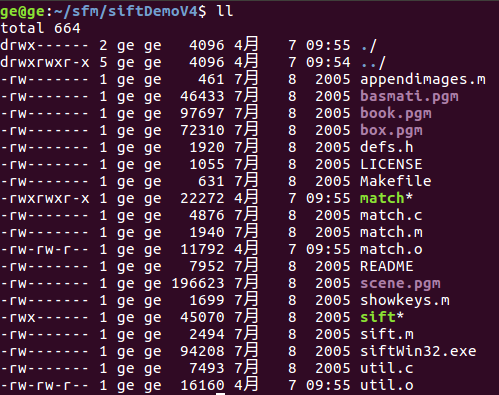
$ wget <http://www.cs.ubc.ca/~lowe/keypoints/siftDemoV4.zip>

就正常下载了。然后解压：

$ unzip siftDemoV4.zip

然后，进入解压目录，make。





生成了match match.o util.o

找到下载的SIFT程序，解压之后将里边的sift可执行文件拷贝到bundler\_sfm下的bin目录下。

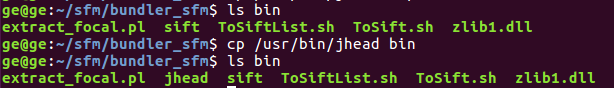
也有人说，**下载后要make一下，要不后面会出错。我没试，直接make了。**

（2）安装jhead imagemagick

sudo apt-get install jhead imagemagick

将jhead文件拷贝到bundler\_sfm下的bin目录下。可以使用命令：

　sudo cp /usr/bin/jhead bin/



SIFT程序在提取特征点时需要 .pgm格式的图片，因此需要安装软件 [ImageMagick](http://www.imagemagick.org/script/binary-releases.php" \t "_blank)  。装好之后，bundler在进行特征点提取时，就会自动调用该程序，将 .jpg图片转换为 .pgm。

1、python2.7

项目用到的时python2.7，先安装miniconda3，然后再在conda环境中配置python，会比较方便。Miniconda3的清华镜像

[anaconda | 镜像站使用帮助 | 清华大学开源软件镜像站 | Tsinghua Open Source Mirror](https://mirrors.tuna.tsinghua.edu.cn/help/anaconda/)

https://mirrors.tuna.tsinghua.edu.cn/anaconda/miniconda/Miniconda3-4.7.12.1-Linux-x86\_64.sh

Ubuntu16，默认用的也是2.7，我就没有重新安装.

2. 依赖包

gfortran

Bundler所依赖的库中有些库是用Fortran写成的（例如./lib/minpack）。为了编译Fortran程序，需要安装GFortran编译器。

$ sudo apt-get install gfortran

Bundler所依赖的外部库列表如下：

（1）LAPACK：线性代数计算库

（2）BLAS　 ：基础线性代数子程序，在LAPACK包中有自带，但需进行设置

（3）libjpeg  ：jpeg库，Ubuntu已自带

（4）libz　　 ：通用目的的压缩库

为了编译和运行Bundler，我们需要安装如下依赖

sudo apt-get install liblapack-dev libblas-dev minpack-dev f2c gfortran jhead imagemagick

其中，有的已经装过了，可以不装。

接下来继续安装SIFT依赖

sudo apt-get install libc6-dev-i386

安装CMVS-PMVS依赖

sudo apt-get install libgtk2.0-dev libdevil-dev libboost-all-dev libatlas-cpp-0.6-dev libatlas-dev libcminpack-dev libgfortran3 libmetis-edf-dev libparmetis-dev freeglut3-dev libgsl0-dev

3. 编译bundler：

gcc改成4.4，编译有问题。运行如下命令：

sudo update-alternatives --config gcc

切换为gcc5.4，Ubuntu16下默认的gcc版本，编译过程中很多警告，但是通过了。

将bundler\_sfm/bin/目录下生成的libANN\_char.so文件拷贝到系统库  
　sudo cp bin/libANN\_char.so /usr/lib/

接下来我们继续对CMVS-PMVS进行编译

用cd命令进入到CMVS-PMVS/program/下，然后依次执行以下命令

mkdir build && cd build

cmake ..

make

执行完成后，CMVS-PMVS也就编译完成了，生成的可执行文件位于build目录下的main目录中。为了接下来运行方便，我们将生成的可执行文件cmvs、genOption、pmvs2这三个文件拷贝到bundler\_sfm目录的bin下。

## 运行Bundler

可以利用自带的example中的图片进行测试，我们以ET为例来说明如何进行三维重建。首先还是使用cd命令进入到ET文件夹下，然后执行以下命令

../../RunBundler.sh

最终会生成很多的结果文件，其中bundler文件夹下的bundler.out中存储了重建的稀疏点3D坐标和相机参数。

接下来就可以利用PMVS进行稠密点云的重建了，在这之前还需要将Bundler的输出转换为CMVS-PMVS的输入格式。我们利用bin下的Bundle2PMVS即可完成这一过程。

../../bin/Bundle2PMVS prepare/list.txt bundle/bundle.out

此时会生成pmvs目录，在此目录下有prep\_pmvs.sh文件，我们编辑此文件，将里边的BUNDLER\_BIN\_PATH修改为bundler的bin文件夹的实际路径。

BUNDLER\_BIN\_PATH=/home/ge/sfm/bundler\_sfm/bin

然后依次执行如下操作

sh pmvs/prep\_pmvs.sh

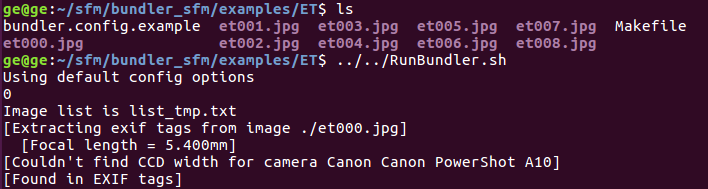
../../bin/cmvs pmvs/

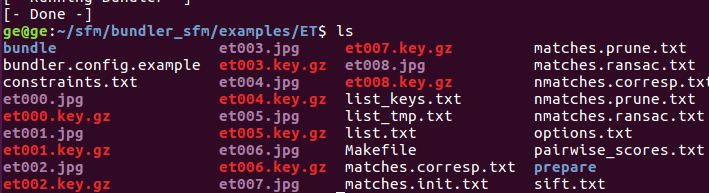
../../bin/genOption pmvs/

../../bin/pmvs2 pmvs/ option-0000

(注意option之前的空格键)

生成的最终结果位于pmvs目录的models 文件夹下，名称为option-0000.ply，我们直接使用meshlab打开此文件便可以看到结果。

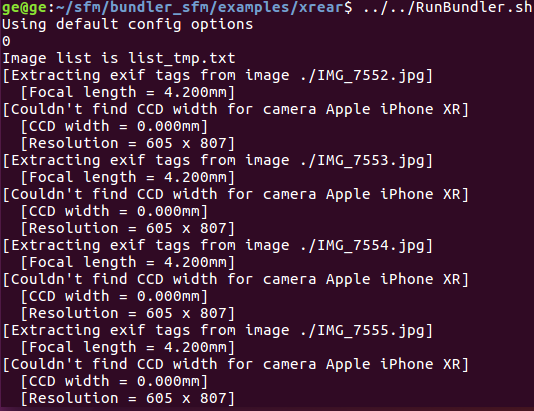




### 运行过程：

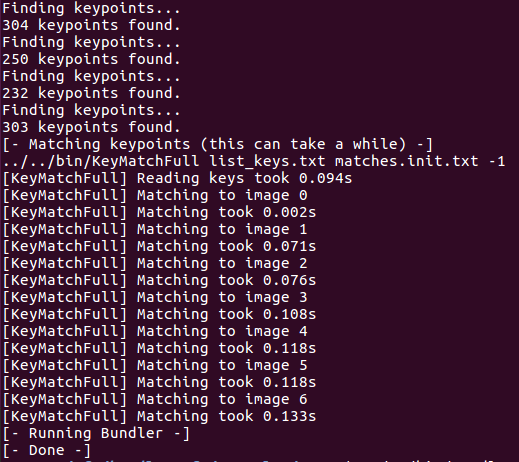
Ears：

../../RunBundler.sh

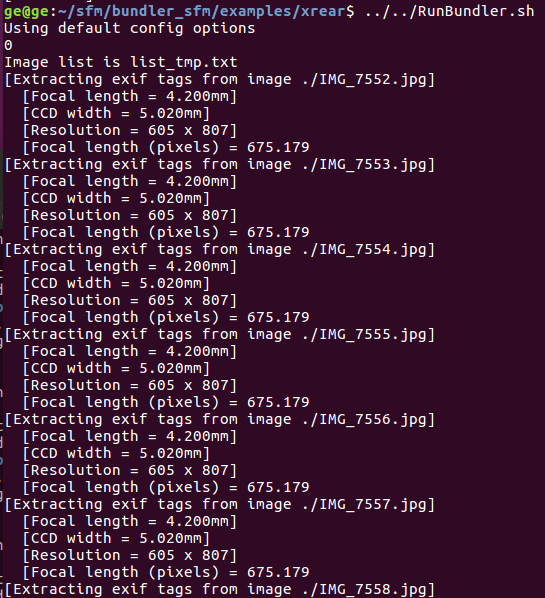


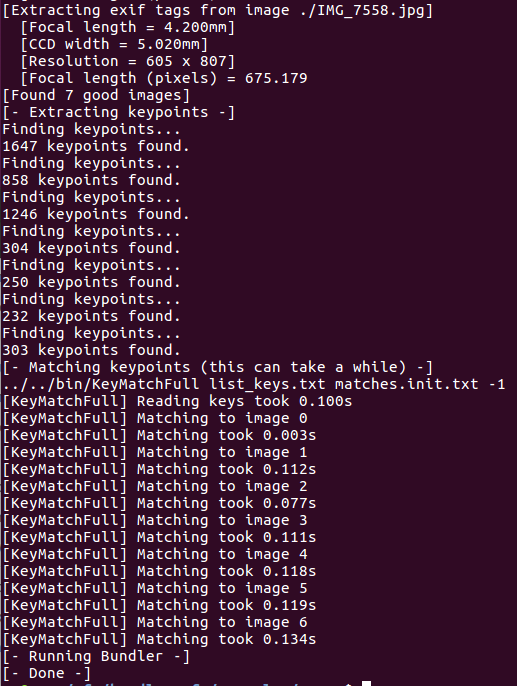
这个有问题，说找不到iphone xr的ccd宽度，我设了，但是写的是iphone，P应该大写才可以。



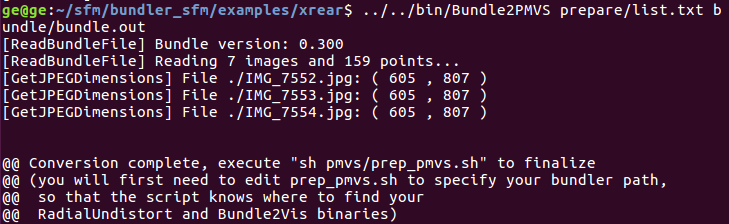


修改/home/ge/sfm/bundler\_sfm/bin/extract\_focal.pl文件中iphone为iPhone，然后再来一遍





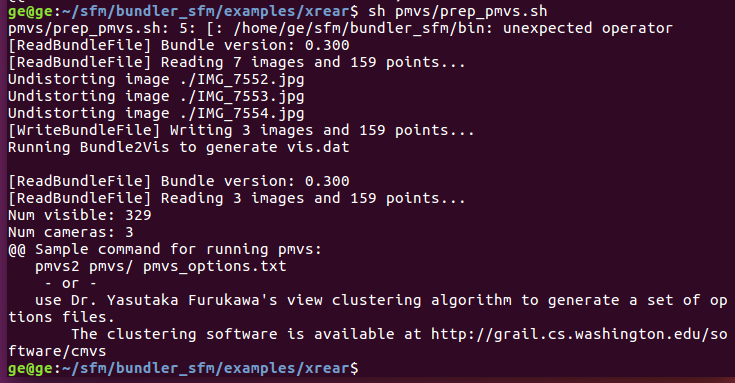
../../bin/Bundle2PMVS prepare/list.txt bundle/bundle.out



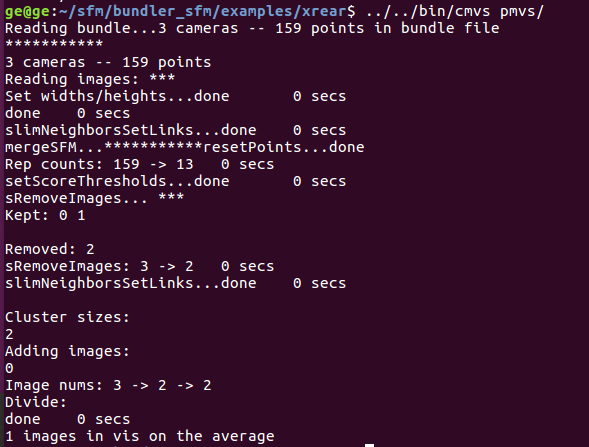
当前目录下的pmvs目录，在此目录下有prep\_pmvs.sh文件，修改路径（不要有空格）：

BUNDLER\_BIN\_PATH=/home/ge/sfm/bundler\_sfm/bin

sh pmvs/prep\_pmvs.sh



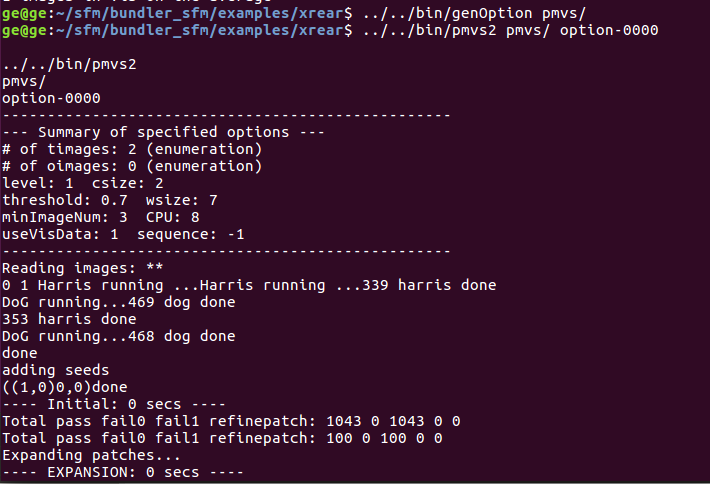
../../bin/cmvs pmvs/

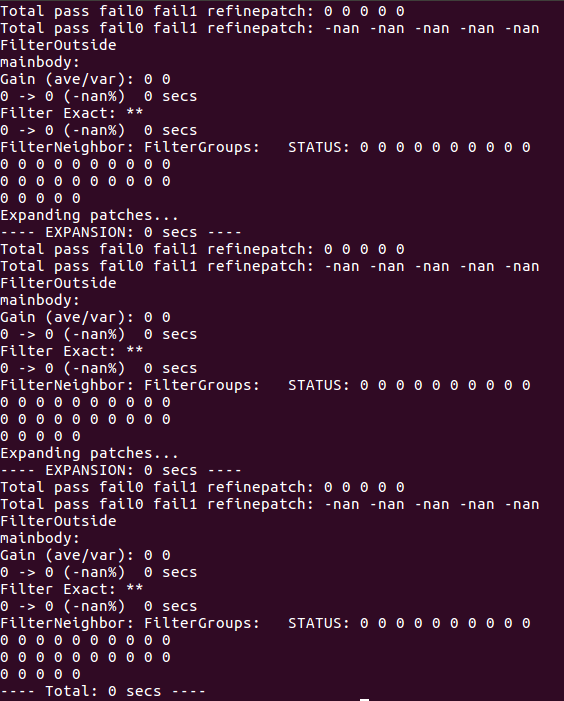


../../bin/genOption pmvs/

../../bin/pmvs2 pmvs/ option-0000

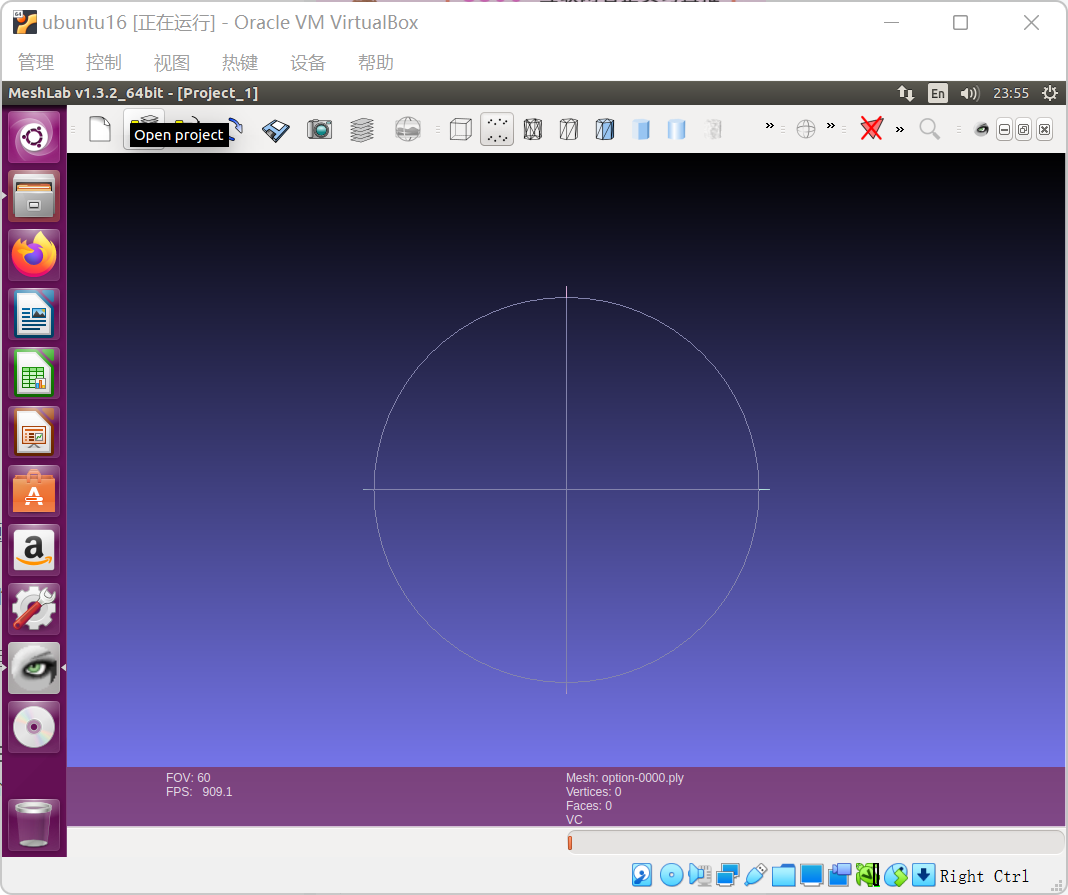
(注意option之前的空格键)





生成的最终结果位于pmvs目录的models 文件夹下，名称为option-0000.ply，我们直接使用meshlab打开此文件便可以看到结果。

能够正常运行，正常生成模型，就是模型里不包含内容，应该是图片的问题。因为这么操作下来，示例图片就可以正常生成模型，并且包含内容。



[structure-from-motion/install-ubuntu-14.10.md at master · NLeSC/structure-from-motion (github.com)](https://github.com/NLeSC/structure-from-motion/blob/master/docs/install-ubuntu-14.10.md)

# git

# You will need git to clone the lastest versions of the structure from motion

# software from github:

sudo apt-get install git

# cmake

# You need cmake to generate the Makefiles needed to build the

# structure from motion software from github:

sudo apt-get install cmake

# gfortran

# You need a Fortran compiler to compile (parts of) the structure from motion software:

sudo apt-get install gfortran

# Glog

# a logging library from google (https://github.com/google/glog):

sudo apt-get install libgoogle-glog-dev

# Atlas

# The "Automatically Tuned Linear Algebra Software" provides C and Fortran77

# interfaces to a portably efficient BLAS implementation, as well as a few routines

# from LAPACK (http://math-atlas.sourceforge.net/):

sudo apt-get install libatlas-base-dev

# Eigen3

# C++ template library for linear algebra: matrices, vectors, numerical solvers,

# and related algorithms (http://eigen.tuxfamily.org).

sudo apt-get install libeigen3-dev

# SuiteSparse

# suite of sparse matrix algorithms (http://faculty.cse.tamu.edu/davis/suitesparse.html):

sudo apt-get install libsuitesparse-dev

# zlib

# a library implementing the deflate compression method found in gzip and PKZIP:

sudo apt-get install zlib1g-dev

# libjpeg

# a library implementing the loading of jpeg images:

sudo apt-get install libjpeg-dev

# libboost

# library with 'all the features you wanted in C++ but weren't there'

sudo apt-get install libboost-dev

# Python imaging library may not be installed by default on the

# lighter flavors of Ubuntu (e.g. Lubuntu 14.10 or Ubuntu 14.10 server)

sudo apt-get install python-pil

# for viewing the point clouds afterwards

sudo apt-get install meshlab

总结:第一次安装失败，应该是环境配置的缘故。Gcc版本的不匹配，导致编译bundler时出问题，用gcc4.8，也不能正常编译，可能版本还是高，但是低版本的在Ubuntu18上又装不上，各种方法都试了都不行，所以，只好重装Linux，Ubuntu14.04试试。

## 第三次安装

从这下载Ubuntu16.04的iso，[Ubuntu 16.04.7 LTS (Xenial Xerus)](https://releases.ubuntu.com/16.04.7/)

或者从这个网站下载虚拟盘。[Ubuntu Virtual Machine Images for VirtualBox and VMware (osboxes.org)](https://www.osboxes.org/ubuntu/)下载16.04

安装ISO挺快的。大概不到二十分钟。

其他内容处理很容易，没有出错，就是bundler\_sfm编译出问题，看了一下makefile，2008-2010年的，gcc版本应该是对不上。

按照[(2条消息) bug:"package gcc-4.4 is not available, but is referred to by another package"， 安装g++4,gcc4.4时出错的解决方法\_nedwons的博客-CSDN博客](https://blog.csdn.net/hunter___/article/details/89306778)进行版本降级。

sudo apt-get install gcc-4.4 g++-4.4 g++-4.4-multilib

这个安装没问题。

参考：

[linux下gcc、g++不同版本的安装和切换 - 简书 (jianshu.com)](https://www.jianshu.com/p/f66eed3a3a25)

[linux下gcc、g++不同版本的安装和切换 - 云+社区 - 腾讯云 (tencent.com)](https://cloud.tencent.com/developer/article/1430839)

sudo update-alternatives --install /usr/bin/gcc gcc /usr/bin/gcc-4.4 40 --slave /usr/bin/g++ g++ /usr/bin/g++-4.4

sudo update-alternatives --install /usr/bin/gcc gcc /usr/bin/gcc-5 50 --slave /usr/bin/g++ g++ /usr/bin/g++-5

sudo update-alternatives --install /usr/bin/gcc gcc /usr/bin/gcc-7 70 --slave /usr/bin/g++ g++ /usr/bin/g++-7

sudo update-alternatives --config gcc

gcc改成4.4，编译还是有问题。

kd\_dump.cpp:278: warning: deprecated conversion from string constant to ‘char\*’

出现了这样的警告，说明gcc的版本还是高。

项目是2010年之前写的，那么gcc的版本，可以通过gcc官网查询

[GCC Releases - GNU Project](https://gcc.gnu.org/releases.html)

应该装4.3的。

sudo apt-get install gcc-4.3 g++-4.3 g++-4.3-multilib

但是4.3用这种方式装不上了。

[Ubuntu16.04安装gcc-3.4\_流岚虹霓的博客-CSDN博客\_ubuntu 安装gcc3.4](https://blog.csdn.net/u014069939/article/details/90726175)

这个是下载源文件自己编译之后安装的：

[Ubuntu安装gcc4.1.2\_之芫的博客-CSDN博客\_ubuntu安装gcc4.1](https://blog.csdn.net/Magic_Ninja/article/details/89058323)

[(2条消息) gcc4.1以及g++4.1的降级安装（ubuntu）\_iteye\_3619的博客-CSDN博客](https://blog.csdn.net/iteye_3619/article/details/82359126?spm=1001.2101.3001.6650.1&utm_medium=distribute.pc_relevant.none-task-blog-2%7Edefault%7ECTRLIST%7ERate-1.pc_relevant_antiscanv2&depth_1-utm_source=distribute.pc_relevant.none-task-blog-2%7Edefault%7ECTRLIST%7ERate-1.pc_relevant_antiscanv2&utm_relevant_index=2)

[(2条消息) Ubuntu离线安装gcc\_weixin\_30613433的博客-CSDN博客](https://blog.csdn.net/weixin_30613433/article/details/97107579?ops_request_misc=&request_id=&biz_id=102&utm_term=ubuntu%E7%A6%BB%E7%BA%BF%E5%AE%89%E8%A3%85gcc4.2&utm_medium=distribute.pc_search_result.none-task-blog-2~all~sobaiduweb~default-0-97107579.142%5ev5%5epc_search_quality_down,157%5ev4%5econtrol&spm=1018.2226.3001.4187)

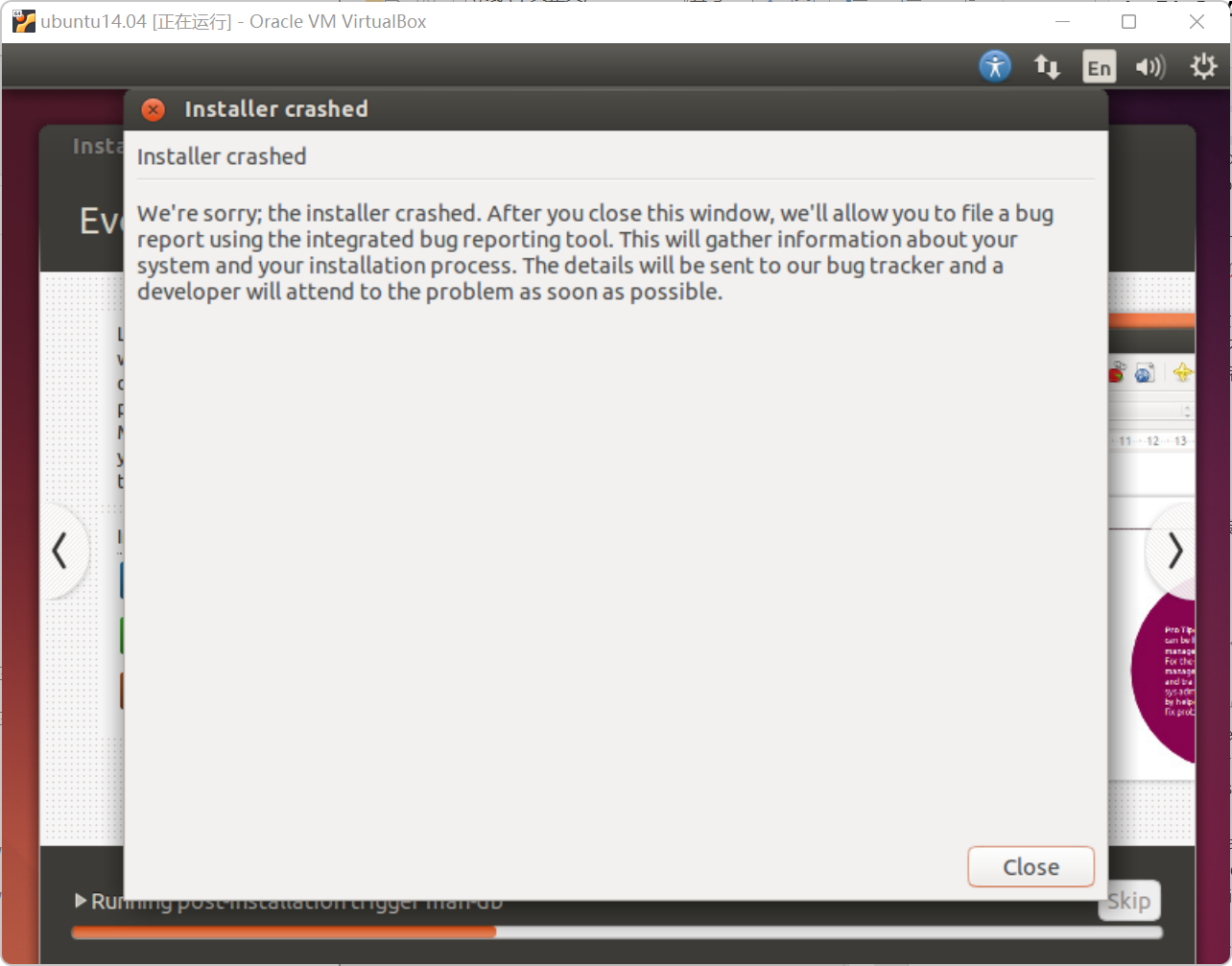
[(2条消息) Ubuntu下载Deb安装包安装低版本gcc\_楚小狂的博客-CSDN博客](https://blog.csdn.net/zyxlinux888/article/details/6709036)

## 第二次安装

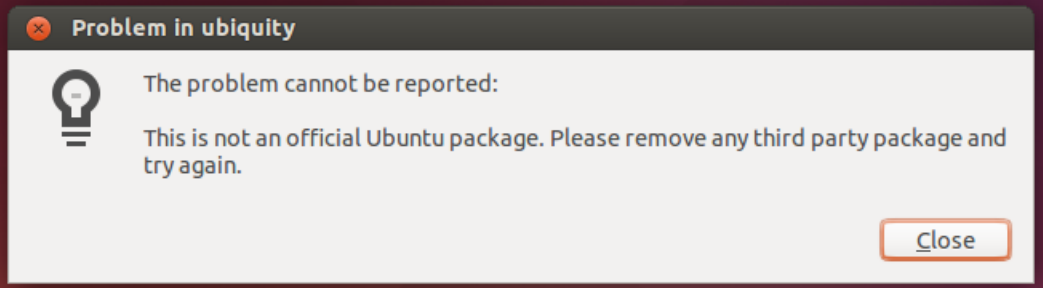
先装virtualBox，再装

Ubuntu VirtualBox-6.1.32-149290-Win.exe

ubuntu-14.04.6-desktop-amd64.iso



反复两次都是这个问题。居然说



明明是从Ubuntu官网下载的。难道是虚拟机和Ubuntu的版本不兼容？

点击关闭之后，自动进入这个界面安装。



[Ubuntu 14.04.6 LTS (Trusty Tahr)](https://releases.ubuntu.com/14.04/)

从官网下载32位的image，之前下载的是64位的系统。



这下出错更干脆。

[Ubuntu 13.10 : VirtualBox crash problem - Ask Ubuntu](https://askubuntu.com/questions/391722/ubuntu-13-10-virtualbox-crash-problem)

* Make sure you had enabled [VT-x/AMD-V in BIOS](https://askubuntu.com/questions/256792/how-do-i-enable-hardware-virtualization-technology-vt-x-for-use-in-virtualbox).

[Ubuntu Virtual Machine Images for VirtualBox and VMware (osboxes.org)](https://www.osboxes.org/ubuntu/)

从这个网站，直接下载安装好的包。

进去之后，默认apt源机器在国外，国内下载速度较慢，所以一般会修改为国内的apt源，配置使用阿里apt源加速，步骤如下：

1、备份之前的sources.list文件

cp -ra /etc/apt/sources.list /etc/apt/sources.list.bak

2、修改sources.list文件，执行vi /etc/apt/sources.list，添加如下内容：

deb http://mirrors.aliyun.com/ubuntu/ focal main restricted universe multiverse

deb-src http://mirrors.aliyun.com/ubuntu/ focal main restricted universe multiverse

deb http://mirrors.aliyun.com/ubuntu/ focal-security main restricted universe multiverse

deb-src http://mirrors.aliyun.com/ubuntu/ focal-security main restricted universe multiverse

deb http://mirrors.aliyun.com/ubuntu/ focal-updates main restricted universe multiverse

deb-src http://mirrors.aliyun.com/ubuntu/ focal-updates main restricted universe multiverse

deb http://mirrors.aliyun.com/ubuntu/ focal-proposed main restricted universe multiverse

deb-src http://mirrors.aliyun.com/ubuntu/ focal-proposed main restricted universe multiverse

deb http://mirrors.aliyun.com/ubuntu/ focal-backports main restricted universe multiverse

deb-src http://mirrors.aliyun.com/ubuntu/ focal-backports main restricted universe multiverse

deb http://mirrors.aliyun.com/ubuntu/ bionic main restricted universe multiverse

deb http://mirrors.aliyun.com/ubuntu/ bionic-security main restricted universe multiverse

deb http://mirrors.aliyun.com/ubuntu/ bionic-updates main restricted universe multiverse

deb http://mirrors.aliyun.com/ubuntu/ bionic-proposed main restricted universe multiverse

deb http://mirrors.aliyun.com/ubuntu/ bionic-backports main restricted universe multiverse

deb-src http://mirrors.aliyun.com/ubuntu/ bionic main restricted universe multiverse

deb-src http://mirrors.aliyun.com/ubuntu/ bionic-security main restricted universe multiverse

deb-src http://mirrors.aliyun.com/ubuntu/ bionic-updates main restricted universe multiverse

deb-src http://mirrors.aliyun.com/ubuntu/ bionic-proposed main restricted universe multiverse

deb-src http://mirrors.aliyun.com/ubuntu/ bionic-backports main restricted universe multiverse

# stable

deb http://ftp.de.debian.org/debian/ sarge main contrib non-free

deb-src http://ftp.de.debian.org/debian/ sarge main contrib non-free

deb http://ftp.de.debian.org/debian-non-US/ sarge/non-US main contrib non-free

deb-src http://ftp.de.debian.org/debian-non-US/ sarge/non-US main contrib non-free

# stable add by , in order to install g++4.4

deb http://dk.archive.ubuntu.com/ubuntu/ trusty main universe

2、更新apt缓存，执行如下命令：

sudo apt update

sudo apt upgrade

安装ceres-solver1.10出错，安装1.14同样出错。

-- The C compiler identification is GNU 4.8.4

-- The CXX compiler identification is unknown

-- Check for working C compiler: /usr/bin/cc

-- Check for working C compiler: /usr/bin/cc -- works

-- Detecting C compiler ABI info

-- Detecting C compiler ABI info - done

CMake Error: your CXX compiler: "CMAKE\_CXX\_COMPILER-NOTFOUND" was not found. Please set CMAKE\_CXX\_COMPILER to a valid compiler path or name.

-- Detected Ceres version: 1.14.0 from /home/ge/structure-from-motion/ceres-solver-1.14.0/include/ceres/version.h

-- No preference for use of exported Eigen CMake configuration set, and no hints for include directory provided. Defaulting to preferring an installed/exported Eigen CMake configuration if available.

-- Failed to find installed Eigen CMake configuration, searching for Eigen build directories exported with CMake.

-- Failed to find an installed/exported CMake configuration for Eigen, will perform search for installed Eigen components.

-- Found Eigen: /usr/include/eigen3 (found version "3.2.0")

-- Found Eigen version 3.2.0: /usr/include/eigen3

-- Enabling use of Eigen as a sparse linear algebra library.

WARNING:

Your version of Eigen (3.2.0) is older than

version 3.2.2. The performance of SPARSE\_NORMAL\_CHOLESKY

and SPARSE\_SCHUR linear solvers will suffer.

-- Looking for dgemm\_

-- Looking for dgemm\_ - found

-- Looking for include file pthread.h

-- Looking for include file pthread.h - found

-- Looking for pthread\_create

-- Looking for pthread\_create - not found

-- Looking for pthread\_create in pthreads

-- Looking for pthread\_create in pthreads - not found

-- Looking for pthread\_create in pthread

-- Looking for pthread\_create in pthread - found

-- Found Threads: TRUE

-- A library with BLAS API found.

-- Looking for cheev\_

-- Looking for cheev\_ - found

-- Found LAPACK library: /usr/lib/liblapack.so;/usr/lib/libf77blas.so;/usr/lib/libatlas.so

-- A library with BLAS API found.

-- Found AMD headers in: /usr/include/suitesparse

-- Found AMD library: /usr/lib/x86\_64-linux-gnu/libamd.so

-- Found CAMD headers in: /usr/include/suitesparse

-- Found CAMD library: /usr/lib/x86\_64-linux-gnu/libcamd.so

-- Found COLAMD headers in: /usr/include/suitesparse

-- Found COLAMD library: /usr/lib/x86\_64-linux-gnu/libcolamd.so

-- Found CCOLAMD headers in: /usr/include/suitesparse

-- Found CCOLAMD library: /usr/lib/x86\_64-linux-gnu/libccolamd.so

-- Found CHOLMOD headers in: /usr/include/suitesparse

-- Found CHOLMOD library: /usr/lib/x86\_64-linux-gnu/libcholmod.so

-- Found SUITESPARSEQR headers in: /usr/include/suitesparse

-- Found SUITESPARSEQR library: /usr/lib/x86\_64-linux-gnu/libspqr.so

-- Did not find Intel TBB library, assuming SuiteSparseQR was not compiled with TBB.

-- Found SUITESPARSE\_CONFIG headers in: /usr/include/suitesparse

-- Found SUITESPARSE\_CONFIG library: /usr/lib/x86\_64-linux-gnu/libsuitesparseconfig.a

-- Found LIBRT library: /usr/lib/x86\_64-linux-gnu/librt.so

-- Adding librt: /usr/lib/x86\_64-linux-gnu/librt.so to SuiteSparse\_config libraries (required on Linux & Unix [not OSX] if SuiteSparse is compiled with timing).

-- Did not find METIS library (optional SuiteSparse dependency)

-- Found SuiteSparse: TRUE (found version "4.2.1")

-- Found SuiteSparse 4.2.1, building with SuiteSparse.

-- Found CXSparse: /usr/include/suitesparse (found version "3.1.2")

-- Found CXSparse version: 3.1.2, building with CXSparse.

-- No preference for use of exported gflags CMake configuration set, and no hints for include/library directories provided. Defaulting to preferring an installed/exported gflags CMake configuration if available.

-- Failed to find installed gflags CMake configuration, searching for gflags build directories exported with CMake.

-- Failed to find an installed/exported CMake configuration for gflags, will perform search for installed gflags components.

-- Performing Test GFLAGS\_IN\_GOOGLE\_NAMESPACE

CMake Error at /usr/share/cmake-2.8/Modules/CMakeCXXInformation.cmake:37 (get\_filename\_component):

get\_filename\_component called with incorrect number of arguments

Call Stack (most recent call first):

CMakeLists.txt:3 (PROJECT)

CMake Error: CMAKE\_CXX\_COMPILER not set, after EnableLanguage

CMake Error: Internal CMake error, TryCompile configure of cmake failed

-- Performing Test GFLAGS\_IN\_GOOGLE\_NAMESPACE - Failed

-- Performing Test GFLAGS\_IN\_GFLAGS\_NAMESPACE

CMake Error at /usr/share/cmake-2.8/Modules/CMakeCXXInformation.cmake:37 (get\_filename\_component):

get\_filename\_component called with incorrect number of arguments

Call Stack (most recent call first):

CMakeLists.txt:3 (PROJECT)

CMake Error: CMAKE\_CXX\_COMPILER not set, after EnableLanguage

CMake Error: Internal CMake error, TryCompile configure of cmake failed

-- Performing Test GFLAGS\_IN\_GFLAGS\_NAMESPACE - Failed

-- Failed to find gflags namespace using using check\_cxx\_source\_compiles(), trying namespace regex instead, this is expected on Windows.

-- Found Gflags: /usr/include

-- Found Google Flags header in: /usr/include, in namespace: google

-- No preference for use of exported glog CMake configuration set, and no hints for include/library directories provided. Defaulting to preferring an installed/exported glog CMake configuration if available.

-- Failed to find installed glog CMake configuration, searching for glog build directories exported with CMake.

-- Failed to find an installed/exported CMake configuration for glog, will perform search for installed glog components.

-- Found Glog: /usr/include

-- Found Google Log (glog). Assuming glog was built with gflags support as gflags was found. This will make gflags a public dependency of Ceres.

-- Try OpenMP C flag = [-fopenmp]

-- Performing Test OpenMP\_FLAG\_DETECTED

-- Performing Test OpenMP\_FLAG\_DETECTED - Success

-- Try OpenMP CXX flag = [ ]

-- Performing Test OpenMP\_FLAG\_DETECTED

CMake Error at /usr/share/cmake-2.8/Modules/CMakeCXXInformation.cmake:37 (get\_filename\_component):

get\_filename\_component called with incorrect number of arguments

Call Stack (most recent call first):

CMakeLists.txt:3 (PROJECT)

CMake Error: CMAKE\_CXX\_COMPILER not set, after EnableLanguage

CMake Error: Internal CMake error, TryCompile configure of cmake failed

-- Performing Test OpenMP\_FLAG\_DETECTED - Failed

-- Try OpenMP CXX flag = [-fopenmp]

-- Performing Test OpenMP\_FLAG\_DETECTED

CMake Error at /usr/share/cmake-2.8/Modules/CMakeCXXInformation.cmake:37 (get\_filename\_component):

get\_filename\_component called with incorrect number of arguments

Call Stack (most recent call first):

CMakeLists.txt:3 (PROJECT)

CMake Error: CMAKE\_CXX\_COMPILER not set, after EnableLanguage

CMake Error: Internal CMake error, TryCompile configure of cmake failed

-- Performing Test OpenMP\_FLAG\_DETECTED - Failed

-- Try OpenMP CXX flag = [/openmp]

-- Performing Test OpenMP\_FLAG\_DETECTED

CMake Error at /usr/share/cmake-2.8/Modules/CMakeCXXInformation.cmake:37 (get\_filename\_component):

get\_filename\_component called with incorrect number of arguments

Call Stack (most recent call first):

CMakeLists.txt:3 (PROJECT)

CMake Error: CMAKE\_CXX\_COMPILER not set, after EnableLanguage

CMake Error: Internal CMake error, TryCompile configure of cmake failed

-- Performing Test OpenMP\_FLAG\_DETECTED - Failed

-- Try OpenMP CXX flag = [-Qopenmp]

-- Performing Test OpenMP\_FLAG\_DETECTED

CMake Error at /usr/share/cmake-2.8/Modules/CMakeCXXInformation.cmake:37 (get\_filename\_component):

get\_filename\_component called with incorrect number of arguments

Call Stack (most recent call first):

CMakeLists.txt:3 (PROJECT)

CMake Error: CMAKE\_CXX\_COMPILER not set, after EnableLanguage

CMake Error: Internal CMake error, TryCompile configure of cmake failed

-- Performing Test OpenMP\_FLAG\_DETECTED - Failed

-- Try OpenMP CXX flag = [-openmp]

-- Performing Test OpenMP\_FLAG\_DETECTED

CMake Error at /usr/share/cmake-2.8/Modules/CMakeCXXInformation.cmake:37 (get\_filename\_component):

get\_filename\_component called with incorrect number of arguments

Call Stack (most recent call first):

CMakeLists.txt:3 (PROJECT)

CMake Error: CMAKE\_CXX\_COMPILER not set, after EnableLanguage

CMake Error: Internal CMake error, TryCompile configure of cmake failed

-- Performing Test OpenMP\_FLAG\_DETECTED - Failed

-- Try OpenMP CXX flag = [-xopenmp]

-- Performing Test OpenMP\_FLAG\_DETECTED

CMake Error at /usr/share/cmake-2.8/Modules/CMakeCXXInformation.cmake:37 (get\_filename\_component):

get\_filename\_component called with incorrect number of arguments

Call Stack (most recent call first):

CMakeLists.txt:3 (PROJECT)

CMake Error: CMAKE\_CXX\_COMPILER not set, after EnableLanguage

CMake Error: Internal CMake error, TryCompile configure of cmake failed

-- Performing Test OpenMP\_FLAG\_DETECTED - Failed

-- Try OpenMP CXX flag = [+Oopenmp]

-- Performing Test OpenMP\_FLAG\_DETECTED

CMake Error at /usr/share/cmake-2.8/Modules/CMakeCXXInformation.cmake:37 (get\_filename\_component):

get\_filename\_component called with incorrect number of arguments

Call Stack (most recent call first):

CMakeLists.txt:3 (PROJECT)

CMake Error: CMAKE\_CXX\_COMPILER not set, after EnableLanguage

CMake Error: Internal CMake error, TryCompile configure of cmake failed

-- Performing Test OpenMP\_FLAG\_DETECTED - Failed

-- Try OpenMP CXX flag = [-qsmp]

-- Performing Test OpenMP\_FLAG\_DETECTED

CMake Error at /usr/share/cmake-2.8/Modules/CMakeCXXInformation.cmake:37 (get\_filename\_component):

get\_filename\_component called with incorrect number of arguments

Call Stack (most recent call first):

CMakeLists.txt:3 (PROJECT)

CMake Error: CMAKE\_CXX\_COMPILER not set, after EnableLanguage

CMake Error: Internal CMake error, TryCompile configure of cmake failed

-- Performing Test OpenMP\_FLAG\_DETECTED - Failed

-- Try OpenMP CXX flag = [-mp]

-- Performing Test OpenMP\_FLAG\_DETECTED

CMake Error at /usr/share/cmake-2.8/Modules/CMakeCXXInformation.cmake:37 (get\_filename\_component):

get\_filename\_component called with incorrect number of arguments

Call Stack (most recent call first):

CMakeLists.txt:3 (PROJECT)

CMake Error: CMAKE\_CXX\_COMPILER not set, after EnableLanguage

CMake Error: Internal CMake error, TryCompile configure of cmake failed

-- Performing Test OpenMP\_FLAG\_DETECTED - Failed

-- Failed to find OpenMP, disabling. This is expected on Clang < 3.8, and at least Xcode <= 8. See Ceres documentation for instructions to build with LLVM from Homebrew to enable OpenMP on OS X.

-- Performing Test COMPILER\_HAS\_CXX11\_FLAG

CMake Error at /usr/share/cmake-2.8/Modules/CMakeCXXInformation.cmake:37 (get\_filename\_component):

get\_filename\_component called with incorrect number of arguments

Call Stack (most recent call first):

CMakeLists.txt:3 (PROJECT)

CMake Error: CMAKE\_CXX\_COMPILER not set, after EnableLanguage

CMake Error: Internal CMake error, TryCompile configure of cmake failed

-- Performing Test COMPILER\_HAS\_CXX11\_FLAG - Failed

-- Looking for C++ include unordered\_map

CMake Error at /usr/share/cmake-2.8/Modules/CMakeCXXInformation.cmake:37 (get\_filename\_component):

get\_filename\_component called with incorrect number of arguments

Call Stack (most recent call first):

CMakeLists.txt:3 (PROJECT)

CMake Error: CMAKE\_CXX\_COMPILER not set, after EnableLanguage

CMake Error: Internal CMake error, TryCompile configure of cmake failed

-- Looking for C++ include unordered\_map - not found

-- Looking for C++ include tr1/unordered\_map

CMake Error at /usr/share/cmake-2.8/Modules/CMakeCXXInformation.cmake:37 (get\_filename\_component):

get\_filename\_component called with incorrect number of arguments

Call Stack (most recent call first):

CMakeLists.txt:3 (PROJECT)

CMake Error: CMAKE\_CXX\_COMPILER not set, after EnableLanguage

CMake Error: Internal CMake error, TryCompile configure of cmake failed

-- Looking for C++ include tr1/unordered\_map - not found

-- Unable to find <unordered\_map> or <tr1/unordered\_map>.

-- Replacing unordered\_map/set with map/set (warning: slower!), try enabling CXX11 option if you expect C++11 to be available.

-- Looking for C++ include memory

CMake Error at /usr/share/cmake-2.8/Modules/CMakeCXXInformation.cmake:37 (get\_filename\_component):

get\_filename\_component called with incorrect number of arguments

Call Stack (most recent call first):

CMakeLists.txt:3 (PROJECT)

CMake Error: CMAKE\_CXX\_COMPILER not set, after EnableLanguage

CMake Error: Internal CMake error, TryCompile configure of cmake failed

-- Looking for C++ include memory - not found

-- Looking for C++ include tr1/memory

CMake Error at /usr/share/cmake-2.8/Modules/CMakeCXXInformation.cmake:37 (get\_filename\_component):

get\_filename\_component called with incorrect number of arguments

Call Stack (most recent call first):

CMakeLists.txt:3 (PROJECT)

CMake Error: CMAKE\_CXX\_COMPILER not set, after EnableLanguage

CMake Error: Internal CMake error, TryCompile configure of cmake failed

-- Looking for C++ include tr1/memory - not found

CMake Error at CMakeLists.txt:471 (message):

Unable to find shared\_ptr, try enabling CXX11 option if you expect C++11 to

be available.

-- Configuring incomplete, errors occurred!

See also "/home/ge/structure-from-motion/ceres-bin/CMakeFiles/CMakeOutput.log".

See also "/home/ge/structure-from-motion/ceres-bin/CMakeFiles/CMakeError.log".

**gcc version 4.8.4 (Ubuntu 4.8.4-2ubuntu1~14.04.4)**

可能需要更新的版本才行。之前用的gcc7编译就没有出错。

## 第一次安装：

conda create -n sfm

(base) root@container-8fb311a93c-926d03ef:~# conda activate sfm

(sfm) root@container-8fb311a93c-926d03ef:~# sudo apt-get install git

Reading package lists... Done

Building dependency tree

Reading state information... Done

git is already the newest version (1:2.17.1-1ubuntu0.8).

0 upgraded, 0 newly installed, 0 to remove and 0 not upgraded.

(sfm) root@container-8fb311a93c-926d03ef:~# sudo apt-get install cmake

Reading package lists... Done

Building dependency tree

Reading state information... Done

cmake is already the newest version (3.10.2-1ubuntu2.18.04.2).

0 upgraded, 0 newly installed, 0 to remove and 0 not upgraded.

(sfm) root@container-8fb311a93c-926d03ef:~# sudo apt-get install gfortran

Reading package lists... Done

Building dependency tree

Reading state information... Done

E: Unable to locate package gfortran

sudo apt-get install gfortran出错了，升级apt-get

(sfm) root@container-8fb311a93c-926d03ef:~# sudo apt-get update

然后再运行

(sfm) root@container-8fb311a93c-926d03ef:~# sudo apt-get install gfortran

Reading package lists... Done

Building dependency tree

Reading state information... Done

The following additional packages will be installed:

gfortran-7 libgfortran-7-dev

Suggested packages:

gfortran-multilib gfortran-doc gfortran-7-multilib gfortran-7-doc libgfortran4-dbg libcoarrays-dev

The following NEW packages will be installed:

gfortran gfortran-7 libgfortran-7-dev

0 upgraded, 3 newly installed, 0 to remove and 98 not upgraded.

Need to get 9,546 kB of archives.

After this operation, 29.4 MB of additional disk space will be used.

Do you want to continue? [Y/n] y

Get:1 http://mirrors.aliyun.com/ubuntu bionic-security/main amd64 libgfortran-7-dev amd64 7.5.0-3ubuntu1~18.04 [530 kB]

Get:2 http://mirrors.aliyun.com/ubuntu bionic-security/main amd64 gfortran-7 amd64 7.5.0-3ubuntu1~18.04 [9,014 kB]

Get:3 http://mirrors.aliyun.com/ubuntu bionic-security/main amd64 gfortran amd64 4:7.4.0-1ubuntu2.3 [1,356 B]

Fetched 9,546 kB in 5s (1,816 kB/s)

debconf: delaying package configuration, since apt-utils is not installed

Selecting previously unselected package libgfortran-7-dev:amd64.

(Reading database ... 42137 files and directories currently installed.)

Preparing to unpack .../libgfortran-7-dev\_7.5.0-3ubuntu1~18.04\_amd64.deb ...

Unpacking libgfortran-7-dev:amd64 (7.5.0-3ubuntu1~18.04) ...

Selecting previously unselected package gfortran-7.

Preparing to unpack .../gfortran-7\_7.5.0-3ubuntu1~18.04\_amd64.deb ...

Unpacking gfortran-7 (7.5.0-3ubuntu1~18.04) ...

Selecting previously unselected package gfortran.

Preparing to unpack .../gfortran\_4%3a7.4.0-1ubuntu2.3\_amd64.deb ...

Unpacking gfortran (4:7.4.0-1ubuntu2.3) ...

Setting up libgfortran-7-dev:amd64 (7.5.0-3ubuntu1~18.04) ...

Setting up gfortran-7 (7.5.0-3ubuntu1~18.04) ...

Setting up gfortran (4:7.4.0-1ubuntu2.3) ...

update-alternatives: using /usr/bin/gfortran to provide /usr/bin/f95 (f95) in auto mode

update-alternatives: warning: skip creation of /usr/share/man/man1/f95.1.gz because associated file /usr/share/man/man1/gfortran.1.gz (of link group f95) doesn't exist

update-alternatives: using /usr/bin/gfortran to provide /usr/bin/f77 (f77) in auto mode

update-alternatives: warning: skip creation of /usr/share/man/man1/f77.1.gz because associated file /usr/share/man/man1/gfortran.1.gz (of link group f77) doesn't exist

(sfm) root@container-8fb311a93c-926d03ef:~# sudo apt-get install libgoogle-glog-dev

Reading package lists... Done

Building dependency tree

Reading state information... Done

The following additional packages will be installed:

libgflags-dev libgflags2.2 libgoogle-glog0v5 libunwind8

The following NEW packages will be installed:

libgflags-dev libgflags2.2 libgoogle-glog-dev libgoogle-glog0v5 libunwind8

0 upgraded, 5 newly installed, 0 to remove and 98 not upgraded.

Need to get 330 kB of archives.

After this operation, 1,594 kB of additional disk space will be used.

Do you want to continue? [Y/n] y

Get:1 http://mirrors.aliyun.com/ubuntu bionic/universe amd64 libgflags2.2 amd64 2.2.1-1 [72.4 kB]

Get:2 http://mirrors.aliyun.com/ubuntu bionic/universe amd64 libgflags-dev amd64 2.2.1-1 [86.1 kB]

Get:3 http://mirrors.aliyun.com/ubuntu bionic/main amd64 libunwind8 amd64 1.2.1-8 [47.5 kB]

Get:4 http://mirrors.aliyun.com/ubuntu bionic/universe amd64 libgoogle-glog0v5 amd64 0.3.5-1 [50.5 kB]

Get:5 http://mirrors.aliyun.com/ubuntu bionic/universe amd64 libgoogle-glog-dev amd64 0.3.5-1 [73.8 kB]

Fetched 330 kB in 1s (411 kB/s)

debconf: delaying package configuration, since apt-utils is not installed

Selecting previously unselected package libgflags2.2.

(Reading database ... 42168 files and directories currently installed.)

Preparing to unpack .../libgflags2.2\_2.2.1-1\_amd64.deb ...

Unpacking libgflags2.2 (2.2.1-1) ...

Selecting previously unselected package libgflags-dev.

Preparing to unpack .../libgflags-dev\_2.2.1-1\_amd64.deb ...

Unpacking libgflags-dev (2.2.1-1) ...

Selecting previously unselected package libunwind8:amd64.

Preparing to unpack .../libunwind8\_1.2.1-8\_amd64.deb ...

Unpacking libunwind8:amd64 (1.2.1-8) ...

Selecting previously unselected package libgoogle-glog0v5.

Preparing to unpack .../libgoogle-glog0v5\_0.3.5-1\_amd64.deb ...

Unpacking libgoogle-glog0v5 (0.3.5-1) ...

Selecting previously unselected package libgoogle-glog-dev.

Preparing to unpack .../libgoogle-glog-dev\_0.3.5-1\_amd64.deb ...

Unpacking libgoogle-glog-dev (0.3.5-1) ...

Setting up libgflags2.2 (2.2.1-1) ...

Setting up libgflags-dev (2.2.1-1) ...

Setting up libunwind8:amd64 (1.2.1-8) ...

Setting up libgoogle-glog0v5 (0.3.5-1) ...

Setting up libgoogle-glog-dev (0.3.5-1) ...

Processing triggers for libc-bin (2.27-3ubuntu1.3) ...

/sbin/ldconfig.real: File /usr/lib/x86\_64-linux-gnu/libvdpau\_nvidia.so.510.60.02 is empty, not checked.

/sbin/ldconfig.real: File /usr/lib/x86\_64-linux-gnu/libnvidia-encode.so.510.60.02 is empty, not checked.

/sbin/ldconfig.real: File /usr/lib/x86\_64-linux-gnu/libnvidia-opticalflow.so.510.60.02 is empty, not checked.

/sbin/ldconfig.real: File /usr/lib/x86\_64-linux-gnu/libnvcuvid.so.510.60.02 is empty, not checked.

/sbin/ldconfig.real: File /usr/lib/x86\_64-linux-gnu/libnvidia-fbc.so.510.60.02 is empty, not checked.

/sbin/ldconfig.real: File /usr/lib/x86\_64-linux-gnu/libnvidia-opticalflow.so is empty, not checked.

/sbin/ldconfig.real: File /usr/lib/x86\_64-linux-gnu/libnvidia-fbc.so.1 is empty, not checked.

/sbin/ldconfig.real: File /usr/lib/x86\_64-linux-gnu/libnvcuvid.so.1 is empty, not checked.

/sbin/ldconfig.real: File /usr/lib/x86\_64-linux-gnu/libnvidia-opticalflow.so.1 is empty, not checked.

/sbin/ldconfig.real: File /usr/lib/x86\_64-linux-gnu/libnvidia-encode.so.1 is empty, not checked.

/sbin/ldconfig.real: File /usr/lib/x86\_64-linux-gnu/libvdpau\_nvidia.so.1 is empty, not checked.

(sfm) root@container-8fb311a93c-926d03ef:~# sudo apt-get install libatlas-base-dev

Reading package lists... Done

Building dependency tree

Reading state information... Done

The following additional packages will be installed:

libatlas3-base

Suggested packages:

libatlas-doc liblapack-doc

The following NEW packages will be installed:

libatlas-base-dev libatlas3-base

0 upgraded, 2 newly installed, 0 to remove and 98 not upgraded.

Need to get 7,753 kB of archives.

After this operation, 46.9 MB of additional disk space will be used.

Do you want to continue? [Y/n] y

Get:1 http://mirrors.aliyun.com/ubuntu bionic/universe amd64 libatlas3-base amd64 3.10.3-5 [3,732 kB]

Get:2 http://mirrors.aliyun.com/ubuntu bionic/universe amd64 libatlas-base-dev amd64 3.10.3-5 [4,022 kB]

Fetched 7,753 kB in 5s (1,481 kB/s)

debconf: delaying package configuration, since apt-utils is not installed

Selecting previously unselected package libatlas3-base:amd64.

(Reading database ... 42223 files and directories currently installed.)

Preparing to unpack .../libatlas3-base\_3.10.3-5\_amd64.deb ...

Unpacking libatlas3-base:amd64 (3.10.3-5) ...

Selecting previously unselected package libatlas-base-dev:amd64.

Preparing to unpack .../libatlas-base-dev\_3.10.3-5\_amd64.deb ...

Unpacking libatlas-base-dev:amd64 (3.10.3-5) ...

Setting up libatlas3-base:amd64 (3.10.3-5) ...

update-alternatives: using /usr/lib/x86\_64-linux-gnu/atlas/libblas.so.3 to provide /usr/lib/x86\_64-linux-gnu/libblas.so.3 (libblas.so.3-x86\_64-linux-gnu) in auto mode

update-alternatives: using /usr/lib/x86\_64-linux-gnu/atlas/liblapack.so.3 to provide /usr/lib/x86\_64-linux-gnu/liblapack.so.3 (liblapack.so.3-x86\_64-linux-gnu) in auto mode

Setting up libatlas-base-dev:amd64 (3.10.3-5) ...

update-alternatives: using /usr/lib/x86\_64-linux-gnu/atlas/libblas.so to provide /usr/lib/x86\_64-linux-gnu/libblas.so (libblas.so-x86\_64-linux-gnu) in auto mode

update-alternatives: using /usr/lib/x86\_64-linux-gnu/atlas/liblapack.so to provide /usr/lib/x86\_64-linux-gnu/liblapack.so (liblapack.so-x86\_64-linux-gnu) in auto mode

Processing triggers for libc-bin (2.27-3ubuntu1.3) ...

/sbin/ldconfig.real: File /usr/lib/x86\_64-linux-gnu/libvdpau\_nvidia.so.510.60.02 is empty, not checked.

/sbin/ldconfig.real: File /usr/lib/x86\_64-linux-gnu/libnvidia-encode.so.510.60.02 is empty, not checked.

/sbin/ldconfig.real: File /usr/lib/x86\_64-linux-gnu/libnvidia-opticalflow.so.510.60.02 is empty, not checked.

/sbin/ldconfig.real: File /usr/lib/x86\_64-linux-gnu/libnvcuvid.so.510.60.02 is empty, not checked.

/sbin/ldconfig.real: File /usr/lib/x86\_64-linux-gnu/libnvidia-fbc.so.510.60.02 is empty, not checked.

/sbin/ldconfig.real: File /usr/lib/x86\_64-linux-gnu/libnvidia-opticalflow.so is empty, not checked.

/sbin/ldconfig.real: File /usr/lib/x86\_64-linux-gnu/libnvidia-fbc.so.1 is empty, not checked.

/sbin/ldconfig.real: File /usr/lib/x86\_64-linux-gnu/libnvcuvid.so.1 is empty, not checked.

/sbin/ldconfig.real: File /usr/lib/x86\_64-linux-gnu/libnvidia-opticalflow.so.1 is empty, not checked.

/sbin/ldconfig.real: File /usr/lib/x86\_64-linux-gnu/libnvidia-encode.so.1 is empty, not checked.

/sbin/ldconfig.real: File /usr/lib/x86\_64-linux-gnu/libvdpau\_nvidia.so.1 is empty, not checked.

(sfm) root@container-8fb311a93c-926d03ef:~# sudo apt-get install libeigen3-dev

Reading package lists... Done

Building dependency tree

Reading state information... Done

Suggested packages:

libeigen3-doc libmrpt-dev

The following NEW packages will be installed:

libeigen3-dev

0 upgraded, 1 newly installed, 0 to remove and 98 not upgraded.

Need to get 810 kB of archives.

After this operation, 7,128 kB of additional disk space will be used.

Get:1 http://mirrors.aliyun.com/ubuntu bionic/universe amd64 libeigen3-dev all 3.3.4-4 [810 kB]

Fetched 810 kB in 1s (1,082 kB/s)

debconf: delaying package configuration, since apt-utils is not installed

Selecting previously unselected package libeigen3-dev.

(Reading database ... 42419 files and directories currently installed.)

Preparing to unpack .../libeigen3-dev\_3.3.4-4\_all.deb ...

Unpacking libeigen3-dev (3.3.4-4) ...

Setting up libeigen3-dev (3.3.4-4) ...

(sfm) root@container-8fb311a93c-926d03ef:~# sudo apt-get install libsuitesparse-dev

Reading package lists... Done

Building dependency tree

Reading state information... Done

The following additional packages will be installed:

libamd2 libbtf1 libcamd2 libccolamd2 libcholmod3 libcolamd2 libcxsparse3 libgraphblas1 libklu1 libldl2 libmetis5 librbio2 libspqr2 libsuitesparseconfig5 libumfpack5

The following NEW packages will be installed:

libamd2 libbtf1 libcamd2 libccolamd2 libcholmod3 libcolamd2 libcxsparse3 libgraphblas1 libklu1 libldl2 libmetis5 librbio2 libspqr2 libsuitesparse-dev libsuitesparseconfig5 libumfpack5

0 upgraded, 16 newly installed, 0 to remove and 98 not upgraded.

Need to get 2,646 kB of archives.

After this operation, 19.8 MB of additional disk space will be used.

Do you want to continue? [Y/n] y

Get:1 http://mirrors.aliyun.com/ubuntu bionic/main amd64 libsuitesparseconfig5 amd64 1:5.1.2-2 [9,044 B]

Get:2 http://mirrors.aliyun.com/ubuntu bionic/main amd64 libamd2 amd64 1:5.1.2-2 [19.5 kB]

Get:3 http://mirrors.aliyun.com/ubuntu bionic/main amd64 libbtf1 amd64 1:5.1.2-2 [10.6 kB]

Get:4 http://mirrors.aliyun.com/ubuntu bionic/main amd64 libcamd2 amd64 1:5.1.2-2 [20.9 kB]

Get:5 http://mirrors.aliyun.com/ubuntu bionic/main amd64 libccolamd2 amd64 1:5.1.2-2 [21.7 kB]

Get:6 http://mirrors.aliyun.com/ubuntu bionic/main amd64 libcolamd2 amd64 1:5.1.2-2 [16.2 kB]

Get:7 http://mirrors.aliyun.com/ubuntu bionic/main amd64 libmetis5 amd64 5.1.0.dfsg-5 [169 kB]

Get:8 http://mirrors.aliyun.com/ubuntu bionic/main amd64 libcholmod3 amd64 1:5.1.2-2 [300 kB]

Get:9 http://mirrors.aliyun.com/ubuntu bionic/main amd64 libcxsparse3 amd64 1:5.1.2-2 [63.9 kB]

Get:10 http://mirrors.aliyun.com/ubuntu bionic/main amd64 libgraphblas1 amd64 1:5.1.2-2 [384 kB]

Get:11 http://mirrors.aliyun.com/ubuntu bionic/main amd64 libklu1 amd64 1:5.1.2-2 [69.3 kB]

Get:12 http://mirrors.aliyun.com/ubuntu bionic/main amd64 libldl2 amd64 1:5.1.2-2 [10.3 kB]

Get:13 http://mirrors.aliyun.com/ubuntu bionic/main amd64 librbio2 amd64 1:5.1.2-2 [24.0 kB]

Get:14 http://mirrors.aliyun.com/ubuntu bionic/main amd64 libspqr2 amd64 1:5.1.2-2 [64.2 kB]

Get:15 http://mirrors.aliyun.com/ubuntu bionic/main amd64 libumfpack5 amd64 1:5.1.2-2 [229 kB]

Get:16 http://mirrors.aliyun.com/ubuntu bionic/main amd64 libsuitesparse-dev amd64 1:5.1.2-2 [1,235 kB]

Fetched 2,646 kB in 3s (884 kB/s)

debconf: delaying package configuration, since apt-utils is not installed

Selecting previously unselected package libsuitesparseconfig5:amd64.

(Reading database ... 42978 files and directories currently installed.)

Preparing to unpack .../00-libsuitesparseconfig5\_1%3a5.1.2-2\_amd64.deb ...

Unpacking libsuitesparseconfig5:amd64 (1:5.1.2-2) ...

Selecting previously unselected package libamd2:amd64.

Preparing to unpack .../01-libamd2\_1%3a5.1.2-2\_amd64.deb ...

Unpacking libamd2:amd64 (1:5.1.2-2) ...

Selecting previously unselected package libbtf1:amd64.

Preparing to unpack .../02-libbtf1\_1%3a5.1.2-2\_amd64.deb ...

Unpacking libbtf1:amd64 (1:5.1.2-2) ...

Selecting previously unselected package libcamd2:amd64.

Preparing to unpack .../03-libcamd2\_1%3a5.1.2-2\_amd64.deb ...

Unpacking libcamd2:amd64 (1:5.1.2-2) ...

Selecting previously unselected package libccolamd2:amd64.

Preparing to unpack .../04-libccolamd2\_1%3a5.1.2-2\_amd64.deb ...

Unpacking libccolamd2:amd64 (1:5.1.2-2) ...

Selecting previously unselected package libcolamd2:amd64.

Preparing to unpack .../05-libcolamd2\_1%3a5.1.2-2\_amd64.deb ...

Unpacking libcolamd2:amd64 (1:5.1.2-2) ...

Selecting previously unselected package libmetis5:amd64.

Preparing to unpack .../06-libmetis5\_5.1.0.dfsg-5\_amd64.deb ...

Unpacking libmetis5:amd64 (5.1.0.dfsg-5) ...

Selecting previously unselected package libcholmod3:amd64.

Preparing to unpack .../07-libcholmod3\_1%3a5.1.2-2\_amd64.deb ...

Unpacking libcholmod3:amd64 (1:5.1.2-2) ...

Selecting previously unselected package libcxsparse3:amd64.

Preparing to unpack .../08-libcxsparse3\_1%3a5.1.2-2\_amd64.deb ...

Unpacking libcxsparse3:amd64 (1:5.1.2-2) ...

Selecting previously unselected package libgraphblas1:amd64.

Preparing to unpack .../09-libgraphblas1\_1%3a5.1.2-2\_amd64.deb ...

Unpacking libgraphblas1:amd64 (1:5.1.2-2) ...

Selecting previously unselected package libklu1:amd64.

Preparing to unpack .../10-libklu1\_1%3a5.1.2-2\_amd64.deb ...

Unpacking libklu1:amd64 (1:5.1.2-2) ...

Selecting previously unselected package libldl2:amd64.

Preparing to unpack .../11-libldl2\_1%3a5.1.2-2\_amd64.deb ...

Unpacking libldl2:amd64 (1:5.1.2-2) ...

Selecting previously unselected package librbio2:amd64.

Preparing to unpack .../12-librbio2\_1%3a5.1.2-2\_amd64.deb ...

Unpacking librbio2:amd64 (1:5.1.2-2) ...

Selecting previously unselected package libspqr2:amd64.

Preparing to unpack .../13-libspqr2\_1%3a5.1.2-2\_amd64.deb ...

Unpacking libspqr2:amd64 (1:5.1.2-2) ...

Selecting previously unselected package libumfpack5:amd64.

Preparing to unpack .../14-libumfpack5\_1%3a5.1.2-2\_amd64.deb ...

Unpacking libumfpack5:amd64 (1:5.1.2-2) ...

Selecting previously unselected package libsuitesparse-dev:amd64.

Preparing to unpack .../15-libsuitesparse-dev\_1%3a5.1.2-2\_amd64.deb ...

Unpacking libsuitesparse-dev:amd64 (1:5.1.2-2) ...

Setting up libbtf1:amd64 (1:5.1.2-2) ...

Setting up libldl2:amd64 (1:5.1.2-2) ...

Setting up libcxsparse3:amd64 (1:5.1.2-2) ...

Setting up libgraphblas1:amd64 (1:5.1.2-2) ...

Setting up libsuitesparseconfig5:amd64 (1:5.1.2-2) ...

Setting up libmetis5:amd64 (5.1.0.dfsg-5) ...

Setting up libcolamd2:amd64 (1:5.1.2-2) ...

Setting up libccolamd2:amd64 (1:5.1.2-2) ...

Setting up librbio2:amd64 (1:5.1.2-2) ...

Setting up libcamd2:amd64 (1:5.1.2-2) ...

Setting up libamd2:amd64 (1:5.1.2-2) ...

Setting up libklu1:amd64 (1:5.1.2-2) ...

Setting up libcholmod3:amd64 (1:5.1.2-2) ...

Setting up libspqr2:amd64 (1:5.1.2-2) ...

Setting up libumfpack5:amd64 (1:5.1.2-2) ...

Setting up libsuitesparse-dev:amd64 (1:5.1.2-2) ...

Processing triggers for libc-bin (2.27-3ubuntu1.3) ...

/sbin/ldconfig.real: File /usr/lib/x86\_64-linux-gnu/libvdpau\_nvidia.so.510.60.02 is empty, not checked.

/sbin/ldconfig.real: File /usr/lib/x86\_64-linux-gnu/libnvidia-encode.so.510.60.02 is empty, not checked.

/sbin/ldconfig.real: File /usr/lib/x86\_64-linux-gnu/libnvidia-opticalflow.so.510.60.02 is empty, not checked.

/sbin/ldconfig.real: File /usr/lib/x86\_64-linux-gnu/libnvcuvid.so.510.60.02 is empty, not checked.

/sbin/ldconfig.real: File /usr/lib/x86\_64-linux-gnu/libnvidia-fbc.so.510.60.02 is empty, not checked.

/sbin/ldconfig.real: File /usr/lib/x86\_64-linux-gnu/libnvidia-opticalflow.so is empty, not checked.

/sbin/ldconfig.real: File /usr/lib/x86\_64-linux-gnu/libnvidia-fbc.so.1 is empty, not checked.

/sbin/ldconfig.real: File /usr/lib/x86\_64-linux-gnu/libnvcuvid.so.1 is empty, not checked.

/sbin/ldconfig.real: File /usr/lib/x86\_64-linux-gnu/libnvidia-opticalflow.so.1 is empty, not checked.

/sbin/ldconfig.real: File /usr/lib/x86\_64-linux-gnu/libnvidia-encode.so.1 is empty, not checked.

/sbin/ldconfig.real: File /usr/lib/x86\_64-linux-gnu/libvdpau\_nvidia.so.1 is empty, not checked.

(sfm) root@container-8fb311a93c-926d03ef:~# sudo apt-get install libsuitesparse-dev

Reading package lists... Done

Building dependency tree

Reading state information... Done

libsuitesparse-dev is already the newest version (1:5.1.2-2).

0 upgraded, 0 newly installed, 0 to remove and 98 not upgraded.

(sfm) root@container-8fb311a93c-926d03ef:~# sudo apt-get install libjpeg-dev

Reading package lists... Done

Building dependency tree

Reading state information... Done

libjpeg-dev is already the newest version (8c-2ubuntu8).

0 upgraded, 0 newly installed, 0 to remove and 98 not upgraded.

(sfm) root@container-8fb311a93c-926d03ef:~# sudo apt-get install libboost-dev

Reading package lists... Done

Building dependency tree

Reading state information... Done

The following additional packages will be installed:

libboost1.65-dev

Suggested packages:

libboost-doc libboost1.65-doc libboost-atomic1.65-dev libboost-chrono1.65-dev libboost-container1.65-dev libboost-context1.65-dev libboost-coroutine1.65-dev libboost-date-time1.65-dev libboost-exception1.65-dev libboost-fiber1.65-dev libboost-filesystem1.65-dev libboost-graph1.65-dev libboost-graph-parallel1.65-dev libboost-iostreams1.65-dev

libboost-locale1.65-dev libboost-log1.65-dev libboost-math1.65-dev libboost-mpi1.65-dev libboost-mpi-python1.65-dev libboost-numpy1.65-dev libboost-program-options1.65-dev libboost-python1.65-dev libboost-random1.65-dev libboost-regex1.65-dev libboost-serialization1.65-dev libboost-signals1.65-dev libboost-stacktrace1.65-dev libboost-system1.65-dev

libboost-test1.65-dev libboost-thread1.65-dev libboost-timer1.65-dev libboost-type-erasure1.65-dev libboost-wave1.65-dev libboost1.65-tools-dev libmpfrc++-dev libntl-dev

The following NEW packages will be installed:

libboost-dev libboost1.65-dev

0 upgraded, 2 newly installed, 0 to remove and 98 not upgraded.

Need to get 7,221 kB of archives.

After this operation, 119 MB of additional disk space will be used.

Do you want to continue? [Y/n] y

Get:1 http://mirrors.aliyun.com/ubuntu bionic/main amd64 libboost1.65-dev amd64 1.65.1+dfsg-0ubuntu5 [7,218 kB]

Get:2 http://mirrors.aliyun.com/ubuntu bionic/main amd64 libboost-dev amd64 1.65.1.0ubuntu1 [3,128 B]

Fetched 7,221 kB in 5s (1,357 kB/s)

debconf: delaying package configuration, since apt-utils is not installed

Selecting previously unselected package libboost1.65-dev:amd64.

(Reading database ... 43168 files and directories currently installed.)

Preparing to unpack .../libboost1.65-dev\_1.65.1+dfsg-0ubuntu5\_amd64.deb ...

Unpacking libboost1.65-dev:amd64 (1.65.1+dfsg-0ubuntu5) ...

Selecting previously unselected package libboost-dev:amd64.

Preparing to unpack .../libboost-dev\_1.65.1.0ubuntu1\_amd64.deb ...

Unpacking libboost-dev:amd64 (1.65.1.0ubuntu1) ...

Setting up libboost1.65-dev:amd64 (1.65.1+dfsg-0ubuntu5) ...

Setting up libboost-dev:amd64 (1.65.1.0ubuntu1) ...

## 安装python-pil，python是2.7

(sfm) root@container-8fb311a93c-926d03ef:~# sudo apt-get install python-pil

Reading package lists... Done

Building dependency tree

Reading state information... Done

The following additional packages will be installed:

libpython-stdlib libpython2.7 libpython2.7-minimal libpython2.7-stdlib libwebpdemux2 python python-minimal python-olefile python2.7 python2.7-minimal

Suggested packages:

python-doc python-tk python-pil-doc python-pil-dbg python2.7-doc binfmt-support

The following NEW packages will be installed:

libpython-stdlib libwebpdemux2 python python-minimal python-olefile python-pil python2.7 python2.7-minimal

The following packages will be upgraded:

libpython2.7 libpython2.7-minimal libpython2.7-stdlib

3 upgraded, 8 newly installed, 0 to remove and 95 not upgraded.

Need to get 5,363 kB of archives.

After this operation, 6,680 kB of additional disk space will be used.

Do you want to continue? [Y/n] y

Get:1 http://mirrors.aliyun.com/ubuntu bionic-security/main amd64 libpython2.7 amd64 2.7.17-1~18.04ubuntu1.7 [1,054 kB]

Get:2 http://mirrors.aliyun.com/ubuntu bionic-security/main amd64 libpython2.7-stdlib amd64 2.7.17-1~18.04ubuntu1.7 [1,917 kB]

Get:3 http://mirrors.aliyun.com/ubuntu bionic-security/main amd64 libpython2.7-minimal amd64 2.7.17-1~18.04ubuntu1.7 [335 kB]

Get:4 http://mirrors.aliyun.com/ubuntu bionic-security/main amd64 python2.7-minimal amd64 2.7.17-1~18.04ubuntu1.7 [1,288 kB]

Get:5 http://mirrors.aliyun.com/ubuntu bionic/main amd64 python-minimal amd64 2.7.15~rc1-1 [28.1 kB]

Get:6 http://mirrors.aliyun.com/ubuntu bionic-security/main amd64 python2.7 amd64 2.7.17-1~18.04ubuntu1.7 [248 kB]

Get:7 http://mirrors.aliyun.com/ubuntu bionic/main amd64 libpython-stdlib amd64 2.7.15~rc1-1 [7,620 B]

Get:8 http://mirrors.aliyun.com/ubuntu bionic/main amd64 python amd64 2.7.15~rc1-1 [140 kB]

Get:9 http://mirrors.aliyun.com/ubuntu bionic-security/main amd64 libwebpdemux2 amd64 0.6.1-2ubuntu0.18.04.1 [9,476 B]

Get:10 http://mirrors.aliyun.com/ubuntu bionic/main amd64 python-olefile all 0.45.1-1 [33.2 kB]

Get:11 http://mirrors.aliyun.com/ubuntu bionic-security/main amd64 python-pil amd64 5.1.0-1ubuntu0.7 [303 kB]

Fetched 5,363 kB in 4s (1,448 kB/s)

debconf: delaying package configuration, since apt-utils is not installed

(Reading database ... 56749 files and directories currently installed.)

Preparing to unpack .../0-libpython2.7\_2.7.17-1~18.04ubuntu1.7\_amd64.deb ...

Unpacking libpython2.7:amd64 (2.7.17-1~18.04ubuntu1.7) over (2.7.17-1~18.04ubuntu1.6) ...

Preparing to unpack .../1-libpython2.7-stdlib\_2.7.17-1~18.04ubuntu1.7\_amd64.deb ...

Unpacking libpython2.7-stdlib:amd64 (2.7.17-1~18.04ubuntu1.7) over (2.7.17-1~18.04ubuntu1.6) ...

Preparing to unpack .../2-libpython2.7-minimal\_2.7.17-1~18.04ubuntu1.7\_amd64.deb ...

Unpacking libpython2.7-minimal:amd64 (2.7.17-1~18.04ubuntu1.7) over (2.7.17-1~18.04ubuntu1.6) ...

Selecting previously unselected package python2.7-minimal.

Preparing to unpack .../3-python2.7-minimal\_2.7.17-1~18.04ubuntu1.7\_amd64.deb ...

Unpacking python2.7-minimal (2.7.17-1~18.04ubuntu1.7) ...

Selecting previously unselected package python-minimal.

Preparing to unpack .../4-python-minimal\_2.7.15~rc1-1\_amd64.deb ...

Unpacking python-minimal (2.7.15~rc1-1) ...

Selecting previously unselected package python2.7.

Preparing to unpack .../5-python2.7\_2.7.17-1~18.04ubuntu1.7\_amd64.deb ...

Unpacking python2.7 (2.7.17-1~18.04ubuntu1.7) ...

Selecting previously unselected package libpython-stdlib:amd64.

Preparing to unpack .../6-libpython-stdlib\_2.7.15~rc1-1\_amd64.deb ...

Unpacking libpython-stdlib:amd64 (2.7.15~rc1-1) ...

Setting up libpython2.7-minimal:amd64 (2.7.17-1~18.04ubuntu1.7) ...

Setting up python2.7-minimal (2.7.17-1~18.04ubuntu1.7) ...

Setting up python-minimal (2.7.15~rc1-1) ...

Selecting previously unselected package python.

(Reading database ... 56808 files and directories currently installed.)

Preparing to unpack .../python\_2.7.15~rc1-1\_amd64.deb ...

Unpacking python (2.7.15~rc1-1) ...

Selecting previously unselected package libwebpdemux2:amd64.

Preparing to unpack .../libwebpdemux2\_0.6.1-2ubuntu0.18.04.1\_amd64.deb ...

Unpacking libwebpdemux2:amd64 (0.6.1-2ubuntu0.18.04.1) ...

Selecting previously unselected package python-olefile.

Preparing to unpack .../python-olefile\_0.45.1-1\_all.deb ...

Unpacking python-olefile (0.45.1-1) ...

Selecting previously unselected package python-pil:amd64.

Preparing to unpack .../python-pil\_5.1.0-1ubuntu0.7\_amd64.deb ...

Unpacking python-pil:amd64 (5.1.0-1ubuntu0.7) ...

Setting up libwebpdemux2:amd64 (0.6.1-2ubuntu0.18.04.1) ...

Setting up libpython2.7-stdlib:amd64 (2.7.17-1~18.04ubuntu1.7) ...

Setting up python2.7 (2.7.17-1~18.04ubuntu1.7) ...

Setting up libpython-stdlib:amd64 (2.7.15~rc1-1) ...

Setting up libpython2.7:amd64 (2.7.17-1~18.04ubuntu1.7) ...

Setting up python (2.7.15~rc1-1) ...

Setting up python-olefile (0.45.1-1) ...

Setting up python-pil:amd64 (5.1.0-1ubuntu0.7) ...

Processing triggers for libc-bin (2.27-3ubuntu1.3) ...

/sbin/ldconfig.real: File /usr/lib/x86\_64-linux-gnu/libvdpau\_nvidia.so.510.60.02 is empty, not checked.

/sbin/ldconfig.real: File /usr/lib/x86\_64-linux-gnu/libnvidia-encode.so.510.60.02 is empty, not checked.

/sbin/ldconfig.real: File /usr/lib/x86\_64-linux-gnu/libnvidia-opticalflow.so.510.60.02 is empty, not checked.

/sbin/ldconfig.real: File /usr/lib/x86\_64-linux-gnu/libnvcuvid.so.510.60.02 is empty, not checked.

/sbin/ldconfig.real: File /usr/lib/x86\_64-linux-gnu/libnvidia-fbc.so.510.60.02 is empty, not checked.

/sbin/ldconfig.real: File /usr/lib/x86\_64-linux-gnu/libnvidia-opticalflow.so is empty, not checked.

/sbin/ldconfig.real: File /usr/lib/x86\_64-linux-gnu/libnvidia-fbc.so.1 is empty, not checked.

/sbin/ldconfig.real: File /usr/lib/x86\_64-linux-gnu/libnvcuvid.so.1 is empty, not checked.

/sbin/ldconfig.real: File /usr/lib/x86\_64-linux-gnu/libnvidia-opticalflow.so.1 is empty, not checked.

/sbin/ldconfig.real: File /usr/lib/x86\_64-linux-gnu/libnvidia-encode.so.1 is empty, not checked.

/sbin/ldconfig.real: File /usr/lib/x86\_64-linux-gnu/libvdpau\_nvidia.so.1 is empty, not checked.

Processing triggers for mime-support (3.60ubuntu1) ...

(sfm) root@container-8fb311a93c-926d03ef:~# sudo apt-get install meshlab

Reading package lists... Done

Building dependency tree

Reading state information... Done

The following additional packages will be installed:

chemical-mime-data lib3ds-1-3 libaudio2 libglew2.0 libglu1-mesa libmng2 libmuparser2v5 libopenctm1 libqt4-dbus libqt4-declarative libqt4-network libqt4-opengl libqt4-script libqt4-sql libqt4-sql-mysql libqt4-xml libqt4-xmlpatterns libqtcore4 libqtdbus4 libqtgui4 qdbus qt-at-spi qtchooser qtcore4-l10n

Suggested packages:

gnome-mime-data nas glew-utils libqt4-declarative-folderlistmodel libqt4-declarative-gestures libqt4-declarative-particles libqt4-declarative-shaders qt4-qmlviewer libqt4-dev libicu55 qt4-qtconfig

The following NEW packages will be installed:

chemical-mime-data lib3ds-1-3 libaudio2 libglew2.0 libglu1-mesa libmng2 libmuparser2v5 libopenctm1 libqt4-dbus libqt4-declarative libqt4-network libqt4-opengl libqt4-script libqt4-sql libqt4-sql-mysql libqt4-xml libqt4-xmlpatterns libqtcore4 libqtdbus4 libqtgui4 meshlab qdbus qt-at-spi qtchooser qtcore4-l10n

0 upgraded, 25 newly installed, 0 to remove and 95 not upgraded.

Need to get 15.8 MB of archives.

After this operation, 64.0 MB of additional disk space will be used.

Do you want to continue? [Y/n] y

Get:1 http://mirrors.aliyun.com/ubuntu bionic/universe amd64 libmng2 amd64 2.0.2-0ubuntu3 [169 kB]

Get:2 http://mirrors.aliyun.com/ubuntu bionic/universe amd64 chemical-mime-data all 0.1.94-7 [44.5 kB]

Get:3 http://mirrors.aliyun.com/ubuntu bionic/universe amd64 lib3ds-1-3 amd64 1.3.0-9 [42.8 kB]

Get:4 http://mirrors.aliyun.com/ubuntu bionic/main amd64 libaudio2 amd64 1.9.4-6 [50.3 kB]

Get:5 http://mirrors.aliyun.com/ubuntu bionic/universe amd64 libglew2.0 amd64 2.0.0-5 [140 kB]

Get:6 http://mirrors.aliyun.com/ubuntu bionic/universe amd64 libmuparser2v5 amd64 2.2.3-6 [103 kB]

Get:7 http://mirrors.aliyun.com/ubuntu bionic/universe amd64 qtcore4-l10n all 4:4.8.7+dfsg-7ubuntu1 [617 kB]

Get:8 http://mirrors.aliyun.com/ubuntu bionic/universe amd64 libqtcore4 amd64 4:4.8.7+dfsg-7ubuntu1 [1,552 kB]

Get:9 http://mirrors.aliyun.com/ubuntu bionic/universe amd64 libqt4-xml amd64 4:4.8.7+dfsg-7ubuntu1 [96.1 kB]

Get:10 http://mirrors.aliyun.com/ubuntu bionic/universe amd64 libqtdbus4 amd64 4:4.8.7+dfsg-7ubuntu1 [186 kB]

Get:11 http://mirrors.aliyun.com/ubuntu bionic/main amd64 qtchooser amd64 64-ga1b6736-5 [24.1 kB]

Get:12 http://mirrors.aliyun.com/ubuntu bionic/universe amd64 qdbus amd64 4:4.8.7+dfsg-7ubuntu1 [30.0 kB]

Get:13 http://mirrors.aliyun.com/ubuntu bionic/universe amd64 libqt4-dbus amd64 4:4.8.7+dfsg-7ubuntu1 [6,440 B]

Get:14 http://mirrors.aliyun.com/ubuntu bionic/universe amd64 libqt4-network amd64 4:4.8.7+dfsg-7ubuntu1 [562 kB]

Get:15 http://mirrors.aliyun.com/ubuntu bionic/universe amd64 libqt4-script amd64 4:4.8.7+dfsg-7ubuntu1 [815 kB]

Get:16 http://mirrors.aliyun.com/ubuntu bionic/universe amd64 libqt4-sql amd64 4:4.8.7+dfsg-7ubuntu1 [98.5 kB]

Get:17 http://mirrors.aliyun.com/ubuntu bionic/universe amd64 libqt4-xmlpatterns amd64 4:4.8.7+dfsg-7ubuntu1 [1,091 kB]

Get:18 http://mirrors.aliyun.com/ubuntu bionic/universe amd64 libqtgui4 amd64 4:4.8.7+dfsg-7ubuntu1 [4,115 kB]

Get:19 http://mirrors.aliyun.com/ubuntu bionic/universe amd64 libqt4-declarative amd64 4:4.8.7+dfsg-7ubuntu1 [1,089 kB]

Get:20 http://mirrors.aliyun.com/ubuntu bionic/universe amd64 libqt4-opengl amd64 4:4.8.7+dfsg-7ubuntu1 [301 kB]

Get:21 http://mirrors.aliyun.com/ubuntu bionic/universe amd64 libqt4-sql-mysql amd64 4:4.8.7+dfsg-7ubuntu1 [30.5 kB]

Get:22 http://mirrors.aliyun.com/ubuntu bionic/universe amd64 qt-at-spi amd64 0.4.0-8 [58.6 kB]

Get:23 http://mirrors.aliyun.com/ubuntu bionic/main amd64 libglu1-mesa amd64 9.0.0-2.1build1 [168 kB]

Get:24 http://mirrors.aliyun.com/ubuntu bionic/universe amd64 libopenctm1 amd64 1.0.3+dfsg1-1.1build3 [48.1 kB]

Get:25 http://mirrors.aliyun.com/ubuntu bionic/universe amd64 meshlab amd64 1.3.2+dfsg1-4 [4,354 kB]

Fetched 15.8 MB in 12s (1,345 kB/s)

debconf: delaying package configuration, since apt-utils is not installed

Selecting previously unselected package libmng2:amd64.

(Reading database ... 56994 files and directories currently installed.)

Preparing to unpack .../00-libmng2\_2.0.2-0ubuntu3\_amd64.deb ...

Unpacking libmng2:amd64 (2.0.2-0ubuntu3) ...

Selecting previously unselected package chemical-mime-data.

Preparing to unpack .../01-chemical-mime-data\_0.1.94-7\_all.deb ...

Unpacking chemical-mime-data (0.1.94-7) ...

Selecting previously unselected package lib3ds-1-3:amd64.

Preparing to unpack .../02-lib3ds-1-3\_1.3.0-9\_amd64.deb ...

Unpacking lib3ds-1-3:amd64 (1.3.0-9) ...

Selecting previously unselected package libaudio2:amd64.

Preparing to unpack .../03-libaudio2\_1.9.4-6\_amd64.deb ...

Unpacking libaudio2:amd64 (1.9.4-6) ...

Selecting previously unselected package libglew2.0:amd64.

Preparing to unpack .../04-libglew2.0\_2.0.0-5\_amd64.deb ...

Unpacking libglew2.0:amd64 (2.0.0-5) ...

Selecting previously unselected package libmuparser2v5:amd64.

Preparing to unpack .../05-libmuparser2v5\_2.2.3-6\_amd64.deb ...

Unpacking libmuparser2v5:amd64 (2.2.3-6) ...

Selecting previously unselected package qtcore4-l10n.

Preparing to unpack .../06-qtcore4-l10n\_4%3a4.8.7+dfsg-7ubuntu1\_all.deb ...

Unpacking qtcore4-l10n (4:4.8.7+dfsg-7ubuntu1) ...

Selecting previously unselected package libqtcore4:amd64.

Preparing to unpack .../07-libqtcore4\_4%3a4.8.7+dfsg-7ubuntu1\_amd64.deb ...

Unpacking libqtcore4:amd64 (4:4.8.7+dfsg-7ubuntu1) ...

Selecting previously unselected package libqt4-xml:amd64.

Preparing to unpack .../08-libqt4-xml\_4%3a4.8.7+dfsg-7ubuntu1\_amd64.deb ...

Unpacking libqt4-xml:amd64 (4:4.8.7+dfsg-7ubuntu1) ...

Selecting previously unselected package libqtdbus4:amd64.

Preparing to unpack .../09-libqtdbus4\_4%3a4.8.7+dfsg-7ubuntu1\_amd64.deb ...

Unpacking libqtdbus4:amd64 (4:4.8.7+dfsg-7ubuntu1) ...

Selecting previously unselected package qtchooser.

Preparing to unpack .../10-qtchooser\_64-ga1b6736-5\_amd64.deb ...

Unpacking qtchooser (64-ga1b6736-5) ...

Selecting previously unselected package qdbus.

Preparing to unpack .../11-qdbus\_4%3a4.8.7+dfsg-7ubuntu1\_amd64.deb ...

Unpacking qdbus (4:4.8.7+dfsg-7ubuntu1) ...

Selecting previously unselected package libqt4-dbus:amd64.

Preparing to unpack .../12-libqt4-dbus\_4%3a4.8.7+dfsg-7ubuntu1\_amd64.deb ...

Unpacking libqt4-dbus:amd64 (4:4.8.7+dfsg-7ubuntu1) ...

Selecting previously unselected package libqt4-network:amd64.

Preparing to unpack .../13-libqt4-network\_4%3a4.8.7+dfsg-7ubuntu1\_amd64.deb ...

Unpacking libqt4-network:amd64 (4:4.8.7+dfsg-7ubuntu1) ...

Selecting previously unselected package libqt4-script:amd64.

Preparing to unpack .../14-libqt4-script\_4%3a4.8.7+dfsg-7ubuntu1\_amd64.deb ...

Unpacking libqt4-script:amd64 (4:4.8.7+dfsg-7ubuntu1) ...

Selecting previously unselected package libqt4-sql:amd64.

Preparing to unpack .../15-libqt4-sql\_4%3a4.8.7+dfsg-7ubuntu1\_amd64.deb ...

Unpacking libqt4-sql:amd64 (4:4.8.7+dfsg-7ubuntu1) ...

Selecting previously unselected package libqt4-xmlpatterns:amd64.

Preparing to unpack .../16-libqt4-xmlpatterns\_4%3a4.8.7+dfsg-7ubuntu1\_amd64.deb ...

Unpacking libqt4-xmlpatterns:amd64 (4:4.8.7+dfsg-7ubuntu1) ...

Selecting previously unselected package libqtgui4:amd64.

Preparing to unpack .../17-libqtgui4\_4%3a4.8.7+dfsg-7ubuntu1\_amd64.deb ...

Unpacking libqtgui4:amd64 (4:4.8.7+dfsg-7ubuntu1) ...

Selecting previously unselected package libqt4-declarative:amd64.

Preparing to unpack .../18-libqt4-declarative\_4%3a4.8.7+dfsg-7ubuntu1\_amd64.deb ...

Unpacking libqt4-declarative:amd64 (4:4.8.7+dfsg-7ubuntu1) ...

Selecting previously unselected package libqt4-opengl:amd64.

Preparing to unpack .../19-libqt4-opengl\_4%3a4.8.7+dfsg-7ubuntu1\_amd64.deb ...

Unpacking libqt4-opengl:amd64 (4:4.8.7+dfsg-7ubuntu1) ...

Selecting previously unselected package libqt4-sql-mysql:amd64.

Preparing to unpack .../20-libqt4-sql-mysql\_4%3a4.8.7+dfsg-7ubuntu1\_amd64.deb ...

Unpacking libqt4-sql-mysql:amd64 (4:4.8.7+dfsg-7ubuntu1) ...

Selecting previously unselected package qt-at-spi:amd64.

Preparing to unpack .../21-qt-at-spi\_0.4.0-8\_amd64.deb ...

Unpacking qt-at-spi:amd64 (0.4.0-8) ...

Selecting previously unselected package libglu1-mesa:amd64.

Preparing to unpack .../22-libglu1-mesa\_9.0.0-2.1build1\_amd64.deb ...

Unpacking libglu1-mesa:amd64 (9.0.0-2.1build1) ...

Selecting previously unselected package libopenctm1:amd64.

Preparing to unpack .../23-libopenctm1\_1.0.3+dfsg1-1.1build3\_amd64.deb ...

Unpacking libopenctm1:amd64 (1.0.3+dfsg1-1.1build3) ...

Selecting previously unselected package meshlab.

Preparing to unpack .../24-meshlab\_1.3.2+dfsg1-4\_amd64.deb ...

Unpacking meshlab (1.3.2+dfsg1-4) ...

Setting up lib3ds-1-3:amd64 (1.3.0-9) ...

Setting up qtcore4-l10n (4:4.8.7+dfsg-7ubuntu1) ...

Setting up qtchooser (64-ga1b6736-5) ...

Setting up libmng2:amd64 (2.0.2-0ubuntu3) ...

Setting up libqtcore4:amd64 (4:4.8.7+dfsg-7ubuntu1) ...

Setting up chemical-mime-data (0.1.94-7) ...

Setting up libopenctm1:amd64 (1.0.3+dfsg1-1.1build3) ...

Setting up libglew2.0:amd64 (2.0.0-5) ...

Setting up libglu1-mesa:amd64 (9.0.0-2.1build1) ...

Setting up libmuparser2v5:amd64 (2.2.3-6) ...

Setting up libqt4-xml:amd64 (4:4.8.7+dfsg-7ubuntu1) ...

Setting up libaudio2:amd64 (1.9.4-6) ...

Setting up libqt4-sql:amd64 (4:4.8.7+dfsg-7ubuntu1) ...

Setting up libqtdbus4:amd64 (4:4.8.7+dfsg-7ubuntu1) ...

Setting up libqt4-script:amd64 (4:4.8.7+dfsg-7ubuntu1) ...

Setting up libqt4-sql-mysql:amd64 (4:4.8.7+dfsg-7ubuntu1) ...

Setting up qdbus (4:4.8.7+dfsg-7ubuntu1) ...

Setting up libqt4-dbus:amd64 (4:4.8.7+dfsg-7ubuntu1) ...

Setting up libqt4-network:amd64 (4:4.8.7+dfsg-7ubuntu1) ...

Setting up libqt4-xmlpatterns:amd64 (4:4.8.7+dfsg-7ubuntu1) ...

Setting up libqtgui4:amd64 (4:4.8.7+dfsg-7ubuntu1) ...

Setting up qt-at-spi:amd64 (0.4.0-8) ...

Setting up libqt4-opengl:amd64 (4:4.8.7+dfsg-7ubuntu1) ...

Setting up libqt4-declarative:amd64 (4:4.8.7+dfsg-7ubuntu1) ...

Setting up meshlab (1.3.2+dfsg1-4) ...

Processing triggers for libc-bin (2.27-3ubuntu1.3) ...

/sbin/ldconfig.real: File /usr/lib/x86\_64-linux-gnu/libvdpau\_nvidia.so.510.60.02 is empty, not checked.

/sbin/ldconfig.real: File /usr/lib/x86\_64-linux-gnu/libnvidia-encode.so.510.60.02 is empty, not checked.

/sbin/ldconfig.real: File /usr/lib/x86\_64-linux-gnu/libnvidia-opticalflow.so.510.60.02 is empty, not checked.

/sbin/ldconfig.real: File /usr/lib/x86\_64-linux-gnu/libnvcuvid.so.510.60.02 is empty, not checked.

/sbin/ldconfig.real: File /usr/lib/x86\_64-linux-gnu/libnvidia-fbc.so.510.60.02 is empty, not checked.

/sbin/ldconfig.real: File /usr/lib/x86\_64-linux-gnu/libnvidia-opticalflow.so is empty, not checked.

/sbin/ldconfig.real: File /usr/lib/x86\_64-linux-gnu/libnvidia-fbc.so.1 is empty, not checked.

/sbin/ldconfig.real: File /usr/lib/x86\_64-linux-gnu/libnvcuvid.so.1 is empty, not checked.

/sbin/ldconfig.real: File /usr/lib/x86\_64-linux-gnu/libnvidia-opticalflow.so.1 is empty, not checked.

/sbin/ldconfig.real: File /usr/lib/x86\_64-linux-gnu/libnvidia-encode.so.1 is empty, not checked.

/sbin/ldconfig.real: File /usr/lib/x86\_64-linux-gnu/libvdpau\_nvidia.so.1 is empty, not checked.

Processing triggers for shared-mime-info (1.9-2) ...

Unknown media type in type 'chemical/x-alchemy'

Unknown media type in type 'chemical/x-cache'

Unknown media type in type 'chemical/x-cactvs-ascii'

Unknown media type in type 'chemical/x-cactvs-binary'

Unknown media type in type 'chemical/x-cactvs-table'

Unknown media type in type 'chemical/x-cdx'

Unknown media type in type 'chemical/x-cdxml'

Unknown media type in type 'chemical/x-chem3d'

Unknown media type in type 'chemical/x-cif'

Unknown media type in type 'chemical/x-cml'

Unknown media type in type 'chemical/x-daylight-smiles'

Unknown media type in type 'chemical/x-dmol'

Unknown media type in type 'chemical/x-gamess-input'

Unknown media type in type 'chemical/x-gamess-output'

Unknown media type in type 'chemical/x-gaussian-input'

Unknown media type in type 'chemical/x-gaussian-log'

Unknown media type in type 'chemical/x-genbank'

Unknown media type in type 'chemical/x-gulp'

Unknown media type in type 'chemical/x-hin'

Unknown media type in type 'chemical/x-inchi'

Unknown media type in type 'chemical/x-inchi-xml'

Unknown media type in type 'chemical/x-jcamp-dx'

Unknown media type in type 'chemical/x-macromodel-input'

Unknown media type in type 'chemical/x-mdl-molfile'

Unknown media type in type 'chemical/x-mdl-rdfile'

Unknown media type in type 'chemical/x-mdl-rxnfile'

Unknown media type in type 'chemical/x-mdl-sdfile'

Unknown media type in type 'chemical/x-mdl-tgf'

Unknown media type in type 'chemical/x-mmcif'

Unknown media type in type 'chemical/x-mol2'

Unknown media type in type 'chemical/x-mopac-graph'

Unknown media type in type 'chemical/x-mopac-input'

Unknown media type in type 'chemical/x-mopac-out'

Unknown media type in type 'chemical/x-msi-car'

Unknown media type in type 'chemical/x-msi-hessian'

Unknown media type in type 'chemical/x-msi-mdf'

Unknown media type in type 'chemical/x-msi-msi'

Unknown media type in type 'chemical/x-ncbi-asn1'

Unknown media type in type 'chemical/x-ncbi-asn1-binary'

Unknown media type in type 'chemical/x-ncbi-asn1-xml'

Unknown media type in type 'chemical/x-pdb'

Unknown media type in type 'chemical/x-shelx'

Unknown media type in type 'chemical/x-vmd'

Unknown media type in type 'chemical/x-xyz'

Processing triggers for hicolor-icon-theme (0.17-2) ...

Processing triggers for mime-support (3.60ubuntu1) ...

(sfm) root@container-8fb311a93c-926d03ef:~# git clone --recursive https://github.com/NLeSC/structure-from-motion.git

Cloning into 'structure-from-motion'...

remote: Enumerating objects: 1053, done.

remote: Total 1053 (delta 0), reused 0 (delta 0), pack-reused 1053

Receiving objects: 100% (1053/1053), 69.45 MiB | 12.40 MiB/s, done.

Resolving deltas: 100% (573/573), done.

Submodule 'bundler\_sfm' (https://github.com/NLeSC/bundler\_sfm) registered for path 'bundler\_sfm'

Submodule 'cmvs-pmvs' (https://github.com/NLeSC/CMVS-PMVS) registered for path 'cmvs-pmvs'

Cloning into '/root/structure-from-motion/bundler\_sfm'...

remote: Enumerating objects: 1443, done.

remote: Total 1443 (delta 0), reused 0 (delta 0), pack-reused 1443

Receiving objects: 100% (1443/1443), 6.05 MiB | 4.02 MiB/s, done.

Resolving deltas: 100% (478/478), done.

Cloning into '/root/structure-from-motion/cmvs-pmvs'...

fatal: unable to access 'https://github.com/NLeSC/CMVS-PMVS/': gnutls\_handshake() failed: The TLS connection was non-properly terminated.

fatal: clone of 'https://github.com/NLeSC/CMVS-PMVS' into submodule path '/root/structure-from-motion/cmvs-pmvs' failed

Failed to clone 'cmvs-pmvs'. Retry scheduled

Cloning into '/root/structure-from-motion/cmvs-pmvs'...

remote: Enumerating objects: 8197, done.

remote: Total 8197 (delta 0), reused 0 (delta 0), pack-reused 8197

Receiving objects: 100% (8197/8197), 24.72 MiB | 8.11 MiB/s, done.

Resolving deltas: 100% (3936/3936), done.

Submodule path 'bundler\_sfm': checked out '869bdaf6bfb9b56a78b0d8a467a410c6dd7bc910'

Submodule path 'cmvs-pmvs': checked out 'a9d3c5a057c4ee9ae8133579f2f3ec0bed2ea36d'

Submodule path 'cmvs-pmvs': checked out 'a9d3c5a057c4ee9ae8133579f2f3ec0bed2ea36d'

(sfm) root@container-8fb311a93c-926d03ef:~# ls

autodl-pub autodl-tmp miniconda3 structure-from-motion tf-logs

(sfm) root@container-8fb311a93c-926d03ef:~# cd str\*

(sfm) root@container-8fb311a93c-926d03ef:~/structure-from-motion#

## 查看Linux版本：

(sfm) root@container-8fb311a93c-926d03ef:~/structure-from-motion# **cat /proc/version**

Linux version 5.4.0-91-generic (buildd@lcy01-amd64-017) (gcc version 9.3.0 (Ubuntu 9.3.0-17ubuntu1~20.04)) #102-Ubuntu SMP Fri Nov 5 16:31:28 UTC 2021

(sfm) root@container-8fb311a93c-926d03ef:~/structure-from-motion# **cat /etc/issue**

Ubuntu 18.04.5 LTS \n \l

(sfm) root@container-8fb311a93c-926d03ef:~/structure-from-motion# **uname -a**

Linux container-8fb311a93c-926d03ef 5.4.0-91-generic #102-Ubuntu SMP Fri Nov 5 16:31:28 UTC 2021 x86\_64 x86\_64 x86\_64 GNU/Linux

(sfm) root@container-8fb311a93c-926d03ef:~/structure-from-motion# lsb\_release -a

bash: lsb\_release: command not found

(sfm) root@container-8fb311a93c-926d03ef:~/structure-from-motion# wget http://ceres-solver.org/ceres-solver-1.14.0.tar.gz

--2022-04-04 12:01:50-- http://ceres-solver.org/ceres-solver-1.14.0.tar.gz

Resolving ceres-solver.org (ceres-solver.org)... 66.175.223.105

Connecting to ceres-solver.org (ceres-solver.org)|66.175.223.105|:80... connected.

HTTP request sent, awaiting response... 200 OK

Length: 5450130 (5.2M) [application/octet-stream]

Saving to: ‘ceres-solver-1.14.0.tar.gz’

ceres-solver-1.14.0.tar.gz 100%[===========>] 5.20M 1.77MB/s in 2.9s

2022-04-04 12:01:53 (1.77 MB/s) - ‘ceres-solver-1.14.0.tar.gz’ saved [5450130/5450130]

(sfm) root@container-8fb311a93c-926d03ef:~/structure-from-motion# tar zxf ceres-solver-1.14.0.tar.gz

(sfm) root@container-8fb311a93c-926d03ef:~/structure-from-motion# mkdir ceres-bin

(sfm) root@container-8fb311a93c-926d03ef:~/structure-from-motion# cd ceres-bin

(sfm) root@container-8fb311a93c-926d03ef:~/structure-from-motion/ceres-bin# cmake ../ceres-solver-1.14.0

-- The C compiler identification is GNU 7.5.0

-- The CXX compiler identification is GNU 7.5.0

-- Check for working C compiler: /usr/bin/cc

-- Check for working C compiler: /usr/bin/cc -- works

-- Detecting C compiler ABI info

-- Detecting C compiler ABI info - done

-- Detecting C compile features

-- Detecting C compile features - done

-- Check for working CXX compiler: /usr/bin/c++

-- Check for working CXX compiler: /usr/bin/c++ -- works

-- Detecting CXX compiler ABI info

-- Detecting CXX compiler ABI info - done

-- Detecting CXX compile features

-- Detecting CXX compile features - done

-- Detected Ceres version: 1.14.0 from /root/structure-from-motion/ceres-solver-1.14.0/include/ceres/version.h

-- No preference for use of exported Eigen CMake configuration set, and no hints for include directory provided. Defaulting to preferring an installed/exported Eigen CMake configuration if available.

-- Found installed version of Eigen: /usr/lib/cmake/eigen3

-- Found Eigen: /usr/include/eigen3 (found version "3.3.4")

-- Found Eigen version 3.3.4: /usr/include/eigen3

-- Enabling use of Eigen as a sparse linear algebra library.

-- Looking for dgemm\_

-- Looking for dgemm\_ - found

-- Looking for pthread.h

-- Looking for pthread.h - found

-- Looking for pthread\_create

-- Looking for pthread\_create - not found

-- Looking for pthread\_create in pthreads

-- Looking for pthread\_create in pthreads - not found

-- Looking for pthread\_create in pthread

-- Looking for pthread\_create in pthread - found

-- Found Threads: TRUE

-- A library with BLAS API found.

-- Found LAPACK library: /usr/lib/x86\_64-linux-gnu/liblapack.so;/usr/lib/x86\_64-linux-gnu/libf77blas.so;/usr/lib/x86\_64-linux-gnu/libatlas.so

-- A library with BLAS API found.

-- Found AMD headers in: /usr/include/suitesparse

-- Found AMD library: /usr/lib/x86\_64-linux-gnu/libamd.so

-- Found CAMD headers in: /usr/include/suitesparse

-- Found CAMD library: /usr/lib/x86\_64-linux-gnu/libcamd.so

-- Found COLAMD headers in: /usr/include/suitesparse

-- Found COLAMD library: /usr/lib/x86\_64-linux-gnu/libcolamd.so

-- Found CCOLAMD headers in: /usr/include/suitesparse

-- Found CCOLAMD library: /usr/lib/x86\_64-linux-gnu/libccolamd.so

-- Found CHOLMOD headers in: /usr/include/suitesparse

-- Found CHOLMOD library: /usr/lib/x86\_64-linux-gnu/libcholmod.so

-- Found SUITESPARSEQR headers in: /usr/include/suitesparse

-- Found SUITESPARSEQR library: /usr/lib/x86\_64-linux-gnu/libspqr.so

-- Found Intel Thread Building Blocks (TBB) library (2017.0) assuming SuiteSparseQR was compiled with TBB.

-- Found SUITESPARSE\_CONFIG headers in: /usr/include/suitesparse

-- Found SUITESPARSE\_CONFIG library: /usr/lib/x86\_64-linux-gnu/libsuitesparseconfig.so

-- Found LIBRT library: /usr/lib/x86\_64-linux-gnu/librt.so

-- Adding librt: /usr/lib/x86\_64-linux-gnu/librt.so to SuiteSparse\_config libraries (required on Linux & Unix [not OSX] if SuiteSparse is compiled with timing).

-- Did not find METIS library (optional SuiteSparse dependency)

-- Found SuiteSparse: TRUE (found version "5.1.2")

-- Found SuiteSparse 5.1.2, building with SuiteSparse.

-- Found CXSparse: /usr/include/suitesparse (found version "3.1.9")

-- Found CXSparse version: 3.1.9, building with CXSparse.

-- No preference for use of exported gflags CMake configuration set, and no hints for include/library directories provided. Defaulting to preferring an installed/exported gflags CMake configuration if available.

-- Found installed version of gflags: /usr/lib/x86\_64-linux-gnu/cmake/gflags

-- Detected gflags version: 2.2.1

-- Found Gflags: /usr/include

-- Found Google Flags header in: /usr/include, in namespace: google

-- No preference for use of exported glog CMake configuration set, and no hints for include/library directories provided. Defaulting to preferring an installed/exported glog CMake configuration if available.

-- Failed to find installed glog CMake configuration, searching for glog build directories exported with CMake.

-- Failed to find an installed/exported CMake configuration for glog, will perform search for installed glog components.

-- Found Glog: /usr/include

-- Found Google Log (glog). Assuming glog was built with gflags support as gflags was found. This will make gflags a public dependency of Ceres.

-- Building with OpenMP.

-- Performing Test COMPILER\_HAS\_CXX11\_FLAG

-- Performing Test COMPILER\_HAS\_CXX11\_FLAG - Success

-- Looking for C++ include unordered\_map

-- Looking for C++ include unordered\_map - found

-- Performing Test HAVE\_UNORDERED\_MAP\_IN\_STD\_NAMESPACE

-- Performing Test HAVE\_UNORDERED\_MAP\_IN\_STD\_NAMESPACE - Success

-- Found unordered\_map/set in std namespace.

-- Looking for C++ include memory

-- Looking for C++ include memory - found

-- Performing Test HAVE\_SHARED\_PTR\_IN\_STD\_NAMESPACE

-- Performing Test HAVE\_SHARED\_PTR\_IN\_STD\_NAMESPACE - Success

-- Found shared\_ptr in std namespace using <memory> header.

-- Performing Test CXX11\_MATH\_FUNCTIONS\_FOUND

-- Performing Test CXX11\_MATH\_FUNCTIONS\_FOUND - Success

-- Building Ceres as a static library.

-- No build type specified; defaulting to CMAKE\_BUILD\_TYPE=Release.

-- Creating configured Ceres config.h output directory: /root/structure-from-motion/ceres-bin/config/ceres/internal

-- Enabling CERES\_USE\_EIGEN\_SPARSE in Ceres config.h

-- Enabling CERES\_USE\_OPENMP in Ceres config.h

-- Enabling CERES\_HAVE\_PTHREAD in Ceres config.h

-- Enabling CERES\_HAVE\_RWLOCK in Ceres config.h

-- Enabling CERES\_STD\_UNORDERED\_MAP in Ceres config.h

-- Build the examples.

-- Configuring done

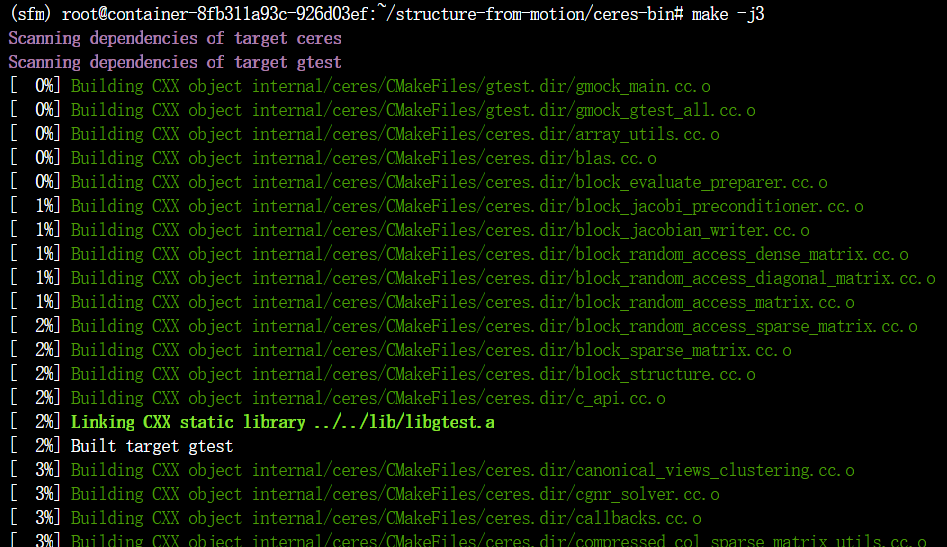
-- Generating done

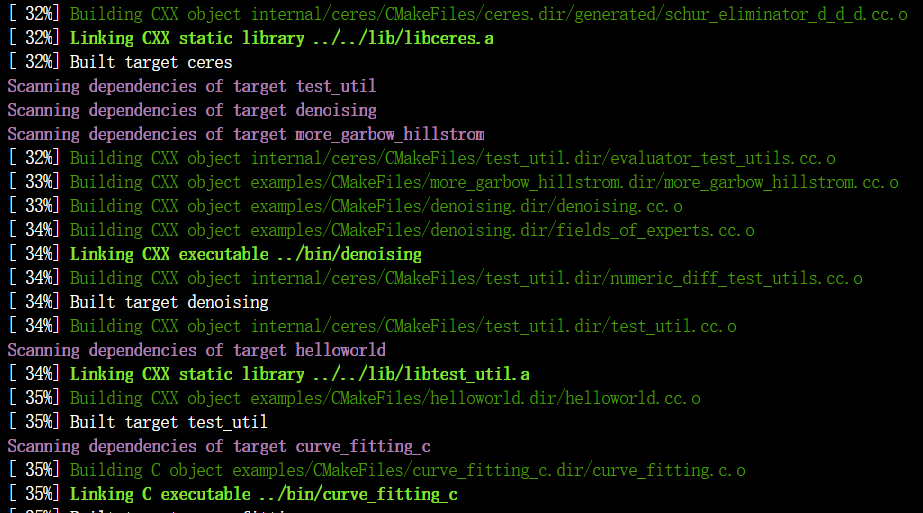
-- Build files have been written to: /root/structure-from-motion/ceres-bin

(sfm) root@container-8fb311a93c-926d03ef:~/structure-from-motion/ceres-bin# make -j3

Scanning dependencies of target ceres

Scanning dependencies of target gtest





(sfm) root@container-8fb311a93c-926d03ef:~/structure-from-motion/ceres-bin# make -j3

Scanning dependencies of target ceres

Scanning dependencies of target gtest

[ 0%] Building CXX object internal/ceres/CMakeFiles/gtest.dir/gmock\_main.cc.o

[ 0%] Building CXX object internal/ceres/CMakeFiles/gtest.dir/gmock\_gtest\_all.cc.o

[ 0%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/array\_utils.cc.o

[ 0%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/blas.cc.o

[ 0%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/block\_evaluate\_preparer.cc.o

[ 1%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/block\_jacobi\_preconditioner.cc.o

[ 1%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/block\_jacobian\_writer.cc.o

[ 1%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/block\_random\_access\_dense\_matrix.cc.o

[ 1%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/block\_random\_access\_diagonal\_matrix.cc.o

[ 1%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/block\_random\_access\_matrix.cc.o

[ 2%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/block\_random\_access\_sparse\_matrix.cc.o

[ 2%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/block\_sparse\_matrix.cc.o

[ 2%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/block\_structure.cc.o

[ 2%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/c\_api.cc.o

[ 2%] Linking CXX static library ../../lib/libgtest.a

[ 2%] Built target gtest

[ 3%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/canonical\_views\_clustering.cc.o

[ 3%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/cgnr\_solver.cc.o

[ 3%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/callbacks.cc.o

[ 3%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/compressed\_col\_sparse\_matrix\_utils.cc.o

[ 3%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/compressed\_row\_jacobian\_writer.cc.o

[ 4%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/compressed\_row\_sparse\_matrix.cc.o

[ 4%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/conditioned\_cost\_function.cc.o

[ 4%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/conjugate\_gradients\_solver.cc.o

[ 4%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/context.cc.o

[ 5%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/context\_impl.cc.o

[ 5%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/coordinate\_descent\_minimizer.cc.o

[ 5%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/corrector.cc.o

[ 5%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/covariance.cc.o

[ 5%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/covariance\_impl.cc.o

[ 6%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/cxsparse.cc.o

[ 6%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/dense\_normal\_cholesky\_solver.cc.o

[ 6%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/dense\_qr\_solver.cc.o

[ 6%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/dense\_sparse\_matrix.cc.o

[ 7%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/detect\_structure.cc.o

[ 7%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/dogleg\_strategy.cc.o

[ 7%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/dynamic\_compressed\_row\_jacobian\_writer.cc.o

[ 7%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/dynamic\_compressed\_row\_sparse\_matrix.cc.o

[ 7%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/dynamic\_sparse\_normal\_cholesky\_solver.cc.o

[ 8%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/evaluator.cc.o

[ 8%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/eigensparse.cc.o

[ 8%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/file.cc.o

[ 8%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/function\_sample.cc.o

[ 9%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/gradient\_checker.cc.o

[ 9%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/gradient\_checking\_cost\_function.cc.o

[ 9%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/gradient\_problem.cc.o

[ 9%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/gradient\_problem\_solver.cc.o

[ 9%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/implicit\_schur\_complement.cc.o

[ 10%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/inner\_product\_computer.cc.o

[ 10%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/is\_close.cc.o

[ 10%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/iterative\_schur\_complement\_solver.cc.o

[ 10%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/levenberg\_marquardt\_strategy.cc.o

[ 11%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/lapack.cc.o

[ 11%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/line\_search.cc.o

[ 11%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/line\_search\_direction.cc.o

[ 11%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/line\_search\_minimizer.cc.o

[ 11%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/line\_search\_preprocessor.cc.o

[ 12%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/linear\_least\_squares\_problems.cc.o

[ 12%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/linear\_operator.cc.o

[ 12%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/linear\_solver.cc.o

[ 12%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/local\_parameterization.cc.o

[ 13%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/loss\_function.cc.o

[ 13%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/low\_rank\_inverse\_hessian.cc.o

[ 13%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/minimizer.cc.o

[ 13%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/normal\_prior.cc.o

[ 13%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/parallel\_for\_cxx.cc.o

[ 14%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/parallel\_for\_tbb.cc.o

[ 14%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/parallel\_utils.cc.o

[ 14%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/parameter\_block\_ordering.cc.o

[ 14%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/partitioned\_matrix\_view.cc.o

[ 15%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/polynomial.cc.o

[ 15%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/preconditioner.cc.o

[ 15%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/preprocessor.cc.o

[ 15%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/problem.cc.o

[ 15%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/problem\_impl.cc.o

[ 16%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/program.cc.o

[ 16%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/reorder\_program.cc.o

[ 16%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/residual\_block.cc.o

[ 16%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/residual\_block\_utils.cc.o

[ 17%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/schur\_complement\_solver.cc.o

[ 17%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/schur\_eliminator.cc.o

[ 17%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/schur\_jacobi\_preconditioner.cc.o

[ 17%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/schur\_templates.cc.o

[ 17%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/scratch\_evaluate\_preparer.cc.o

[ 18%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/single\_linkage\_clustering.cc.o

[ 18%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/solver.cc.o

[ 18%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/solver\_utils.cc.o

[ 18%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/sparse\_matrix.cc.o

[ 19%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/sparse\_cholesky.cc.o

[ 19%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/sparse\_normal\_cholesky\_solver.cc.o

[ 19%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/subset\_preconditioner.cc.o

[ 19%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/split.cc.o

[ 19%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/stringprintf.cc.o

[ 20%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/suitesparse.cc.o

[ 20%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/thread\_pool.cc.o

[ 20%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/thread\_token\_provider.cc.o

[ 20%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/triplet\_sparse\_matrix.cc.o

[ 21%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/trust\_region\_preprocessor.cc.o

[ 21%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/trust\_region\_minimizer.cc.o

[ 21%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/trust\_region\_step\_evaluator.cc.o

[ 21%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/trust\_region\_strategy.cc.o

[ 21%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/types.cc.o

[ 22%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/visibility.cc.o

[ 22%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/visibility\_based\_preconditioner.cc.o

[ 22%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/wall\_time.cc.o

[ 22%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/generated/partitioned\_matrix\_view\_2\_2\_2.cc.o

[ 23%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/generated/partitioned\_matrix\_view\_2\_2\_3.cc.o

[ 23%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/generated/partitioned\_matrix\_view\_2\_2\_4.cc.o

[ 23%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/generated/partitioned\_matrix\_view\_2\_2\_d.cc.o

[ 23%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/generated/partitioned\_matrix\_view\_2\_3\_3.cc.o

[ 23%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/generated/partitioned\_matrix\_view\_2\_3\_4.cc.o

[ 24%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/generated/partitioned\_matrix\_view\_2\_3\_6.cc.o

[ 24%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/generated/partitioned\_matrix\_view\_2\_3\_9.cc.o

[ 24%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/generated/partitioned\_matrix\_view\_2\_3\_d.cc.o

[ 24%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/generated/partitioned\_matrix\_view\_2\_4\_3.cc.o

[ 25%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/generated/partitioned\_matrix\_view\_2\_4\_4.cc.o

[ 25%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/generated/partitioned\_matrix\_view\_2\_4\_6.cc.o

[ 25%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/generated/partitioned\_matrix\_view\_2\_4\_8.cc.o

[ 25%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/generated/partitioned\_matrix\_view\_2\_4\_9.cc.o

[ 26%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/generated/partitioned\_matrix\_view\_2\_4\_d.cc.o

[ 26%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/generated/partitioned\_matrix\_view\_2\_d\_d.cc.o

[ 26%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/generated/partitioned\_matrix\_view\_4\_4\_2.cc.o

[ 26%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/generated/partitioned\_matrix\_view\_4\_4\_3.cc.o

[ 26%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/generated/partitioned\_matrix\_view\_4\_4\_4.cc.o

[ 27%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/generated/partitioned\_matrix\_view\_4\_4\_d.cc.o

[ 27%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/generated/partitioned\_matrix\_view\_d\_d\_d.cc.o

[ 27%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/generated/schur\_eliminator\_2\_2\_2.cc.o

[ 27%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/generated/schur\_eliminator\_2\_2\_3.cc.o

[ 28%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/generated/schur\_eliminator\_2\_2\_4.cc.o

[ 28%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/generated/schur\_eliminator\_2\_2\_d.cc.o

[ 28%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/generated/schur\_eliminator\_2\_3\_3.cc.o

[ 28%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/generated/schur\_eliminator\_2\_3\_4.cc.o

[ 28%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/generated/schur\_eliminator\_2\_3\_6.cc.o

[ 29%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/generated/schur\_eliminator\_2\_3\_9.cc.o

[ 29%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/generated/schur\_eliminator\_2\_3\_d.cc.o

[ 29%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/generated/schur\_eliminator\_2\_4\_3.cc.o

[ 29%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/generated/schur\_eliminator\_2\_4\_4.cc.o

[ 30%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/generated/schur\_eliminator\_2\_4\_6.cc.o

[ 30%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/generated/schur\_eliminator\_2\_4\_8.cc.o

[ 30%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/generated/schur\_eliminator\_2\_4\_9.cc.o

[ 30%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/generated/schur\_eliminator\_2\_4\_d.cc.o

[ 30%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/generated/schur\_eliminator\_2\_d\_d.cc.o

[ 31%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/generated/schur\_eliminator\_4\_4\_2.cc.o

[ 31%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/generated/schur\_eliminator\_4\_4\_3.cc.o

[ 31%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/generated/schur\_eliminator\_4\_4\_4.cc.o

[ 31%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/generated/schur\_eliminator\_4\_4\_d.cc.o

[ 32%] Building CXX object internal/ceres/CMakeFiles/ceres.dir/generated/schur\_eliminator\_d\_d\_d.cc.o

[ 32%] Linking CXX static library ../../lib/libceres.a

[ 32%] Built target ceres

Scanning dependencies of target test\_util

Scanning dependencies of target denoising

Scanning dependencies of target more\_garbow\_hillstrom

[ 32%] Building CXX object internal/ceres/CMakeFiles/test\_util.dir/evaluator\_test\_utils.cc.o

[ 33%] Building CXX object examples/CMakeFiles/more\_garbow\_hillstrom.dir/more\_garbow\_hillstrom.cc.o

[ 33%] Building CXX object examples/CMakeFiles/denoising.dir/denoising.cc.o

[ 34%] Building CXX object examples/CMakeFiles/denoising.dir/fields\_of\_experts.cc.o

[ 34%] Linking CXX executable ../bin/denoising

[ 34%] Building CXX object internal/ceres/CMakeFiles/test\_util.dir/numeric\_diff\_test\_utils.cc.o

[ 34%] Built target denoising

[ 34%] Building CXX object internal/ceres/CMakeFiles/test\_util.dir/test\_util.cc.o

Scanning dependencies of target helloworld

[ 34%] Linking CXX static library ../../lib/libtest\_util.a

[ 35%] Building CXX object examples/CMakeFiles/helloworld.dir/helloworld.cc.o

[ 35%] Built target test\_util

Scanning dependencies of target curve\_fitting\_c

[ 35%] Building C object examples/CMakeFiles/curve\_fitting\_c.dir/curve\_fitting.c.o

[ 35%] Linking C executable ../bin/curve\_fitting\_c

[ 35%] Built target curve\_fitting\_c

Scanning dependencies of target powell

[ 35%] Building CXX object examples/CMakeFiles/powell.dir/powell.cc.o

[ 35%] Linking CXX executable ../bin/helloworld

[ 35%] Built target helloworld

Scanning dependencies of target helloworld\_analytic\_diff

[ 35%] Building CXX object examples/CMakeFiles/helloworld\_analytic\_diff.dir/helloworld\_analytic\_diff.cc.o

[ 36%] Linking CXX executable ../bin/powell

[ 36%] Built target powell

Scanning dependencies of target rosenbrock

[ 36%] Building CXX object examples/CMakeFiles/rosenbrock.dir/rosenbrock.cc.o

[ 36%] Linking CXX executable ../bin/helloworld\_analytic\_diff

[ 36%] Built target helloworld\_analytic\_diff

Scanning dependencies of target helloworld\_numeric\_diff

[ 37%] Building CXX object examples/CMakeFiles/helloworld\_numeric\_diff.dir/helloworld\_numeric\_diff.cc.o

[ 37%] Linking CXX executable ../bin/rosenbrock

[ 37%] Built target rosenbrock

Scanning dependencies of target ellipse\_approximation

[ 37%] Building CXX object examples/CMakeFiles/ellipse\_approximation.dir/ellipse\_approximation.cc.o

[ 37%] Linking CXX executable ../bin/helloworld\_numeric\_diff

[ 37%] Built target helloworld\_numeric\_diff

Scanning dependencies of target robot\_pose\_mle

[ 37%] Building CXX object examples/CMakeFiles/robot\_pose\_mle.dir/robot\_pose\_mle.cc.o

[ 37%] Linking CXX executable ../bin/ellipse\_approximation

[ 37%] Built target ellipse\_approximation

Scanning dependencies of target robust\_curve\_fitting

[ 38%] Building CXX object examples/CMakeFiles/robust\_curve\_fitting.dir/robust\_curve\_fitting.cc.o

[ 38%] Linking CXX executable ../bin/robot\_pose\_mle

[ 38%] Built target robot\_pose\_mle

Scanning dependencies of target circle\_fit

[ 38%] Building CXX object examples/CMakeFiles/circle\_fit.dir/circle\_fit.cc.o

[ 38%] Linking CXX executable ../bin/robust\_curve\_fitting

[ 38%] Built target robust\_curve\_fitting

Scanning dependencies of target curve\_fitting

[ 38%] Building CXX object examples/CMakeFiles/curve\_fitting.dir/curve\_fitting.cc.o

[ 38%] Linking CXX executable ../bin/circle\_fit

[ 38%] Built target circle\_fit

Scanning dependencies of target simple\_bundle\_adjuster

[ 38%] Building CXX object examples/CMakeFiles/simple\_bundle\_adjuster.dir/simple\_bundle\_adjuster.cc.o

[ 39%] Linking CXX executable ../bin/curve\_fitting

[ 39%] Built target curve\_fitting

Scanning dependencies of target bundle\_adjuster

[ 39%] Building CXX object examples/CMakeFiles/bundle\_adjuster.dir/bundle\_adjuster.cc.o

[ 39%] Linking CXX executable ../bin/simple\_bundle\_adjuster

[ 39%] Built target simple\_bundle\_adjuster

[ 40%] Building CXX object examples/CMakeFiles/bundle\_adjuster.dir/bal\_problem.cc.o

Scanning dependencies of target nist

[ 40%] Building CXX object examples/CMakeFiles/nist.dir/nist.cc.o

[ 40%] Linking CXX executable ../bin/bundle\_adjuster

[ 40%] Built target bundle\_adjuster

Scanning dependencies of target libmv\_bundle\_adjuster

[ 41%] Building CXX object examples/CMakeFiles/libmv\_bundle\_adjuster.dir/libmv\_bundle\_adjuster.cc.o

[ 41%] Linking CXX executable ../bin/more\_garbow\_hillstrom

[ 41%] Built target more\_garbow\_hillstrom

Scanning dependencies of target libmv\_homography

[ 41%] Building CXX object examples/CMakeFiles/libmv\_homography.dir/libmv\_homography.cc.o

[ 41%] Linking CXX executable ../bin/libmv\_bundle\_adjuster

[ 41%] Built target libmv\_bundle\_adjuster

Scanning dependencies of target sampled\_function

[ 41%] Building CXX object examples/sampled\_function/CMakeFiles/sampled\_function.dir/sampled\_function.cc.o

[ 41%] Linking CXX executable ../../bin/sampled\_function

[ 41%] Built target sampled\_function

Scanning dependencies of target pose\_graph\_2d

[ 42%] Building CXX object examples/slam/pose\_graph\_2d/CMakeFiles/pose\_graph\_2d.dir/pose\_graph\_2d.cc.o

[ 42%] Linking CXX executable ../bin/libmv\_homography

[ 42%] Built target libmv\_homography

Scanning dependencies of target pose\_graph\_3d

[ 42%] Building CXX object examples/slam/pose\_graph\_3d/CMakeFiles/pose\_graph\_3d.dir/pose\_graph\_3d.cc.o

[ 42%] Linking CXX executable ../../../bin/pose\_graph\_2d

[ 42%] Built target pose\_graph\_2d

Scanning dependencies of target visibility\_based\_preconditioner\_test

[ 42%] Building CXX object internal/ceres/CMakeFiles/visibility\_based\_preconditioner\_test.dir/visibility\_based\_preconditioner\_test.cc.o

[ 42%] Linking CXX executable ../../bin/visibility\_based\_preconditioner\_test

[ 42%] Built target visibility\_based\_preconditioner\_test

Scanning dependencies of target trust\_region\_minimizer\_test

[ 42%] Building CXX object internal/ceres/CMakeFiles/trust\_region\_minimizer\_test.dir/trust\_region\_minimizer\_test.cc.o

[ 42%] Linking CXX executable ../../../bin/pose\_graph\_3d

[ 42%] Built target pose\_graph\_3d

Scanning dependencies of target tiny\_solver\_cost\_function\_adapter\_test

[ 43%] Building CXX object internal/ceres/CMakeFiles/tiny\_solver\_cost\_function\_adapter\_test.dir/tiny\_solver\_cost\_function\_adapter\_test.cc.o

[ 43%] Linking CXX executable ../../bin/trust\_region\_minimizer\_test

[ 43%] Built target trust\_region\_minimizer\_test

Scanning dependencies of target gradient\_checking\_cost\_function\_test

[ 43%] Building CXX object internal/ceres/CMakeFiles/gradient\_checking\_cost\_function\_test.dir/gradient\_checking\_cost\_function\_test.cc.o

[ 43%] Linking CXX executable ../../bin/tiny\_solver\_cost\_function\_adapter\_test

[ 43%] Built target tiny\_solver\_cost\_function\_adapter\_test

Scanning dependencies of target gradient\_checker\_test

[ 43%] Building CXX object internal/ceres/CMakeFiles/gradient\_checker\_test.dir/gradient\_checker\_test.cc.o

[ 43%] Linking CXX executable ../../bin/gradient\_checking\_cost\_function\_test

[ 43%] Built target gradient\_checking\_cost\_function\_test

Scanning dependencies of target evaluator\_test

[ 43%] Building CXX object internal/ceres/CMakeFiles/evaluator\_test.dir/evaluator\_test.cc.o

[ 44%] Linking CXX executable ../../bin/gradient\_checker\_test

[ 44%] Built target gradient\_checker\_test

Scanning dependencies of target evaluation\_callback\_test

[ 44%] Building CXX object internal/ceres/CMakeFiles/evaluation\_callback\_test.dir/evaluation\_callback\_test.cc.o

[ 44%] Linking CXX executable ../../bin/evaluator\_test

[ 44%] Built target evaluator\_test

Scanning dependencies of target dynamic\_sparsity\_test

[ 45%] Building CXX object internal/ceres/CMakeFiles/dynamic\_sparsity\_test.dir/dynamic\_sparsity\_test.cc.o

[ 46%] Linking CXX executable ../../bin/evaluation\_callback\_test

[ 46%] Built target evaluation\_callback\_test

[ 46%] Linking CXX executable ../../bin/dynamic\_sparsity\_test

Scanning dependencies of target is\_close\_test

[ 46%] Building CXX object internal/ceres/CMakeFiles/is\_close\_test.dir/is\_close\_test.cc.o

[ 46%] Built target dynamic\_sparsity\_test

Scanning dependencies of target dynamic\_numeric\_diff\_cost\_function\_test

[ 47%] Building CXX object internal/ceres/CMakeFiles/dynamic\_numeric\_diff\_cost\_function\_test.dir/dynamic\_numeric\_diff\_cost\_function\_test.cc.o

[ 47%] Linking CXX executable ../../bin/is\_close\_test

[ 47%] Built target is\_close\_test

Scanning dependencies of target gradient\_problem\_test

[ 48%] Building CXX object internal/ceres/CMakeFiles/gradient\_problem\_test.dir/gradient\_problem\_test.cc.o

[ 48%] Linking CXX executable ../../bin/gradient\_problem\_test

[ 48%] Built target gradient\_problem\_test

Scanning dependencies of target dynamic\_autodiff\_cost\_function\_test

[ 48%] Building CXX object internal/ceres/CMakeFiles/dynamic\_autodiff\_cost\_function\_test.dir/dynamic\_autodiff\_cost\_function\_test.cc.o

[ 48%] Linking CXX executable ../../bin/dynamic\_numeric\_diff\_cost\_function\_test

[ 48%] Built target dynamic\_numeric\_diff\_cost\_function\_test

Scanning dependencies of target cost\_function\_to\_functor\_test

[ 48%] Building CXX object internal/ceres/CMakeFiles/cost\_function\_to\_functor\_test.dir/cost\_function\_to\_functor\_test.cc.o

[ 48%] Linking CXX executable ../../bin/dynamic\_autodiff\_cost\_function\_test

[ 48%] Built target dynamic\_autodiff\_cost\_function\_test

Scanning dependencies of target detect\_structure\_test

[ 48%] Building CXX object internal/ceres/CMakeFiles/detect\_structure\_test.dir/detect\_structure\_test.cc.o

[ 48%] Linking CXX executable ../../bin/detect\_structure\_test

[ 48%] Built target detect\_structure\_test

Scanning dependencies of target dense\_sparse\_matrix\_test

[ 48%] Building CXX object internal/ceres/CMakeFiles/dense\_sparse\_matrix\_test.dir/dense\_sparse\_matrix\_test.cc.o

[ 49%] Linking CXX executable ../../bin/dense\_sparse\_matrix\_test

[ 49%] Built target dense\_sparse\_matrix\_test

Scanning dependencies of target dense\_linear\_solver\_test

[ 49%] Building CXX object internal/ceres/CMakeFiles/dense\_linear\_solver\_test.dir/dense\_linear\_solver\_test.cc.o

[ 49%] Linking CXX executable ../../bin/cost\_function\_to\_functor\_test

[ 49%] Built target cost\_function\_to\_functor\_test

Scanning dependencies of target thread\_pool\_test

[ 50%] Building CXX object internal/ceres/CMakeFiles/thread\_pool\_test.dir/thread\_pool\_test.cc.o

[ 50%] Linking CXX executable ../../bin/thread\_pool\_test

[ 50%] Built target thread\_pool\_test

Scanning dependencies of target conditioned\_cost\_function\_test

[ 50%] Building CXX object internal/ceres/CMakeFiles/conditioned\_cost\_function\_test.dir/conditioned\_cost\_function\_test.cc.o

[ 50%] Linking CXX executable ../../bin/conditioned\_cost\_function\_test

[ 50%] Built target conditioned\_cost\_function\_test

Scanning dependencies of target line\_search\_preprocessor\_test

[ 50%] Building CXX object internal/ceres/CMakeFiles/line\_search\_preprocessor\_test.dir/line\_search\_preprocessor\_test.cc.o

[ 50%] Linking CXX executable ../../bin/dense\_linear\_solver\_test

[ 50%] Built target dense\_linear\_solver\_test

Scanning dependencies of target concurrent\_queue\_test

[ 50%] Building CXX object internal/ceres/CMakeFiles/concurrent\_queue\_test.dir/concurrent\_queue\_test.cc.o

[ 51%] Linking CXX executable ../../bin/concurrent\_queue\_test

[ 51%] Built target concurrent\_queue\_test

Scanning dependencies of target single\_linkage\_clustering\_test

[ 52%] Building CXX object internal/ceres/CMakeFiles/single\_linkage\_clustering\_test.dir/single\_linkage\_clustering\_test.cc.o

[ 52%] Linking CXX executable ../../bin/line\_search\_preprocessor\_test

[ 52%] Built target line\_search\_preprocessor\_test

Scanning dependencies of target dynamic\_compressed\_row\_sparse\_matrix\_test

[ 52%] Building CXX object internal/ceres/CMakeFiles/dynamic\_compressed\_row\_sparse\_matrix\_test.dir/dynamic\_compressed\_row\_sparse\_matrix\_test.cc.o

[ 52%] Linking CXX executable ../../bin/single\_linkage\_clustering\_test

[ 52%] Built target single\_linkage\_clustering\_test

Scanning dependencies of target tiny\_solver\_autodiff\_function\_test

[ 52%] Building CXX object internal/ceres/CMakeFiles/tiny\_solver\_autodiff\_function\_test.dir/tiny\_solver\_autodiff\_function\_test.cc.o

[ 52%] Linking CXX executable ../../bin/tiny\_solver\_autodiff\_function\_test

[ 52%] Built target tiny\_solver\_autodiff\_function\_test

Scanning dependencies of target block\_jacobi\_preconditioner\_test

[ 52%] Linking CXX executable ../../bin/dynamic\_compressed\_row\_sparse\_matrix\_test

[ 52%] Building CXX object internal/ceres/CMakeFiles/block\_jacobi\_preconditioner\_test.dir/block\_jacobi\_preconditioner\_test.cc.o

[ 52%] Built target dynamic\_compressed\_row\_sparse\_matrix\_test

Scanning dependencies of target block\_random\_access\_diagonal\_matrix\_test

[ 52%] Building CXX object internal/ceres/CMakeFiles/block\_random\_access\_diagonal\_matrix\_test.dir/block\_random\_access\_diagonal\_matrix\_test.cc.o

[ 52%] Linking CXX executable ../../bin/block\_jacobi\_preconditioner\_test

[ 52%] Built target block\_jacobi\_preconditioner\_test

Scanning dependencies of target block\_sparse\_matrix\_test

[ 52%] Building CXX object internal/ceres/CMakeFiles/block\_sparse\_matrix\_test.dir/block\_sparse\_matrix\_test.cc.o

[ 52%] Linking CXX executable ../../bin/block\_random\_access\_diagonal\_matrix\_test

[ 52%] Built target block\_random\_access\_diagonal\_matrix\_test

Scanning dependencies of target parameter\_block\_ordering\_test

[ 52%] Building CXX object internal/ceres/CMakeFiles/parameter\_block\_ordering\_test.dir/parameter\_block\_ordering\_test.cc.o

[ 52%] Linking CXX executable ../../bin/block\_sparse\_matrix\_test

[ 52%] Built target block\_sparse\_matrix\_test

Scanning dependencies of target dynamic\_sparse\_normal\_cholesky\_solver\_test

[ 52%] Building CXX object internal/ceres/CMakeFiles/dynamic\_sparse\_normal\_cholesky\_solver\_test.dir/dynamic\_sparse\_normal\_cholesky\_solver\_test.cc.o

[ 52%] Linking CXX executable ../../bin/parameter\_block\_ordering\_test

[ 52%] Built target parameter\_block\_ordering\_test

Scanning dependencies of target sparse\_normal\_cholesky\_solver\_test

[ 52%] Building CXX object internal/ceres/CMakeFiles/sparse\_normal\_cholesky\_solver\_test.dir/sparse\_normal\_cholesky\_solver\_test.cc.o

[ 52%] Linking CXX executable ../../bin/dynamic\_sparse\_normal\_cholesky\_solver\_test

[ 53%] Linking CXX executable ../../bin/sparse\_normal\_cholesky\_solver\_test

[ 53%] Built target dynamic\_sparse\_normal\_cholesky\_solver\_test

Scanning dependencies of target array\_utils\_test

[ 53%] Building CXX object internal/ceres/CMakeFiles/array\_utils\_test.dir/array\_utils\_test.cc.o

[ 53%] Built target sparse\_normal\_cholesky\_solver\_test

Scanning dependencies of target parameter\_block\_test

[ 53%] Building CXX object internal/ceres/CMakeFiles/parameter\_block\_test.dir/parameter\_block\_test.cc.o

[ 53%] Linking CXX executable ../../bin/array\_utils\_test

[ 53%] Built target array\_utils\_test

Scanning dependencies of target conjugate\_gradients\_solver\_test

[ 53%] Building CXX object internal/ceres/CMakeFiles/conjugate\_gradients\_solver\_test.dir/conjugate\_gradients\_solver\_test.cc.o

[ 53%] Linking CXX executable ../../bin/parameter\_block\_test

[ 53%] Built target parameter\_block\_test

Scanning dependencies of target c\_api\_test

[ 53%] Building CXX object internal/ceres/CMakeFiles/c\_api\_test.dir/c\_api\_test.cc.o

[ 53%] Linking CXX executable ../../bin/conjugate\_gradients\_solver\_test

[ 53%] Built target conjugate\_gradients\_solver\_test

Scanning dependencies of target sparse\_cholesky\_test

[ 53%] Linking CXX executable ../../bin/c\_api\_test

[ 53%] Building CXX object internal/ceres/CMakeFiles/sparse\_cholesky\_test.dir/sparse\_cholesky\_test.cc.o

[ 53%] Built target c\_api\_test

Scanning dependencies of target autodiff\_cost\_function\_test

[ 53%] Building CXX object internal/ceres/CMakeFiles/autodiff\_cost\_function\_test.dir/autodiff\_cost\_function\_test.cc.o

[ 53%] Linking CXX executable ../../bin/autodiff\_cost\_function\_test

[ 53%] Built target autodiff\_cost\_function\_test

Scanning dependencies of target rotation\_test

[ 53%] Building CXX object internal/ceres/CMakeFiles/rotation\_test.dir/rotation\_test.cc.o

[ 53%] Linking CXX executable ../../bin/sparse\_cholesky\_test

[ 53%] Built target sparse\_cholesky\_test

Scanning dependencies of target corrector\_test

[ 54%] Building CXX object internal/ceres/CMakeFiles/corrector\_test.dir/corrector\_test.cc.o

[ 55%] Linking CXX executable ../../bin/rotation\_test

[ 55%] Built target rotation\_test

Scanning dependencies of target triplet\_sparse\_matrix\_test

[ 55%] Building CXX object internal/ceres/CMakeFiles/triplet\_sparse\_matrix\_test.dir/triplet\_sparse\_matrix\_test.cc.o

[ 55%] Linking CXX executable ../../bin/corrector\_test

[ 55%] Built target corrector\_test

Scanning dependencies of target reorder\_program\_test

[ 55%] Building CXX object internal/ceres/CMakeFiles/reorder\_program\_test.dir/reorder\_program\_test.cc.o

[ 56%] Linking CXX executable ../../bin/triplet\_sparse\_matrix\_test

[ 56%] Built target triplet\_sparse\_matrix\_test

Scanning dependencies of target covariance\_test

[ 57%] Building CXX object internal/ceres/CMakeFiles/covariance\_test.dir/covariance\_test.cc.o

[ 57%] Linking CXX executable ../../bin/reorder\_program\_test

[ 57%] Built target reorder\_program\_test

Scanning dependencies of target ordered\_groups\_test

[ 57%] Building CXX object internal/ceres/CMakeFiles/ordered\_groups\_test.dir/ordered\_groups\_test.cc.o

[ 57%] Linking CXX executable ../../bin/covariance\_test

[ 57%] Built target covariance\_test

Scanning dependencies of target small\_blas\_test

[ 57%] Building CXX object internal/ceres/CMakeFiles/small\_blas\_test.dir/small\_blas\_test.cc.o

[ 58%] Linking CXX executable ../../bin/ordered\_groups\_test

[ 58%] Built target ordered\_groups\_test

Scanning dependencies of target autodiff\_test

[ 58%] Building CXX object internal/ceres/CMakeFiles/autodiff\_test.dir/autodiff\_test.cc.o

[ 58%] Linking CXX executable ../../bin/small\_blas\_test

[ 58%] Built target small\_blas\_test

Scanning dependencies of target levenberg\_marquardt\_strategy\_test

[ 58%] Building CXX object internal/ceres/CMakeFiles/levenberg\_marquardt\_strategy\_test.dir/levenberg\_marquardt\_strategy\_test.cc.o

[ 58%] Linking CXX executable ../../bin/levenberg\_marquardt\_strategy\_test

[ 58%] Built target levenberg\_marquardt\_strategy\_test

Scanning dependencies of target partitioned\_matrix\_view\_test

[ 59%] Building CXX object internal/ceres/CMakeFiles/partitioned\_matrix\_view\_test.dir/partitioned\_matrix\_view\_test.cc.o

[ 59%] Linking CXX executable ../../bin/autodiff\_test

[ 59%] Built target autodiff\_test

Scanning dependencies of target compressed\_col\_sparse\_matrix\_utils\_test

[ 59%] Building CXX object internal/ceres/CMakeFiles/compressed\_col\_sparse\_matrix\_utils\_test.dir/compressed\_col\_sparse\_matrix\_utils\_test.cc.o

[ 59%] Linking CXX executable ../../bin/partitioned\_matrix\_view\_test

[ 59%] Built target partitioned\_matrix\_view\_test

Scanning dependencies of target compressed\_row\_sparse\_matrix\_test

[ 59%] Building CXX object internal/ceres/CMakeFiles/compressed\_row\_sparse\_matrix\_test.dir/compressed\_row\_sparse\_matrix\_test.cc.o

[ 60%] Linking CXX executable ../../bin/compressed\_col\_sparse\_matrix\_utils\_test

[ 60%] Built target compressed\_col\_sparse\_matrix\_utils\_test

Scanning dependencies of target jet\_test

[ 61%] Building CXX object internal/ceres/CMakeFiles/jet\_test.dir/jet\_test.cc.o

[ 61%] Linking CXX executable ../../bin/compressed\_row\_sparse\_matrix\_test

[ 61%] Built target compressed\_row\_sparse\_matrix\_test

Scanning dependencies of target parallel\_for\_test

[ 61%] Building CXX object internal/ceres/CMakeFiles/parallel\_for\_test.dir/parallel\_for\_test.cc.o

[ 61%] Linking CXX executable ../../bin/parallel\_for\_test

[ 61%] Built target parallel\_for\_test

Scanning dependencies of target block\_random\_access\_sparse\_matrix\_test

[ 61%] Building CXX object internal/ceres/CMakeFiles/block\_random\_access\_sparse\_matrix\_test.dir/block\_random\_access\_sparse\_matrix\_test.cc.o

[ 61%] Linking CXX executable ../../bin/jet\_test

[ 61%] Built target jet\_test

Scanning dependencies of target gradient\_problem\_solver\_test

[ 61%] Building CXX object internal/ceres/CMakeFiles/gradient\_problem\_solver\_test.dir/gradient\_problem\_solver\_test.cc.o

[ 62%] Linking CXX executable ../../bin/block\_random\_access\_sparse\_matrix\_test

[ 62%] Built target block\_random\_access\_sparse\_matrix\_test

Scanning dependencies of target householder\_vector\_test

[ 62%] Building CXX object internal/ceres/CMakeFiles/householder\_vector\_test.dir/householder\_vector\_test.cc.o

[ 62%] Linking CXX executable ../../bin/gradient\_problem\_solver\_test

[ 62%] Built target gradient\_problem\_solver\_test

Scanning dependencies of target graph\_test

[ 63%] Building CXX object internal/ceres/CMakeFiles/graph\_test.dir/graph\_test.cc.o

[ 63%] Linking CXX executable ../../bin/householder\_vector\_test

[ 63%] Built target householder\_vector\_test

Scanning dependencies of target graph\_algorithms\_test

[ 63%] Building CXX object internal/ceres/CMakeFiles/graph\_algorithms\_test.dir/graph\_algorithms\_test.cc.o

[ 63%] Linking CXX executable ../../bin/graph\_test

[ 63%] Built target graph\_test

Scanning dependencies of target dogleg\_strategy\_test

[ 63%] Building CXX object internal/ceres/CMakeFiles/dogleg\_strategy\_test.dir/dogleg\_strategy\_test.cc.o

[ 63%] Linking CXX executable ../../bin/graph\_algorithms\_test

[ 63%] Built target graph\_algorithms\_test

Scanning dependencies of target polynomial\_test

[ 63%] Building CXX object internal/ceres/CMakeFiles/polynomial\_test.dir/polynomial\_test.cc.o

[ 64%] Linking CXX executable ../../bin/dogleg\_strategy\_test

[ 64%] Built target dogleg\_strategy\_test

Scanning dependencies of target autodiff\_local\_parameterization\_test

[ 65%] Building CXX object internal/ceres/CMakeFiles/autodiff\_local\_parameterization\_test.dir/autodiff\_local\_parameterization\_test.cc.o

[ 65%] Linking CXX executable ../bin/nist

[ 65%] Linking CXX executable ../../bin/polynomial\_test

[ 65%] Built target nist

Scanning dependencies of target implicit\_schur\_complement\_test

[ 65%] Built target polynomial\_test

Scanning dependencies of target block\_random\_access\_dense\_matrix\_test

[ 66%] Building CXX object internal/ceres/CMakeFiles/block\_random\_access\_dense\_matrix\_test.dir/block\_random\_access\_dense\_matrix\_test.cc.o

[ 66%] Building CXX object internal/ceres/CMakeFiles/implicit\_schur\_complement\_test.dir/implicit\_schur\_complement\_test.cc.o

[ 66%] Linking CXX executable ../../bin/block\_random\_access\_dense\_matrix\_test

[ 66%] Linking CXX executable ../../bin/autodiff\_local\_parameterization\_test

[ 66%] Built target block\_random\_access\_dense\_matrix\_test

[ 66%] Built target autodiff\_local\_parameterization\_test

Scanning dependencies of target schur\_eliminator\_test

Scanning dependencies of target cubic\_interpolation\_test

[ 66%] Building CXX object internal/ceres/CMakeFiles/cubic\_interpolation\_test.dir/cubic\_interpolation\_test.cc.o

[ 66%] Building CXX object internal/ceres/CMakeFiles/schur\_eliminator\_test.dir/schur\_eliminator\_test.cc.o

[ 67%] Linking CXX executable ../../bin/implicit\_schur\_complement\_test

[ 67%] Built target implicit\_schur\_complement\_test

Scanning dependencies of target invert\_psd\_matrix\_test

[ 67%] Building CXX object internal/ceres/CMakeFiles/invert\_psd\_matrix\_test.dir/invert\_psd\_matrix\_test.cc.o

[ 67%] Linking CXX executable ../../bin/cubic\_interpolation\_test

[ 67%] Built target cubic\_interpolation\_test

Scanning dependencies of target system\_test

[ 67%] Building CXX object internal/ceres/CMakeFiles/system\_test.dir/system\_test.cc.o

[ 68%] Linking CXX executable ../../bin/system\_test

[ 68%] Built target system\_test

[ 68%] Linking CXX executable ../../bin/schur\_eliminator\_test

Scanning dependencies of target iterative\_schur\_complement\_solver\_test

[ 68%] Building CXX object internal/ceres/CMakeFiles/iterative\_schur\_complement\_solver\_test.dir/iterative\_schur\_complement\_solver\_test.cc.o

[ 68%] Built target schur\_eliminator\_test

Scanning dependencies of target line\_search\_minimizer\_test

[ 68%] Building CXX object internal/ceres/CMakeFiles/line\_search\_minimizer\_test.dir/line\_search\_minimizer\_test.cc.o

[ 69%] Linking CXX executable ../../bin/line\_search\_minimizer\_test

[ 69%] Linking CXX executable ../../bin/iterative\_schur\_complement\_solver\_test

[ 69%] Built target line\_search\_minimizer\_test

Scanning dependencies of target problem\_test

[ 69%] Building CXX object internal/ceres/CMakeFiles/problem\_test.dir/problem\_test.cc.o

[ 69%] Built target iterative\_schur\_complement\_solver\_test

Scanning dependencies of target local\_parameterization\_test

[ 69%] Building CXX object internal/ceres/CMakeFiles/local\_parameterization\_test.dir/local\_parameterization\_test.cc.o

[ 69%] Linking CXX executable ../../bin/problem\_test

[ 69%] Built target problem\_test

Scanning dependencies of target subset\_preconditioner\_test

[ 69%] Building CXX object internal/ceres/CMakeFiles/subset\_preconditioner\_test.dir/subset\_preconditioner\_test.cc.o

[ 70%] Linking CXX executable ../../bin/local\_parameterization\_test

[ 70%] Built target local\_parameterization\_test

Scanning dependencies of target loss\_function\_test

[ 70%] Building CXX object internal/ceres/CMakeFiles/loss\_function\_test.dir/loss\_function\_test.cc.o

[ 70%] Linking CXX executable ../../bin/loss\_function\_test

[ 70%] Built target loss\_function\_test

Scanning dependencies of target minimizer\_test

[ 70%] Building CXX object internal/ceres/CMakeFiles/minimizer\_test.dir/minimizer\_test.cc.o

[ 70%] Linking CXX executable ../../bin/minimizer\_test

[ 70%] Built target minimizer\_test

Scanning dependencies of target normal\_prior\_test

[ 71%] Building CXX object internal/ceres/CMakeFiles/normal\_prior\_test.dir/normal\_prior\_test.cc.o

[ 71%] Linking CXX executable ../../bin/normal\_prior\_test

[ 72%] Linking CXX executable ../../bin/invert\_psd\_matrix\_test

[ 72%] Built target normal\_prior\_test

[ 72%] Linking CXX executable ../../bin/subset\_preconditioner\_test

Scanning dependencies of target residual\_block\_test

[ 72%] Built target invert\_psd\_matrix\_test

[ 72%] Building CXX object internal/ceres/CMakeFiles/residual\_block\_test.dir/residual\_block\_test.cc.o

Scanning dependencies of target visibility\_test

[ 72%] Building CXX object internal/ceres/CMakeFiles/visibility\_test.dir/visibility\_test.cc.o

[ 72%] Built target subset\_preconditioner\_test

Scanning dependencies of target numeric\_diff\_cost\_function\_test

[ 72%] Building CXX object internal/ceres/CMakeFiles/numeric\_diff\_cost\_function\_test.dir/numeric\_diff\_cost\_function\_test.cc.o

[ 73%] Linking CXX executable ../../bin/visibility\_test

[ 73%] Built target visibility\_test

Scanning dependencies of target canonical\_views\_clustering\_test

[ 73%] Building CXX object internal/ceres/CMakeFiles/canonical\_views\_clustering\_test.dir/canonical\_views\_clustering\_test.cc.o

[ 73%] Linking CXX executable ../../bin/residual\_block\_test

[ 73%] Built target residual\_block\_test

Scanning dependencies of target parallel\_utils\_test

[ 73%] Building CXX object internal/ceres/CMakeFiles/parallel\_utils\_test.dir/parallel\_utils\_test.cc.o

[ 74%] Linking CXX executable ../../bin/canonical\_views\_clustering\_test

[ 74%] Built target canonical\_views\_clustering\_test

Scanning dependencies of target program\_test

[ 74%] Building CXX object internal/ceres/CMakeFiles/program\_test.dir/program\_test.cc.o

[ 75%] Linking CXX executable ../../bin/parallel\_utils\_test

[ 75%] Built target parallel\_utils\_test

Scanning dependencies of target inner\_product\_computer\_test

[ 75%] Building CXX object internal/ceres/CMakeFiles/inner\_product\_computer\_test.dir/inner\_product\_computer\_test.cc.o

[ 76%] Linking CXX executable ../../bin/program\_test

[ 76%] Linking CXX executable ../../bin/numeric\_diff\_cost\_function\_test

[ 76%] Built target program\_test

Scanning dependencies of target residual\_block\_utils\_test

[ 76%] Built target numeric\_diff\_cost\_function\_test

Scanning dependencies of target trust\_region\_preprocessor\_test

[ 77%] Building CXX object internal/ceres/CMakeFiles/residual\_block\_utils\_test.dir/residual\_block\_utils\_test.cc.o

[ 77%] Building CXX object internal/ceres/CMakeFiles/trust\_region\_preprocessor\_test.dir/trust\_region\_preprocessor\_test.cc.o

[ 77%] Linking CXX executable ../../bin/inner\_product\_computer\_test

[ 77%] Built target inner\_product\_computer\_test

Scanning dependencies of target schur\_complement\_solver\_test

[ 77%] Building CXX object internal/ceres/CMakeFiles/schur\_complement\_solver\_test.dir/schur\_complement\_solver\_test.cc.o

[ 77%] Linking CXX executable ../../bin/residual\_block\_utils\_test

[ 77%] Built target residual\_block\_utils\_test

Scanning dependencies of target solver\_test

[ 78%] Building CXX object internal/ceres/CMakeFiles/solver\_test.dir/solver\_test.cc.o

[ 79%] Linking CXX executable ../../bin/trust\_region\_preprocessor\_test

[ 79%] Built target trust\_region\_preprocessor\_test

Scanning dependencies of target tiny\_solver\_test

[ 80%] Linking CXX executable ../../bin/schur\_complement\_solver\_test

[ 80%] Building CXX object internal/ceres/CMakeFiles/tiny\_solver\_test.dir/tiny\_solver\_test.cc.o

[ 80%] Built target schur\_complement\_solver\_test

Scanning dependencies of target ba\_sparseschur\_cxsparse\_auto\_threads\_test

[ 80%] Building CXX object internal/ceres/generated\_bundle\_adjustment\_tests/CMakeFiles/ba\_sparseschur\_cxsparse\_auto\_threads\_test.dir/ba\_sparseschur\_cxsparse\_auto\_threads\_test.cc.o

[ 80%] Linking CXX executable ../../bin/solver\_test

[ 80%] Built target solver\_test

Scanning dependencies of target ba\_sparseschur\_cxsparse\_auto\_test

[ 80%] Building CXX object internal/ceres/generated\_bundle\_adjustment\_tests/CMakeFiles/ba\_sparseschur\_cxsparse\_auto\_test.dir/ba\_sparseschur\_cxsparse\_auto\_test.cc.o

[ 80%] Linking CXX executable ../../../bin/ba\_sparseschur\_cxsparse\_auto\_threads\_test

[ 80%] Built target ba\_sparseschur\_cxsparse\_auto\_threads\_test

Scanning dependencies of target ba\_sparseschur\_eigensparse\_user\_threads\_test

[ 80%] Building CXX object internal/ceres/generated\_bundle\_adjustment\_tests/CMakeFiles/ba\_sparseschur\_eigensparse\_user\_threads\_test.dir/ba\_sparseschur\_eigensparse\_user\_threads\_test.cc.o

[ 80%] Linking CXX executable ../../../bin/ba\_sparseschur\_cxsparse\_auto\_test

[ 80%] Built target ba\_sparseschur\_cxsparse\_auto\_test

Scanning dependencies of target ba\_sparseschur\_eigensparse\_user\_test

[ 80%] Building CXX object internal/ceres/generated\_bundle\_adjustment\_tests/CMakeFiles/ba\_sparseschur\_eigensparse\_user\_test.dir/ba\_sparseschur\_eigensparse\_user\_test.cc.o

[ 80%] Linking CXX executable ../../../bin/ba\_sparseschur\_eigensparse\_user\_threads\_test

[ 80%] Built target ba\_sparseschur\_eigensparse\_user\_threads\_test

Scanning dependencies of target ba\_sparseschur\_eigensparse\_auto\_threads\_test

[ 80%] Building CXX object internal/ceres/generated\_bundle\_adjustment\_tests/CMakeFiles/ba\_sparseschur\_eigensparse\_auto\_threads\_test.dir/ba\_sparseschur\_eigensparse\_auto\_threads\_test.cc.o

[ 81%] Linking CXX executable ../../../bin/ba\_sparseschur\_eigensparse\_user\_test

[ 81%] Built target ba\_sparseschur\_eigensparse\_user\_test

Scanning dependencies of target ba\_sparseschur\_eigensparse\_auto\_test

[ 82%] Building CXX object internal/ceres/generated\_bundle\_adjustment\_tests/CMakeFiles/ba\_sparseschur\_eigensparse\_auto\_test.dir/ba\_sparseschur\_eigensparse\_auto\_test.cc.o

[ 82%] Linking CXX executable ../../../bin/ba\_sparseschur\_eigensparse\_auto\_threads\_test

[ 82%] Built target ba\_sparseschur\_eigensparse\_auto\_threads\_test

Scanning dependencies of target ba\_iterschur\_suitesparse\_clustjacobi\_user\_threads\_test

[ 82%] Linking CXX executable ../../bin/tiny\_solver\_test

[ 82%] Building CXX object internal/ceres/generated\_bundle\_adjustment\_tests/CMakeFiles/ba\_iterschur\_suitesparse\_clustjacobi\_user\_threads\_test.dir/ba\_iterschur\_suitesparse\_clustjacobi\_user\_threads\_test.cc.o

[ 82%] Built target tiny\_solver\_test

Scanning dependencies of target ba\_sparseschur\_cxsparse\_user\_test

[ 83%] Building CXX object internal/ceres/generated\_bundle\_adjustment\_tests/CMakeFiles/ba\_sparseschur\_cxsparse\_user\_test.dir/ba\_sparseschur\_cxsparse\_user\_test.cc.o

[ 83%] Linking CXX executable ../../../bin/ba\_sparseschur\_eigensparse\_auto\_test

[ 83%] Built target ba\_sparseschur\_eigensparse\_auto\_test

Scanning dependencies of target ba\_iterschur\_suitesparse\_clustjacobi\_user\_test

[ 83%] Building CXX object internal/ceres/generated\_bundle\_adjustment\_tests/CMakeFiles/ba\_iterschur\_suitesparse\_clustjacobi\_user\_test.dir/ba\_iterschur\_suitesparse\_clustjacobi\_user\_test.cc.o

[ 83%] Linking CXX executable ../../../bin/ba\_iterschur\_suitesparse\_clustjacobi\_user\_threads\_test

[ 83%] Built target ba\_iterschur\_suitesparse\_clustjacobi\_user\_threads\_test

[ 83%] Linking CXX executable ../../../bin/ba\_sparseschur\_cxsparse\_user\_test

Scanning dependencies of target ba\_iterschur\_suitesparse\_clusttri\_auto\_test

[ 84%] Building CXX object internal/ceres/generated\_bundle\_adjustment\_tests/CMakeFiles/ba\_iterschur\_suitesparse\_clusttri\_auto\_test.dir/ba\_iterschur\_suitesparse\_clusttri\_auto\_test.cc.o

[ 84%] Built target ba\_sparseschur\_cxsparse\_user\_test

Scanning dependencies of target ba\_sparsecholesky\_suitesparse\_auto\_threads\_test

[ 84%] Building CXX object internal/ceres/generated\_bundle\_adjustment\_tests/CMakeFiles/ba\_sparsecholesky\_suitesparse\_auto\_threads\_test.dir/ba\_sparsecholesky\_suitesparse\_auto\_threads\_test.cc.o

[ 84%] Linking CXX executable ../../../bin/ba\_iterschur\_suitesparse\_clusttri\_auto\_test

[ 85%] Linking CXX executable ../../../bin/ba\_sparsecholesky\_suitesparse\_auto\_threads\_test

[ 85%] Linking CXX executable ../../../bin/ba\_iterschur\_suitesparse\_clustjacobi\_user\_test

[ 85%] Built target ba\_iterschur\_suitesparse\_clusttri\_auto\_test

Scanning dependencies of target ba\_sparseschur\_suitesparse\_auto\_test

[ 85%] Building CXX object internal/ceres/generated\_bundle\_adjustment\_tests/CMakeFiles/ba\_sparseschur\_suitesparse\_auto\_test.dir/ba\_sparseschur\_suitesparse\_auto\_test.cc.o

[ 85%] Built target ba\_sparsecholesky\_suitesparse\_auto\_threads\_test

[ 85%] Built target ba\_iterschur\_suitesparse\_clustjacobi\_user\_test

Scanning dependencies of target ba\_iterschur\_suitesparse\_clustjacobi\_auto\_threads\_test

Scanning dependencies of target ba\_sparsecholesky\_eigensparse\_user\_test

[ 85%] Building CXX object internal/ceres/generated\_bundle\_adjustment\_tests/CMakeFiles/ba\_iterschur\_suitesparse\_clustjacobi\_auto\_threads\_test.dir/ba\_iterschur\_suitesparse\_clustjacobi\_auto\_threads\_test.cc.o

[ 85%] Building CXX object internal/ceres/generated\_bundle\_adjustment\_tests/CMakeFiles/ba\_sparsecholesky\_eigensparse\_user\_test.dir/ba\_sparsecholesky\_eigensparse\_user\_test.cc.o

[ 86%] Linking CXX executable ../../../bin/ba\_sparseschur\_suitesparse\_auto\_test

[ 86%] Linking CXX executable ../../../bin/ba\_sparsecholesky\_eigensparse\_user\_test

[ 86%] Built target ba\_sparseschur\_suitesparse\_auto\_test

Scanning dependencies of target ba\_sparsecholesky\_cxsparse\_user\_threads\_test

[ 87%] Linking CXX executable ../../../bin/ba\_iterschur\_suitesparse\_clustjacobi\_auto\_threads\_test

[ 87%] Building CXX object internal/ceres/generated\_bundle\_adjustment\_tests/CMakeFiles/ba\_sparsecholesky\_cxsparse\_user\_threads\_test.dir/ba\_sparsecholesky\_cxsparse\_user\_threads\_test.cc.o

[ 87%] Built target ba\_sparsecholesky\_eigensparse\_user\_test

Scanning dependencies of target ba\_denseschur\_user\_threads\_test

[ 87%] Built target ba\_iterschur\_suitesparse\_clustjacobi\_auto\_threads\_test

Scanning dependencies of target ba\_iterschur\_schurjacobi\_auto\_threads\_test

[ 87%] Building CXX object internal/ceres/generated\_bundle\_adjustment\_tests/CMakeFiles/ba\_denseschur\_user\_threads\_test.dir/ba\_denseschur\_user\_threads\_test.cc.o

[ 88%] Building CXX object internal/ceres/generated\_bundle\_adjustment\_tests/CMakeFiles/ba\_iterschur\_schurjacobi\_auto\_threads\_test.dir/ba\_iterschur\_schurjacobi\_auto\_threads\_test.cc.o

[ 88%] Linking CXX executable ../../../bin/ba\_sparsecholesky\_cxsparse\_user\_threads\_test

[ 88%] Linking CXX executable ../../../bin/ba\_denseschur\_user\_threads\_test

[ 88%] Built target ba\_sparsecholesky\_cxsparse\_user\_threads\_test

[ 88%] Linking CXX executable ../../../bin/ba\_iterschur\_schurjacobi\_auto\_threads\_test

Scanning dependencies of target ba\_denseschur\_auto\_threads\_test

[ 88%] Building CXX object internal/ceres/generated\_bundle\_adjustment\_tests/CMakeFiles/ba\_denseschur\_auto\_threads\_test.dir/ba\_denseschur\_auto\_threads\_test.cc.o

[ 88%] Built target ba\_denseschur\_user\_threads\_test

Scanning dependencies of target ba\_iterschur\_suitesparse\_clusttri\_user\_threads\_test

[ 88%] Built target ba\_iterschur\_schurjacobi\_auto\_threads\_test

Scanning dependencies of target ba\_iterschur\_jacobi\_user\_threads\_test

[ 88%] Building CXX object internal/ceres/generated\_bundle\_adjustment\_tests/CMakeFiles/ba\_iterschur\_suitesparse\_clusttri\_user\_threads\_test.dir/ba\_iterschur\_suitesparse\_clusttri\_user\_threads\_test.cc.o

[ 89%] Building CXX object internal/ceres/generated\_bundle\_adjustment\_tests/CMakeFiles/ba\_iterschur\_jacobi\_user\_threads\_test.dir/ba\_iterschur\_jacobi\_user\_threads\_test.cc.o

[ 89%] Linking CXX executable ../../../bin/ba\_denseschur\_auto\_threads\_test

[ 89%] Linking CXX executable ../../../bin/ba\_iterschur\_suitesparse\_clusttri\_user\_threads\_test

[ 89%] Linking CXX executable ../../../bin/ba\_iterschur\_jacobi\_user\_threads\_test

[ 89%] Built target ba\_denseschur\_auto\_threads\_test

Scanning dependencies of target ba\_denseschur\_auto\_test

[ 90%] Building CXX object internal/ceres/generated\_bundle\_adjustment\_tests/CMakeFiles/ba\_denseschur\_auto\_test.dir/ba\_denseschur\_auto\_test.cc.o

[ 90%] Built target ba\_iterschur\_suitesparse\_clusttri\_user\_threads\_test

Scanning dependencies of target ba\_denseschur\_user\_test

[ 90%] Built target ba\_iterschur\_jacobi\_user\_threads\_test

[ 90%] Building CXX object internal/ceres/generated\_bundle\_adjustment\_tests/CMakeFiles/ba\_denseschur\_user\_test.dir/ba\_denseschur\_user\_test.cc.o

Scanning dependencies of target ba\_iterschur\_jacobi\_auto\_test

[ 90%] Building CXX object internal/ceres/generated\_bundle\_adjustment\_tests/CMakeFiles/ba\_iterschur\_jacobi\_auto\_test.dir/ba\_iterschur\_jacobi\_auto\_test.cc.o

[ 90%] Linking CXX executable ../../../bin/ba\_denseschur\_auto\_test

[ 91%] Linking CXX executable ../../../bin/ba\_denseschur\_user\_test

[ 92%] Linking CXX executable ../../../bin/ba\_iterschur\_jacobi\_auto\_test

[ 92%] Built target ba\_denseschur\_auto\_test

Scanning dependencies of target ba\_sparseschur\_suitesparse\_user\_threads\_test

[ 93%] Building CXX object internal/ceres/generated\_bundle\_adjustment\_tests/CMakeFiles/ba\_sparseschur\_suitesparse\_user\_threads\_test.dir/ba\_sparseschur\_suitesparse\_user\_threads\_test.cc.o

[ 93%] Built target ba\_denseschur\_user\_test

Scanning dependencies of target ba\_sparseschur\_cxsparse\_user\_threads\_test

[ 93%] Built target ba\_iterschur\_jacobi\_auto\_test

[ 93%] Building CXX object internal/ceres/generated\_bundle\_adjustment\_tests/CMakeFiles/ba\_sparseschur\_cxsparse\_user\_threads\_test.dir/ba\_sparseschur\_cxsparse\_user\_threads\_test.cc.o

Scanning dependencies of target ba\_iterschur\_schurjacobi\_user\_test

[ 93%] Building CXX object internal/ceres/generated\_bundle\_adjustment\_tests/CMakeFiles/ba\_iterschur\_schurjacobi\_user\_test.dir/ba\_iterschur\_schurjacobi\_user\_test.cc.o

[ 93%] Linking CXX executable ../../../bin/ba\_sparseschur\_suitesparse\_user\_threads\_test

[ 93%] Linking CXX executable ../../../bin/ba\_sparseschur\_cxsparse\_user\_threads\_test

[ 93%] Built target ba\_sparseschur\_suitesparse\_user\_threads\_test

Scanning dependencies of target ba\_iterschur\_jacobi\_user\_test

[ 93%] Linking CXX executable ../../../bin/ba\_iterschur\_schurjacobi\_user\_test

[ 93%] Building CXX object internal/ceres/generated\_bundle\_adjustment\_tests/CMakeFiles/ba\_iterschur\_jacobi\_user\_test.dir/ba\_iterschur\_jacobi\_user\_test.cc.o

[ 93%] Built target ba\_sparseschur\_cxsparse\_user\_threads\_test

Scanning dependencies of target ba\_sparsecholesky\_suitesparse\_user\_test

[ 93%] Building CXX object internal/ceres/generated\_bundle\_adjustment\_tests/CMakeFiles/ba\_sparsecholesky\_suitesparse\_user\_test.dir/ba\_sparsecholesky\_suitesparse\_user\_test.cc.o

[ 93%] Built target ba\_iterschur\_schurjacobi\_user\_test

Scanning dependencies of target ba\_iterschur\_jacobi\_auto\_threads\_test

[ 93%] Building CXX object internal/ceres/generated\_bundle\_adjustment\_tests/CMakeFiles/ba\_iterschur\_jacobi\_auto\_threads\_test.dir/ba\_iterschur\_jacobi\_auto\_threads\_test.cc.o

[ 93%] Linking CXX executable ../../../bin/ba\_iterschur\_jacobi\_user\_test

[ 93%] Built target ba\_iterschur\_jacobi\_user\_test

Scanning dependencies of target ba\_iterschur\_suitesparse\_clusttri\_auto\_threads\_test

[ 93%] Linking CXX executable ../../../bin/ba\_sparsecholesky\_suitesparse\_user\_test

[ 93%] Building CXX object internal/ceres/generated\_bundle\_adjustment\_tests/CMakeFiles/ba\_iterschur\_suitesparse\_clusttri\_auto\_threads\_test.dir/ba\_iterschur\_suitesparse\_clusttri\_auto\_threads\_test.cc.o

[ 93%] Linking CXX executable ../../../bin/ba\_iterschur\_jacobi\_auto\_threads\_test

[ 93%] Built target ba\_sparsecholesky\_suitesparse\_user\_test

Scanning dependencies of target ba\_iterschur\_suitesparse\_clusttri\_user\_test

[ 94%] Building CXX object internal/ceres/generated\_bundle\_adjustment\_tests/CMakeFiles/ba\_iterschur\_suitesparse\_clusttri\_user\_test.dir/ba\_iterschur\_suitesparse\_clusttri\_user\_test.cc.o

[ 94%] Built target ba\_iterschur\_jacobi\_auto\_threads\_test

Scanning dependencies of target ba\_sparsecholesky\_cxsparse\_user\_test

[ 94%] Building CXX object internal/ceres/generated\_bundle\_adjustment\_tests/CMakeFiles/ba\_sparsecholesky\_cxsparse\_user\_test.dir/ba\_sparsecholesky\_cxsparse\_user\_test.cc.o

[ 94%] Linking CXX executable ../../../bin/ba\_iterschur\_suitesparse\_clusttri\_auto\_threads\_test

[ 94%] Built target ba\_iterschur\_suitesparse\_clusttri\_auto\_threads\_test

[ 94%] Linking CXX executable ../../../bin/ba\_iterschur\_suitesparse\_clusttri\_user\_test

Scanning dependencies of target ba\_sparsecholesky\_suitesparse\_user\_threads\_test

[ 95%] Linking CXX executable ../../../bin/ba\_sparsecholesky\_cxsparse\_user\_test

[ 95%] Building CXX object internal/ceres/generated\_bundle\_adjustment\_tests/CMakeFiles/ba\_sparsecholesky\_suitesparse\_user\_threads\_test.dir/ba\_sparsecholesky\_suitesparse\_user\_threads\_test.cc.o

[ 95%] Built target ba\_sparsecholesky\_cxsparse\_user\_test

Scanning dependencies of target ba\_sparsecholesky\_eigensparse\_auto\_test

[ 95%] Built target ba\_iterschur\_suitesparse\_clusttri\_user\_test

Scanning dependencies of target ba\_sparsecholesky\_eigensparse\_auto\_threads\_test

[ 95%] Building CXX object internal/ceres/generated\_bundle\_adjustment\_tests/CMakeFiles/ba\_sparsecholesky\_eigensparse\_auto\_test.dir/ba\_sparsecholesky\_eigensparse\_auto\_test.cc.o

[ 96%] Building CXX object internal/ceres/generated\_bundle\_adjustment\_tests/CMakeFiles/ba\_sparsecholesky\_eigensparse\_auto\_threads\_test.dir/ba\_sparsecholesky\_eigensparse\_auto\_threads\_test.cc.o

[ 97%] Linking CXX executable ../../../bin/ba\_sparsecholesky\_suitesparse\_user\_threads\_test

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Scanning dependencies of target ba\_sparsecholesky\_eigensparse\_user\_threads\_test

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[ 98%] Built target ba\_sparsecholesky\_eigensparse\_auto\_test

Scanning dependencies of target ba\_iterschur\_schurjacobi\_user\_threads\_test

[ 98%] Building CXX object internal/ceres/generated\_bundle\_adjustment\_tests/CMakeFiles/ba\_iterschur\_schurjacobi\_user\_threads\_test.dir/ba\_iterschur\_schurjacobi\_user\_threads\_test.cc.o

[ 98%] Linking CXX executable ../../../bin/ba\_sparsecholesky\_eigensparse\_auto\_threads\_test

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Scanning dependencies of target ba\_iterschur\_suitesparse\_clustjacobi\_auto\_test

[ 98%] Building CXX object internal/ceres/generated\_bundle\_adjustment\_tests/CMakeFiles/ba\_iterschur\_suitesparse\_clustjacobi\_auto\_test.dir/ba\_iterschur\_suitesparse\_clustjacobi\_auto\_test.cc.o

[ 98%] Linking CXX executable ../../../bin/ba\_sparsecholesky\_eigensparse\_user\_threads\_test

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Scanning dependencies of target ba\_sparsecholesky\_cxsparse\_auto\_test

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Scanning dependencies of target ba\_sparsecholesky\_suitesparse\_auto\_test

[ 99%] Building CXX object internal/ceres/generated\_bundle\_adjustment\_tests/CMakeFiles/ba\_sparsecholesky\_suitesparse\_auto\_test.dir/ba\_sparsecholesky\_suitesparse\_auto\_test.cc.o

[ 99%] Linking CXX executable ../../../bin/ba\_iterschur\_suitesparse\_clustjacobi\_auto\_test

[ 99%] Built target ba\_iterschur\_suitesparse\_clustjacobi\_auto\_test

Scanning dependencies of target ba\_iterschur\_schurjacobi\_auto\_test

[ 99%] Building CXX object internal/ceres/generated\_bundle\_adjustment\_tests/CMakeFiles/ba\_iterschur\_schurjacobi\_auto\_test.dir/ba\_iterschur\_schurjacobi\_auto\_test.cc.o

[100%] Linking CXX executable ../../../bin/ba\_sparsecholesky\_cxsparse\_auto\_test

[100%] Linking CXX executable ../../../bin/ba\_sparsecholesky\_suitesparse\_auto\_test

[100%] Built target ba\_sparsecholesky\_cxsparse\_auto\_test

Scanning dependencies of target ba\_sparsecholesky\_cxsparse\_auto\_threads\_test

[100%] Built target ba\_sparsecholesky\_suitesparse\_auto\_test

[100%] Building CXX object internal/ceres/generated\_bundle\_adjustment\_tests/CMakeFiles/ba\_sparsecholesky\_cxsparse\_auto\_threads\_test.dir/ba\_sparsecholesky\_cxsparse\_auto\_threads\_test.cc.o

Scanning dependencies of target ba\_sparseschur\_suitesparse\_auto\_threads\_test

[100%] Linking CXX executable ../../../bin/ba\_iterschur\_schurjacobi\_auto\_test

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[100%] Built target ba\_iterschur\_schurjacobi\_auto\_test

Scanning dependencies of target ba\_sparseschur\_suitesparse\_user\_test

[100%] Building CXX object internal/ceres/generated\_bundle\_adjustment\_tests/CMakeFiles/ba\_sparseschur\_suitesparse\_user\_test.dir/ba\_sparseschur\_suitesparse\_user\_test.cc.o

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[100%] Built target ba\_sparsecholesky\_cxsparse\_auto\_threads\_test

[100%] Linking CXX executable ../../../bin/ba\_sparseschur\_suitesparse\_user\_test

[100%] Built target ba\_sparseschur\_suitesparse\_auto\_threads\_test

[100%] Built target ba\_sparseschur\_suitesparse\_user\_test

(sfm) root@container-8fb311a93c-926d03ef:~/structure-from-motion/ceres-bin# make test

Running tests...

Test project /root/structure-from-motion/ceres-bin

Start 1: array\_utils\_test

1/127 Test #1: array\_utils\_test ......................................... Passed 0.01 sec

Start 2: autodiff\_test

2/127 Test #2: autodiff\_test ............................................ Passed 0.02 sec

Start 3: autodiff\_cost\_function\_test

3/127 Test #3: autodiff\_cost\_function\_test .............................. Passed 0.01 sec

Start 4: autodiff\_local\_parameterization\_test

4/127 Test #4: autodiff\_local\_parameterization\_test ..................... Passed 0.01 sec

Start 5: block\_jacobi\_preconditioner\_test

5/127 Test #5: block\_jacobi\_preconditioner\_test ......................... Passed 0.01 sec

Start 6: block\_random\_access\_dense\_matrix\_test

6/127 Test #6: block\_random\_access\_dense\_matrix\_test .................... Passed 0.00 sec

Start 7: block\_random\_access\_diagonal\_matrix\_test

7/127 Test #7: block\_random\_access\_diagonal\_matrix\_test ................. Passed 0.01 sec

Start 8: block\_random\_access\_sparse\_matrix\_test

8/127 Test #8: block\_random\_access\_sparse\_matrix\_test ................... Passed 0.06 sec

Start 9: block\_sparse\_matrix\_test

9/127 Test #9: block\_sparse\_matrix\_test ................................. Passed 0.01 sec

Start 10: c\_api\_test

10/127 Test #10: c\_api\_test ............................................... Passed 0.06 sec

Start 11: canonical\_views\_clustering\_test

11/127 Test #11: canonical\_views\_clustering\_test .......................... Passed 0.03 sec

Start 12: compressed\_col\_sparse\_matrix\_utils\_test

12/127 Test #12: compressed\_col\_sparse\_matrix\_utils\_test .................. Passed 0.01 sec

Start 13: compressed\_row\_sparse\_matrix\_test

13/127 Test #13: compressed\_row\_sparse\_matrix\_test ........................ Passed 0.01 sec

Start 14: concurrent\_queue\_test

14/127 Test #14: concurrent\_queue\_test .................................... Passed 0.00 sec

Start 15: conditioned\_cost\_function\_test

15/127 Test #15: conditioned\_cost\_function\_test ........................... Passed 0.01 sec

Start 16: conjugate\_gradients\_solver\_test

16/127 Test #16: conjugate\_gradients\_solver\_test .......................... Passed 0.01 sec

Start 17: corrector\_test

17/127 Test #17: corrector\_test ........................................... Passed 0.35 sec

Start 18: cost\_function\_to\_functor\_test

18/127 Test #18: cost\_function\_to\_functor\_test ............................ Passed 0.01 sec

Start 19: covariance\_test

19/127 Test #19: covariance\_test .......................................... Passed 10.72 sec

Start 20: cubic\_interpolation\_test

20/127 Test #20: cubic\_interpolation\_test ................................. Passed 0.10 sec

Start 21: dense\_linear\_solver\_test

21/127 Test #21: dense\_linear\_solver\_test ................................. Passed 0.10 sec

Start 22: dense\_sparse\_matrix\_test

22/127 Test #22: dense\_sparse\_matrix\_test ................................. Passed 0.01 sec

Start 23: detect\_structure\_test

23/127 Test #23: detect\_structure\_test .................................... Passed 0.01 sec

Start 24: dogleg\_strategy\_test

24/127 Test #24: dogleg\_strategy\_test ..................................... Passed 0.01 sec

Start 25: dynamic\_autodiff\_cost\_function\_test

25/127 Test #25: dynamic\_autodiff\_cost\_function\_test ...................... Passed 0.01 sec

Start 26: dynamic\_compressed\_row\_sparse\_matrix\_test

26/127 Test #26: dynamic\_compressed\_row\_sparse\_matrix\_test ................ Passed 0.06 sec

Start 27: dynamic\_numeric\_diff\_cost\_function\_test

27/127 Test #27: dynamic\_numeric\_diff\_cost\_function\_test .................. Passed 0.01 sec

Start 28: dynamic\_sparse\_normal\_cholesky\_solver\_test

28/127 Test #28: dynamic\_sparse\_normal\_cholesky\_solver\_test ............... Passed 0.01 sec

Start 29: dynamic\_sparsity\_test

29/127 Test #29: dynamic\_sparsity\_test .................................... Passed 11.90 sec

Start 30: evaluation\_callback\_test

30/127 Test #30: evaluation\_callback\_test ................................. Passed 0.02 sec

Start 31: evaluator\_test

31/127 Test #31: evaluator\_test ........................................... Passed 0.06 sec

Start 32: gradient\_checker\_test

32/127 Test #32: gradient\_checker\_test .................................... Passed 0.01 sec

Start 33: gradient\_checking\_cost\_function\_test

33/127 Test #33: gradient\_checking\_cost\_function\_test ..................... Passed 0.01 sec

Start 34: gradient\_problem\_test

34/127 Test #34: gradient\_problem\_test .................................... Passed 0.01 sec

Start 35: gradient\_problem\_solver\_test

35/127 Test #35: gradient\_problem\_solver\_test ............................. Passed 0.01 sec

Start 36: graph\_test

36/127 Test #36: graph\_test ............................................... Passed 0.48 sec

Start 37: graph\_algorithms\_test

37/127 Test #37: graph\_algorithms\_test .................................... Passed 0.01 sec

Start 38: householder\_vector\_test

38/127 Test #38: householder\_vector\_test .................................. Passed 0.00 sec

Start 39: implicit\_schur\_complement\_test

39/127 Test #39: implicit\_schur\_complement\_test ........................... Passed 0.00 sec

Start 40: inner\_product\_computer\_test

40/127 Test #40: inner\_product\_computer\_test .............................. Passed 0.27 sec

Start 41: invert\_psd\_matrix\_test

41/127 Test #41: invert\_psd\_matrix\_test ................................... Passed 0.01 sec

Start 42: is\_close\_test

42/127 Test #42: is\_close\_test ............................................ Passed 0.01 sec

Start 43: iterative\_schur\_complement\_solver\_test

43/127 Test #43: iterative\_schur\_complement\_solver\_test ................... Passed 0.01 sec

Start 44: jet\_test

44/127 Test #44: jet\_test ................................................. Passed 0.07 sec

Start 45: levenberg\_marquardt\_strategy\_test

45/127 Test #45: levenberg\_marquardt\_strategy\_test ........................ Passed 0.01 sec

Start 46: line\_search\_minimizer\_test

46/127 Test #46: line\_search\_minimizer\_test ............................... Passed 0.01 sec

Start 47: line\_search\_preprocessor\_test

47/127 Test #47: line\_search\_preprocessor\_test ............................ Passed 0.01 sec

Start 48: local\_parameterization\_test

48/127 Test #48: local\_parameterization\_test .............................. Passed 0.55 sec

Start 49: loss\_function\_test

49/127 Test #49: loss\_function\_test ....................................... Passed 0.00 sec

Start 50: minimizer\_test

50/127 Test #50: minimizer\_test ........................................... Passed 0.01 sec

Start 51: normal\_prior\_test

51/127 Test #51: normal\_prior\_test ........................................ Passed 0.01 sec

Start 52: numeric\_diff\_cost\_function\_test

52/127 Test #52: numeric\_diff\_cost\_function\_test .......................... Passed 0.01 sec

Start 53: ordered\_groups\_test

53/127 Test #53: ordered\_groups\_test ...................................... Passed 0.22 sec

Start 54: parallel\_for\_test

54/127 Test #54: parallel\_for\_test ........................................ Passed 0.01 sec

Start 55: parallel\_utils\_test

55/127 Test #55: parallel\_utils\_test ...................................... Passed 0.03 sec

Start 56: parameter\_block\_test

56/127 Test #56: parameter\_block\_test ..................................... Passed 0.65 sec

Start 57: parameter\_block\_ordering\_test

57/127 Test #57: parameter\_block\_ordering\_test ............................ Passed 0.01 sec

Start 58: partitioned\_matrix\_view\_test

58/127 Test #58: partitioned\_matrix\_view\_test ............................. Passed 0.01 sec

Start 59: polynomial\_test

59/127 Test #59: polynomial\_test .......................................... Passed 0.01 sec

Start 60: problem\_test

60/127 Test #60: problem\_test ............................................. Passed 3.72 sec

Start 61: program\_test

61/127 Test #61: program\_test ............................................. Passed 0.01 sec

Start 62: reorder\_program\_test

62/127 Test #62: reorder\_program\_test ..................................... Passed 0.01 sec

Start 63: residual\_block\_test

63/127 Test #63: residual\_block\_test ...................................... Passed 0.00 sec

Start 64: residual\_block\_utils\_test

64/127 Test #64: residual\_block\_utils\_test ................................ Passed 0.01 sec

Start 65: rotation\_test

65/127 Test #65: rotation\_test ............................................ Passed 13.75 sec

Start 66: schur\_complement\_solver\_test

66/127 Test #66: schur\_complement\_solver\_test ............................. Passed 0.01 sec

Start 67: schur\_eliminator\_test

67/127 Test #67: schur\_eliminator\_test .................................... Passed 0.06 sec

Start 68: single\_linkage\_clustering\_test

68/127 Test #68: single\_linkage\_clustering\_test ........................... Passed 0.00 sec

Start 69: small\_blas\_test

69/127 Test #69: small\_blas\_test .......................................... Passed 0.01 sec

Start 70: solver\_test

70/127 Test #70: solver\_test .............................................. Passed 0.01 sec

Start 71: sparse\_cholesky\_test

71/127 Test #71: sparse\_cholesky\_test ..................................... Passed 0.12 sec

Start 72: sparse\_normal\_cholesky\_solver\_test

72/127 Test #72: sparse\_normal\_cholesky\_solver\_test ....................... Passed 0.06 sec

Start 73: subset\_preconditioner\_test

73/127 Test #73: subset\_preconditioner\_test ............................... Passed 0.01 sec

Start 74: system\_test

74/127 Test #74: system\_test .............................................. Passed 0.01 sec

Start 75: tiny\_solver\_test

75/127 Test #75: tiny\_solver\_test ......................................... Passed 0.01 sec

Start 76: tiny\_solver\_autodiff\_function\_test

76/127 Test #76: tiny\_solver\_autodiff\_function\_test ....................... Passed 0.07 sec

Start 77: tiny\_solver\_cost\_function\_adapter\_test

77/127 Test #77: tiny\_solver\_cost\_function\_adapter\_test ................... Passed 0.00 sec

Start 78: thread\_pool\_test

78/127 Test #78: thread\_pool\_test ......................................... Passed 0.00 sec

Start 79: triplet\_sparse\_matrix\_test

79/127 Test #79: triplet\_sparse\_matrix\_test ............................... Passed 0.14 sec

Start 80: trust\_region\_minimizer\_test

80/127 Test #80: trust\_region\_minimizer\_test .............................. Passed 0.01 sec

Start 81: trust\_region\_preprocessor\_test

81/127 Test #81: trust\_region\_preprocessor\_test ........................... Passed 0.01 sec

Start 82: visibility\_test

82/127 Test #82: visibility\_test .......................................... Passed 0.00 sec

Start 83: visibility\_based\_preconditioner\_test

83/127 Test #83: visibility\_based\_preconditioner\_test ..................... Passed 0.01 sec

Start 84: ba\_denseschur\_auto\_test

84/127 Test #84: ba\_denseschur\_auto\_test .................................. Passed 5.03 sec

Start 85: ba\_denseschur\_auto\_threads\_test

85/127 Test #85: ba\_denseschur\_auto\_threads\_test .......................... Passed 10.62 sec

Start 86: ba\_denseschur\_user\_test

86/127 Test #86: ba\_denseschur\_user\_test .................................. Passed 4.89 sec

Start 87: ba\_denseschur\_user\_threads\_test

87/127 Test #87: ba\_denseschur\_user\_threads\_test .......................... Passed 13.78 sec

Start 88: ba\_iterschur\_jacobi\_auto\_test

88/127 Test #88: ba\_iterschur\_jacobi\_auto\_test ............................ Passed 6.33 sec

Start 89: ba\_iterschur\_jacobi\_auto\_threads\_test

89/127 Test #89: ba\_iterschur\_jacobi\_auto\_threads\_test .................... Passed 8.98 sec

Start 90: ba\_iterschur\_jacobi\_user\_test

90/127 Test #90: ba\_iterschur\_jacobi\_user\_test ............................ Passed 6.20 sec

Start 91: ba\_iterschur\_jacobi\_user\_threads\_test

91/127 Test #91: ba\_iterschur\_jacobi\_user\_threads\_test .................... Passed 9.20 sec

Start 92: ba\_iterschur\_schurjacobi\_auto\_test

92/127 Test #92: ba\_iterschur\_schurjacobi\_auto\_test ....................... Passed 6.28 sec

Start 93: ba\_iterschur\_schurjacobi\_auto\_threads\_test

93/127 Test #93: ba\_iterschur\_schurjacobi\_auto\_threads\_test ............... Passed 16.71 sec

Start 94: ba\_iterschur\_schurjacobi\_user\_test

94/127 Test #94: ba\_iterschur\_schurjacobi\_user\_test ....................... Passed 5.82 sec

Start 95: ba\_iterschur\_schurjacobi\_user\_threads\_test

95/127 Test #95: ba\_iterschur\_schurjacobi\_user\_threads\_test ............... Passed 11.91 sec

Start 96: ba\_iterschur\_suitesparse\_clustjacobi\_auto\_test

96/127 Test #96: ba\_iterschur\_suitesparse\_clustjacobi\_auto\_test ........... Passed 6.56 sec

Start 97: ba\_iterschur\_suitesparse\_clustjacobi\_auto\_threads\_test

97/127 Test #97: ba\_iterschur\_suitesparse\_clustjacobi\_auto\_threads\_test ... Passed 13.42 sec

Start 98: ba\_iterschur\_suitesparse\_clustjacobi\_user\_test

98/127 Test #98: ba\_iterschur\_suitesparse\_clustjacobi\_user\_test ........... Passed 7.09 sec

Start 99: ba\_iterschur\_suitesparse\_clustjacobi\_user\_threads\_test

99/127 Test #99: ba\_iterschur\_suitesparse\_clustjacobi\_user\_threads\_test ... Passed 12.20 sec

Start 100: ba\_iterschur\_suitesparse\_clusttri\_auto\_test

100/127 Test #100: ba\_iterschur\_suitesparse\_clusttri\_auto\_test .............. Passed 7.80 sec

Start 101: ba\_iterschur\_suitesparse\_clusttri\_auto\_threads\_test

101/127 Test #101: ba\_iterschur\_suitesparse\_clusttri\_auto\_threads\_test ...... Passed 18.82 sec

Start 102: ba\_iterschur\_suitesparse\_clusttri\_user\_test

102/127 Test #102: ba\_iterschur\_suitesparse\_clusttri\_user\_test .............. Passed 7.56 sec

Start 103: ba\_iterschur\_suitesparse\_clusttri\_user\_threads\_test

103/127 Test #103: ba\_iterschur\_suitesparse\_clusttri\_user\_threads\_test ...... Passed 15.22 sec

Start 104: ba\_sparsecholesky\_suitesparse\_auto\_test

104/127 Test #104: ba\_sparsecholesky\_suitesparse\_auto\_test .................. Passed 19.81 sec

Start 105: ba\_sparsecholesky\_suitesparse\_auto\_threads\_test

105/127 Test #105: ba\_sparsecholesky\_suitesparse\_auto\_threads\_test .......... Passed 24.70 sec

Start 106: ba\_sparsecholesky\_suitesparse\_user\_test

106/127 Test #106: ba\_sparsecholesky\_suitesparse\_user\_test .................. Passed 12.10 sec

Start 107: ba\_sparsecholesky\_suitesparse\_user\_threads\_test

107/127 Test #107: ba\_sparsecholesky\_suitesparse\_user\_threads\_test .......... Passed 13.59 sec

Start 108: ba\_sparsecholesky\_eigensparse\_auto\_test

108/127 Test #108: ba\_sparsecholesky\_eigensparse\_auto\_test .................. Passed 9.57 sec

Start 109: ba\_sparsecholesky\_eigensparse\_auto\_threads\_test

109/127 Test #109: ba\_sparsecholesky\_eigensparse\_auto\_threads\_test .......... Passed 11.53 sec

Start 110: ba\_sparsecholesky\_eigensparse\_user\_test

110/127 Test #110: ba\_sparsecholesky\_eigensparse\_user\_test .................. Passed 9.67 sec

Start 111: ba\_sparsecholesky\_eigensparse\_user\_threads\_test

111/127 Test #111: ba\_sparsecholesky\_eigensparse\_user\_threads\_test .......... Passed 11.30 sec

Start 112: ba\_sparsecholesky\_cxsparse\_auto\_test

112/127 Test #112: ba\_sparsecholesky\_cxsparse\_auto\_test ..................... Passed 8.80 sec

Start 113: ba\_sparsecholesky\_cxsparse\_auto\_threads\_test

113/127 Test #113: ba\_sparsecholesky\_cxsparse\_auto\_threads\_test ............. Passed 11.82 sec

Start 114: ba\_sparsecholesky\_cxsparse\_user\_test

114/127 Test #114: ba\_sparsecholesky\_cxsparse\_user\_test ..................... Passed 8.79 sec

Start 115: ba\_sparsecholesky\_cxsparse\_user\_threads\_test

115/127 Test #115: ba\_sparsecholesky\_cxsparse\_user\_threads\_test ............. Passed 10.49 sec

Start 116: ba\_sparseschur\_suitesparse\_auto\_test

116/127 Test #116: ba\_sparseschur\_suitesparse\_auto\_test ..................... Passed 5.72 sec

Start 117: ba\_sparseschur\_suitesparse\_auto\_threads\_test

117/127 Test #117: ba\_sparseschur\_suitesparse\_auto\_threads\_test ............. Passed 10.69 sec

Start 118: ba\_sparseschur\_suitesparse\_user\_test

118/127 Test #118: ba\_sparseschur\_suitesparse\_user\_test ..................... Passed 5.80 sec

Start 119: ba\_sparseschur\_suitesparse\_user\_threads\_test

119/127 Test #119: ba\_sparseschur\_suitesparse\_user\_threads\_test ............. Passed 10.80 sec

Start 120: ba\_sparseschur\_eigensparse\_auto\_test

120/127 Test #120: ba\_sparseschur\_eigensparse\_auto\_test ..................... Passed 5.08 sec

Start 121: ba\_sparseschur\_eigensparse\_auto\_threads\_test

121/127 Test #121: ba\_sparseschur\_eigensparse\_auto\_threads\_test ............. Passed 15.24 sec

Start 122: ba\_sparseschur\_eigensparse\_user\_test

122/127 Test #122: ba\_sparseschur\_eigensparse\_user\_test ..................... Passed 5.17 sec

Start 123: ba\_sparseschur\_eigensparse\_user\_threads\_test

123/127 Test #123: ba\_sparseschur\_eigensparse\_user\_threads\_test ............. Passed 10.62 sec

Start 124: ba\_sparseschur\_cxsparse\_auto\_test

124/127 Test #124: ba\_sparseschur\_cxsparse\_auto\_test ........................ Passed 4.86 sec

Start 125: ba\_sparseschur\_cxsparse\_auto\_threads\_test

125/127 Test #125: ba\_sparseschur\_cxsparse\_auto\_threads\_test ................ Passed 11.03 sec

Start 126: ba\_sparseschur\_cxsparse\_user\_test

126/127 Test #126: ba\_sparseschur\_cxsparse\_user\_test ........................ Passed 5.00 sec

Start 127: ba\_sparseschur\_cxsparse\_user\_threads\_test

127/127 Test #127: ba\_sparseschur\_cxsparse\_user\_threads\_test ................ Passed 10.61 sec

100% tests passed, 0 tests failed out of 127

Total Test time (real) = 491.37 sec

## 安装make

(sfm) root@container-8fb311a93c-926d03ef:~/structure-from-motion/ceres-bin# sudo make install

[ 32%] Built target ceres

[ 32%] Built target gtest

[ 32%] Built target test\_util

[ 32%] Built target visibility\_based\_preconditioner\_test

[ 32%] Built target trust\_region\_minimizer\_test

[ 33%] Built target tiny\_solver\_cost\_function\_adapter\_test

[ 33%] Built target gradient\_checking\_cost\_function\_test

[ 34%] Built target gradient\_checker\_test

[ 34%] Built target evaluator\_test

[ 35%] Built target evaluation\_callback\_test

[ 36%] Built target dynamic\_sparsity\_test

[ 36%] Built target is\_close\_test

[ 37%] Built target dynamic\_numeric\_diff\_cost\_function\_test

[ 38%] Built target gradient\_problem\_test

[ 38%] Built target dynamic\_autodiff\_cost\_function\_test

[ 38%] Built target cost\_function\_to\_functor\_test

[ 38%] Built target detect\_structure\_test

[ 39%] Built target dense\_sparse\_matrix\_test

[ 39%] Built target dense\_linear\_solver\_test

[ 40%] Built target thread\_pool\_test

[ 40%] Built target conditioned\_cost\_function\_test

[ 40%] Built target line\_search\_preprocessor\_test

[ 41%] Built target concurrent\_queue\_test

[ 42%] Built target single\_linkage\_clustering\_test

[ 42%] Built target dynamic\_compressed\_row\_sparse\_matrix\_test

[ 42%] Built target tiny\_solver\_autodiff\_function\_test

[ 42%] Built target block\_jacobi\_preconditioner\_test

[ 42%] Built target block\_random\_access\_diagonal\_matrix\_test

[ 42%] Built target block\_sparse\_matrix\_test

[ 42%] Built target parameter\_block\_ordering\_test

[ 42%] Built target dynamic\_sparse\_normal\_cholesky\_solver\_test

[ 43%] Built target sparse\_normal\_cholesky\_solver\_test

[ 43%] Built target array\_utils\_test

[ 43%] Built target parameter\_block\_test

[ 43%] Built target conjugate\_gradients\_solver\_test

[ 43%] Built target c\_api\_test

[ 43%] Built target sparse\_cholesky\_test

[ 43%] Built target autodiff\_cost\_function\_test

[ 44%] Built target rotation\_test

[ 45%] Built target corrector\_test

[ 46%] Built target triplet\_sparse\_matrix\_test

[ 46%] Built target reorder\_program\_test

[ 47%] Built target covariance\_test

[ 48%] Built target ordered\_groups\_test

[ 48%] Built target small\_blas\_test

[ 48%] Built target autodiff\_test

[ 48%] Built target levenberg\_marquardt\_strategy\_test

[ 49%] Built target partitioned\_matrix\_view\_test

[ 50%] Built target compressed\_col\_sparse\_matrix\_utils\_test

[ 50%] Built target compressed\_row\_sparse\_matrix\_test

[ 51%] Built target jet\_test

[ 51%] Built target parallel\_for\_test

[ 52%] Built target block\_random\_access\_sparse\_matrix\_test

[ 52%] Built target gradient\_problem\_solver\_test

[ 52%] Built target householder\_vector\_test

[ 53%] Built target graph\_test

[ 53%] Built target graph\_algorithms\_test

[ 54%] Built target dogleg\_strategy\_test

[ 54%] Built target polynomial\_test

[ 55%] Built target autodiff\_local\_parameterization\_test

[ 56%] Built target implicit\_schur\_complement\_test

[ 57%] Built target block\_random\_access\_dense\_matrix\_test

[ 57%] Built target schur\_eliminator\_test

[ 57%] Built target cubic\_interpolation\_test

[ 58%] Built target invert\_psd\_matrix\_test

[ 59%] Built target system\_test

[ 59%] Built target iterative\_schur\_complement\_solver\_test

[ 60%] Built target line\_search\_minimizer\_test

[ 60%] Built target problem\_test

[ 61%] Built target local\_parameterization\_test

[ 61%] Built target subset\_preconditioner\_test

[ 61%] Built target loss\_function\_test

[ 61%] Built target minimizer\_test

[ 62%] Built target normal\_prior\_test

[ 62%] Built target residual\_block\_test

[ 63%] Built target visibility\_test

[ 63%] Built target numeric\_diff\_cost\_function\_test

[ 64%] Built target canonical\_views\_clustering\_test

[ 65%] Built target parallel\_utils\_test

[ 66%] Built target program\_test

[ 66%] Built target inner\_product\_computer\_test

[ 67%] Built target residual\_block\_utils\_test

[ 68%] Built target trust\_region\_preprocessor\_test

[ 69%] Built target schur\_complement\_solver\_test

[ 70%] Built target solver\_test

[ 70%] Built target tiny\_solver\_test

[ 70%] Built target ba\_sparseschur\_cxsparse\_auto\_threads\_test

[ 70%] Built target ba\_sparseschur\_cxsparse\_auto\_test

[ 70%] Built target ba\_sparseschur\_eigensparse\_user\_threads\_test

[ 71%] Built target ba\_sparseschur\_eigensparse\_user\_test

[ 71%] Built target ba\_sparseschur\_eigensparse\_auto\_threads\_test

[ 72%] Built target ba\_sparseschur\_eigensparse\_auto\_test

[ 72%] Built target ba\_iterschur\_suitesparse\_clustjacobi\_user\_threads\_test

[ 73%] Built target ba\_sparseschur\_cxsparse\_user\_test

[ 73%] Built target ba\_iterschur\_suitesparse\_clustjacobi\_user\_test

[ 74%] Built target ba\_iterschur\_suitesparse\_clusttri\_auto\_test

[ 75%] Built target ba\_sparsecholesky\_suitesparse\_auto\_threads\_test

[ 76%] Built target ba\_sparseschur\_suitesparse\_auto\_test

[ 77%] Built target ba\_iterschur\_suitesparse\_clustjacobi\_auto\_threads\_test

[ 77%] Built target ba\_sparsecholesky\_eigensparse\_user\_test

[ 77%] Built target ba\_sparsecholesky\_cxsparse\_user\_threads\_test

[ 77%] Built target ba\_denseschur\_user\_threads\_test

[ 78%] Built target ba\_iterschur\_schurjacobi\_auto\_threads\_test

[ 78%] Built target ba\_denseschur\_auto\_threads\_test

[ 78%] Built target ba\_iterschur\_suitesparse\_clusttri\_user\_threads\_test

[ 79%] Built target ba\_iterschur\_jacobi\_user\_threads\_test

[ 80%] Built target ba\_denseschur\_auto\_test

[ 81%] Built target ba\_denseschur\_user\_test

[ 82%] Built target ba\_iterschur\_jacobi\_auto\_test

[ 83%] Built target ba\_sparseschur\_suitesparse\_user\_threads\_test

[ 83%] Built target ba\_sparseschur\_cxsparse\_user\_threads\_test

[ 83%] Built target ba\_iterschur\_schurjacobi\_user\_test

[ 83%] Built target ba\_iterschur\_jacobi\_user\_test

[ 83%] Built target ba\_sparsecholesky\_suitesparse\_user\_test

[ 83%] Built target ba\_iterschur\_jacobi\_auto\_threads\_test

[ 83%] Built target ba\_iterschur\_suitesparse\_clusttri\_auto\_threads\_test

[ 84%] Built target ba\_iterschur\_suitesparse\_clusttri\_user\_test

[ 85%] Built target ba\_sparsecholesky\_cxsparse\_user\_test

[ 86%] Built target ba\_sparsecholesky\_suitesparse\_user\_threads\_test

[ 86%] Built target ba\_sparsecholesky\_eigensparse\_auto\_test

[ 87%] Built target ba\_sparsecholesky\_eigensparse\_auto\_threads\_test

[ 88%] Built target ba\_sparsecholesky\_eigensparse\_user\_threads\_test

[ 89%] Built target ba\_iterschur\_schurjacobi\_user\_threads\_test

[ 89%] Built target ba\_iterschur\_suitesparse\_clustjacobi\_auto\_test

[ 90%] Built target ba\_sparsecholesky\_cxsparse\_auto\_test

[ 90%] Built target ba\_sparsecholesky\_suitesparse\_auto\_test

[ 90%] Built target ba\_iterschur\_schurjacobi\_auto\_test

[ 90%] Built target ba\_sparsecholesky\_cxsparse\_auto\_threads\_test

[ 90%] Built target ba\_sparseschur\_suitesparse\_auto\_threads\_test

[ 90%] Built target ba\_sparseschur\_suitesparse\_user\_test

[ 91%] Built target denoising

[ 92%] Built target more\_garbow\_hillstrom

[ 93%] Built target helloworld

[ 93%] Built target curve\_fitting\_c

[ 94%] Built target powell

[ 94%] Built target helloworld\_analytic\_diff

[ 94%] Built target rosenbrock

[ 95%] Built target helloworld\_numeric\_diff

[ 95%] Built target ellipse\_approximation

[ 95%] Built target robot\_pose\_mle

[ 96%] Built target robust\_curve\_fitting

[ 96%] Built target circle\_fit

[ 97%] Built target curve\_fitting

[ 97%] Built target simple\_bundle\_adjuster

[ 98%] Built target bundle\_adjuster

[ 98%] Built target nist

[ 99%] Built target libmv\_bundle\_adjuster

[ 99%] Built target libmv\_homography

[ 99%] Built target sampled\_function

[100%] Built target pose\_graph\_2d

[100%] Built target pose\_graph\_3d

Install the project...

-- Install configuration: "Release"

-- Installing: /usr/local/include/ceres/autodiff\_cost\_function.h

-- Installing: /usr/local/include/ceres/autodiff\_local\_parameterization.h

-- Installing: /usr/local/include/ceres/c\_api.h

-- Installing: /usr/local/include/ceres/ceres.h

-- Installing: /usr/local/include/ceres/conditioned\_cost\_function.h

-- Installing: /usr/local/include/ceres/context.h

-- Installing: /usr/local/include/ceres/cost\_function.h

-- Installing: /usr/local/include/ceres/cost\_function\_to\_functor.h

-- Installing: /usr/local/include/ceres/covariance.h

-- Installing: /usr/local/include/ceres/crs\_matrix.h

-- Installing: /usr/local/include/ceres/cubic\_interpolation.h

-- Installing: /usr/local/include/ceres/dynamic\_autodiff\_cost\_function.h

-- Installing: /usr/local/include/ceres/dynamic\_cost\_function.h

-- Installing: /usr/local/include/ceres/dynamic\_cost\_function\_to\_functor.h

-- Installing: /usr/local/include/ceres/dynamic\_numeric\_diff\_cost\_function.h

-- Installing: /usr/local/include/ceres/evaluation\_callback.h

-- Installing: /usr/local/include/ceres/fpclassify.h

-- Installing: /usr/local/include/ceres/gradient\_checker.h

-- Installing: /usr/local/include/ceres/gradient\_problem.h

-- Installing: /usr/local/include/ceres/gradient\_problem\_solver.h

-- Installing: /usr/local/include/ceres/iteration\_callback.h

-- Installing: /usr/local/include/ceres/jet.h

-- Installing: /usr/local/include/ceres/local\_parameterization.h

-- Installing: /usr/local/include/ceres/loss\_function.h

-- Installing: /usr/local/include/ceres/normal\_prior.h

-- Installing: /usr/local/include/ceres/numeric\_diff\_cost\_function.h

-- Installing: /usr/local/include/ceres/numeric\_diff\_options.h

-- Installing: /usr/local/include/ceres/ordered\_groups.h

-- Installing: /usr/local/include/ceres/problem.h

-- Installing: /usr/local/include/ceres/rotation.h

-- Installing: /usr/local/include/ceres/sized\_cost\_function.h

-- Installing: /usr/local/include/ceres/solver.h

-- Installing: /usr/local/include/ceres/tiny\_solver.h

-- Installing: /usr/local/include/ceres/tiny\_solver\_autodiff\_function.h

-- Installing: /usr/local/include/ceres/tiny\_solver\_cost\_function\_adapter.h

-- Installing: /usr/local/include/ceres/types.h

-- Installing: /usr/local/include/ceres/version.h

-- Installing: /usr/local/include/ceres/internal/autodiff.h

-- Installing: /usr/local/include/ceres/internal/disable\_warnings.h

-- Installing: /usr/local/include/ceres/internal/eigen.h

-- Installing: /usr/local/include/ceres/internal/fixed\_array.h

-- Installing: /usr/local/include/ceres/internal/macros.h

-- Installing: /usr/local/include/ceres/internal/manual\_constructor.h

-- Installing: /usr/local/include/ceres/internal/numeric\_diff.h

-- Installing: /usr/local/include/ceres/internal/port.h

-- Installing: /usr/local/include/ceres/internal/reenable\_warnings.h

-- Installing: /usr/local/include/ceres/internal/scoped\_ptr.h

-- Installing: /usr/local/include/ceres/internal/variadic\_evaluate.h

-- Installing: /usr/local/include/ceres/internal/config.h

-- Installing: /usr/local/lib/cmake/Ceres/CeresTargets.cmake

-- Installing: /usr/local/lib/cmake/Ceres/CeresTargets-release.cmake

-- Installing: /usr/local/lib/cmake/Ceres/CeresConfig.cmake

-- Installing: /usr/local/lib/cmake/Ceres/CeresConfigVersion.cmake

-- Installing: /usr/local/lib/cmake/Ceres/FindEigen.cmake

-- Installing: /usr/local/lib/cmake/Ceres/FindGlog.cmake

-- Installing: /usr/local/lib/cmake/Ceres/FindGflags.cmake

-- Installing: /usr/local/lib/libceres.a

## 编译bundler，满屏的错误。先装cmvs

(sfm) root@container-8fb311a93c-926d03ef:~/structure-from-motion/bundler\_sfm# cd ../cmvs-pmvs

(sfm) root@container-8fb311a93c-926d03ef:~/structure-from-motion/cmvs-pmvs# ls

binariesWin-Linux license program README Readme.txt

(sfm) root@container-8fb311a93c-926d03ef:~/structure-from-motion/cmvs-pmvs# cd program

(sfm) root@container-8fb311a93c-926d03ef:~/structure-from-motion/cmvs-pmvs/program# ls

base CMakeLists.txt main thirdParty

(sfm) root@container-8fb311a93c-926d03ef:~/structure-from-motion/cmvs-pmvs/program# mkdir build

(sfm) root@container-8fb311a93c-926d03ef:~/structure-from-motion/cmvs-pmvs/program# ls

base build CMakeLists.txt main thirdParty

(sfm) root@container-8fb311a93c-926d03ef:~/structure-from-motion/cmvs-pmvs/program# cd build

(sfm) root@container-8fb311a93c-926d03ef:~/structure-from-motion/cmvs-pmvs/program/build# cmake ..

-- The C compiler identification is GNU 7.5.0

-- The CXX compiler identification is GNU 7.5.0

-- Check for working C compiler: /usr/bin/cc

-- Check for working C compiler: /usr/bin/cc -- works

-- Detecting C compiler ABI info

-- Detecting C compiler ABI info - done

-- Detecting C compile features

-- Detecting C compile features - done

-- Check for working CXX compiler: /usr/bin/c++

-- Check for working CXX compiler: /usr/bin/c++ -- works

-- Detecting CXX compiler ABI info

-- Detecting CXX compiler ABI info - done

-- Detecting CXX compile features

-- Detecting CXX compile features - done

-- Looking for pthread.h

-- Looking for pthread.h - found

-- Looking for pthread\_create

-- Looking for pthread\_create - not found

-- Looking for pthread\_create in pthreads

-- Looking for pthread\_create in pthreads - not found

-- Looking for pthread\_create in pthread

-- Looking for pthread\_create in pthread - found

-- Found Threads: TRUE

Found Eigen 3.2.3

-- Boost version: 1.65.1

Using system boost library: /usr/include

-- Found JPEG: /usr/lib/x86\_64-linux-gnu/libjpeg.so

Using system JPEG library: /usr/lib/x86\_64-linux-gnu/libjpeg.so

-- Looking for include file unistd.h

-- Looking for include file unistd.h - found

-- Looking for include file string.h

-- Looking for include file string.h - found

-- Looking for include file strings.h

-- Looking for include file strings.h - found

-- Looking for include file sys/stat.h

-- Looking for include file sys/stat.h - found

-- Looking for include file inttypes.h

-- Looking for include file inttypes.h - found

-- Looking for include file memory.h

-- Looking for include file memory.h - found

-- Looking for include file stdlib.h

-- Looking for include file stdlib.h - found

-- Looking for include file stdint.h

-- Looking for include file stdint.h - found

-- Looking for include file sys/types.h

-- Looking for include file sys/types.h - found

-- Looking for isinf

-- Looking for isinf - found

-- Looking for isinf

-- Looking for isinf - found

-- Looking for gettimeofday

-- Looking for gettimeofday - found

-- Looking for qsort\_r

-- Looking for qsort\_r - found

-- Looking for time

-- Looking for time - found

-- Looking for copysign

-- Looking for copysign - found

-- Looking for stddef.h

-- Looking for stddef.h - found

-- Check size of uint32\_t

-- Check size of uint32\_t - done

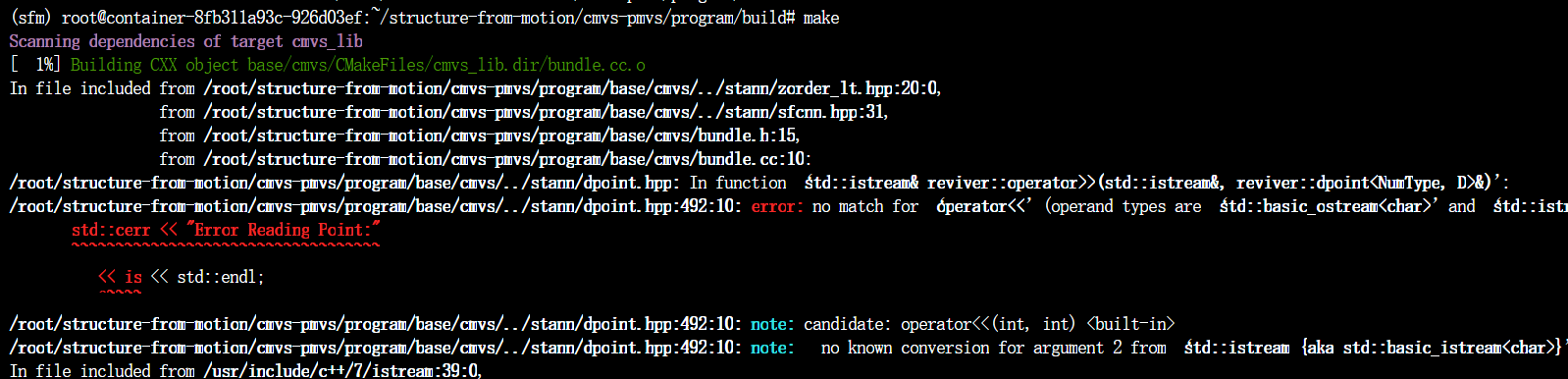
-- NLOPT: Version number 2.4.2 found in configure.ac

-- Configuring done

-- Generating done

-- Build files have been written to: /root/structure-from-motion/cmvs-pmvs/program/build

运行make



(sfm) root@container-8fb311a93c-926d03ef:~/structure-from-motion/cmvs-pmvs/program/build# make

Scanning dependencies of target cmvs\_lib

[ 1%] Building CXX object base/cmvs/CMakeFiles/cmvs\_lib.dir/bundle.cc.o

In file included from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/../stann/zorder\_lt.hpp:20:0,

from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/../stann/sfcnn.hpp:31,

from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/bundle.h:15,

from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/bundle.cc:10:

/root/structure-from-motion/cmvs-pmvs/program/base/cmvs/../stann/dpoint.hpp: In function ‘std::istream& reviver::operator>>(std::istream&, reviver::dpoint<NumType, D>&)’:

/root/structure-from-motion/cmvs-pmvs/program/base/cmvs/../stann/dpoint.hpp:492:10: error: no match for ‘operator<<’ (operand types are ‘std::basic\_ostream<char>’ and ‘std::istream {aka std::basic\_istream<char>}’)

std::cerr << "Error Reading Point:"

~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

<< is << std::endl;

^~~~~

/root/structure-from-motion/cmvs-pmvs/program/base/cmvs/../stann/dpoint.hpp:492:10: note: candidate: operator<<(int, int) <built-in>

/root/structure-from-motion/cmvs-pmvs/program/base/cmvs/../stann/dpoint.hpp:492:10: note: no known conversion for argument 2 from ‘std::istream {aka std::basic\_istream<char>}’ to ‘int’

In file included from /usr/include/c++/7/istream:39:0,

from /usr/include/c++/7/fstream:38,

from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/bundle.cc:1:

/usr/include/c++/7/ostream:108:7: note: candidate: std::basic\_ostream<\_CharT, \_Traits>::\_\_ostream\_type& std::basic\_ostream<\_CharT, \_Traits>::operator<<(std::basic\_ostream<\_CharT, \_Traits>::\_\_ostream\_type& (\*)(std::basic\_ostream<\_CharT, \_Traits>::\_\_ostream\_type&)) [with \_CharT = char; \_Traits = std::char\_traits<char>; std::basic\_ostream<\_CharT, \_Traits>::\_\_ostream\_type = std::basic\_ostream<char>]

operator<<(\_\_ostream\_type& (\*\_\_pf)(\_\_ostream\_type&))

^~~~~~~~

/usr/include/c++/7/ostream:108:7: note: no known conversion for argument 1 from ‘std::istream {aka std::basic\_istream<char>}’ to ‘std::basic\_ostream<char>::\_\_ostream\_type& (\*)(std::basic\_ostream<char>::\_\_ostream\_type&) {aka std::basic\_ostream<char>& (\*)(std::basic\_ostream<char>&)}’

/usr/include/c++/7/ostream:117:7: note: candidate: std::basic\_ostream<\_CharT, \_Traits>::\_\_ostream\_type& std::basic\_ostream<\_CharT, \_Traits>::operator<<(std::basic\_ostream<\_CharT, \_Traits>::\_\_ios\_type& (\*)(std::basic\_ostream<\_CharT, \_Traits>::\_\_ios\_type&)) [with \_CharT = char; \_Traits = std::char\_traits<char>; std::basic\_ostream<\_CharT, \_Traits>::\_\_ostream\_type = std::basic\_ostream<char>; std::basic\_ostream<\_CharT, \_Traits>::\_\_ios\_type = std::basic\_ios<char>]

operator<<(\_\_ios\_type& (\*\_\_pf)(\_\_ios\_type&))

^~~~~~~~

/usr/include/c++/7/ostream:117:7: note: no known conversion for argument 1 from ‘std::istream {aka std::basic\_istream<char>}’ to ‘std::basic\_ostream<char>::\_\_ios\_type& (\*)(std::basic\_ostream<char>::\_\_ios\_type&) {aka std::basic\_ios<char>& (\*)(std::basic\_ios<char>&)}’

/usr/include/c++/7/ostream:127:7: note: candidate: std::basic\_ostream<\_CharT, \_Traits>::\_\_ostream\_type& std::basic\_ostream<\_CharT, \_Traits>::operator<<(std::ios\_base& (\*)(std::ios\_base&)) [with \_CharT = char; \_Traits = std::char\_traits<char>; std::basic\_ostream<\_CharT, \_Traits>::\_\_ostream\_type = std::basic\_ostream<char>]

operator<<(ios\_base& (\*\_\_pf) (ios\_base&))

^~~~~~~~

/usr/include/c++/7/ostream:127:7: note: no known conversion for argument 1 from ‘std::istream {aka std::basic\_istream<char>}’ to ‘std::ios\_base& (\*)(std::ios\_base&)’

/usr/include/c++/7/ostream:166:7: note: candidate: std::basic\_ostream<\_CharT, \_Traits>::\_\_ostream\_type& std::basic\_ostream<\_CharT, \_Traits>::operator<<(long int) [with \_CharT = char; \_Traits = std::char\_traits<char>; std::basic\_ostream<\_CharT, \_Traits>::\_\_ostream\_type = std::basic\_ostream<char>]

operator<<(long \_\_n)

^~~~~~~~

/usr/include/c++/7/ostream:166:7: note: no known conversion for argument 1 from ‘std::istream {aka std::basic\_istream<char>}’ to ‘long int’

/usr/include/c++/7/ostream:170:7: note: candidate: std::basic\_ostream<\_CharT, \_Traits>::\_\_ostream\_type& std::basic\_ostream<\_CharT, \_Traits>::operator<<(long unsigned int) [with \_CharT = char; \_Traits = std::char\_traits<char>; std::basic\_ostream<\_CharT, \_Traits>::\_\_ostream\_type = std::basic\_ostream<char>]

operator<<(unsigned long \_\_n)

^~~~~~~~

/usr/include/c++/7/ostream:170:7: note: no known conversion for argument 1 from ‘std::istream {aka std::basic\_istream<char>}’ to ‘long unsigned int’

/usr/include/c++/7/ostream:174:7: note: candidate: std::basic\_ostream<\_CharT, \_Traits>::\_\_ostream\_type& std::basic\_ostream<\_CharT, \_Traits>::operator<<(bool) [with \_CharT = char; \_Traits = std::char\_traits<char>; std::basic\_ostream<\_CharT, \_Traits>::\_\_ostream\_type = std::basic\_ostream<char>]

operator<<(bool \_\_n)

^~~~~~~~

/usr/include/c++/7/ostream:174:7: note: no known conversion for argument 1 from ‘std::istream {aka std::basic\_istream<char>}’ to ‘bool’

In file included from /usr/include/c++/7/ostream:693:0,

from /usr/include/c++/7/istream:39,

from /usr/include/c++/7/fstream:38,

from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/bundle.cc:1:

/usr/include/c++/7/bits/ostream.tcc:91:5: note: candidate: std::basic\_ostream<\_CharT, \_Traits>& std::basic\_ostream<\_CharT, \_Traits>::operator<<(short int) [with \_CharT = char; \_Traits = std::char\_traits<char>]

basic\_ostream<\_CharT, \_Traits>::

^~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

/usr/include/c++/7/bits/ostream.tcc:91:5: note: no known conversion for argument 1 from ‘std::istream {aka std::basic\_istream<char>}’ to ‘short int’

In file included from /usr/include/c++/7/istream:39:0,

from /usr/include/c++/7/fstream:38,

from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/bundle.cc:1:

/usr/include/c++/7/ostream:181:7: note: candidate: std::basic\_ostream<\_CharT, \_Traits>::\_\_ostream\_type& std::basic\_ostream<\_CharT, \_Traits>::operator<<(short unsigned int) [with \_CharT = char; \_Traits = std::char\_traits<char>; std::basic\_ostream<\_CharT, \_Traits>::\_\_ostream\_type = std::basic\_ostream<char>]

operator<<(unsigned short \_\_n)

^~~~~~~~

/usr/include/c++/7/ostream:181:7: note: no known conversion for argument 1 from ‘std::istream {aka std::basic\_istream<char>}’ to ‘short unsigned int’

In file included from /usr/include/c++/7/ostream:693:0,

from /usr/include/c++/7/istream:39,

from /usr/include/c++/7/fstream:38,

from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/bundle.cc:1:

/usr/include/c++/7/bits/ostream.tcc:105:5: note: candidate: std::basic\_ostream<\_CharT, \_Traits>& std::basic\_ostream<\_CharT, \_Traits>::operator<<(int) [with \_CharT = char; \_Traits = std::char\_traits<char>]

basic\_ostream<\_CharT, \_Traits>::

^~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

/usr/include/c++/7/bits/ostream.tcc:105:5: note: no known conversion for argument 1 from ‘std::istream {aka std::basic\_istream<char>}’ to ‘int’

In file included from /usr/include/c++/7/istream:39:0,

from /usr/include/c++/7/fstream:38,

from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/bundle.cc:1:

/usr/include/c++/7/ostream:192:7: note: candidate: std::basic\_ostream<\_CharT, \_Traits>::\_\_ostream\_type& std::basic\_ostream<\_CharT, \_Traits>::operator<<(unsigned int) [with \_CharT = char; \_Traits = std::char\_traits<char>; std::basic\_ostream<\_CharT, \_Traits>::\_\_ostream\_type = std::basic\_ostream<char>]

operator<<(unsigned int \_\_n)

^~~~~~~~

/usr/include/c++/7/ostream:192:7: note: no known conversion for argument 1 from ‘std::istream {aka std::basic\_istream<char>}’ to ‘unsigned int’

/usr/include/c++/7/ostream:201:7: note: candidate: std::basic\_ostream<\_CharT, \_Traits>::\_\_ostream\_type& std::basic\_ostream<\_CharT, \_Traits>::operator<<(long long int) [with \_CharT = char; \_Traits = std::char\_traits<char>; std::basic\_ostream<\_CharT, \_Traits>::\_\_ostream\_type = std::basic\_ostream<char>]

operator<<(long long \_\_n)

^~~~~~~~

/usr/include/c++/7/ostream:201:7: note: no known conversion for argument 1 from ‘std::istream {aka std::basic\_istream<char>}’ to ‘long long int’

/usr/include/c++/7/ostream:205:7: note: candidate: std::basic\_ostream<\_CharT, \_Traits>::\_\_ostream\_type& std::basic\_ostream<\_CharT, \_Traits>::operator<<(long long unsigned int) [with \_CharT = char; \_Traits = std::char\_traits<char>; std::basic\_ostream<\_CharT, \_Traits>::\_\_ostream\_type = std::basic\_ostream<char>]

operator<<(unsigned long long \_\_n)

^~~~~~~~

/usr/include/c++/7/ostream:205:7: note: no known conversion for argument 1 from ‘std::istream {aka std::basic\_istream<char>}’ to ‘long long unsigned int’

/usr/include/c++/7/ostream:220:7: note: candidate: std::basic\_ostream<\_CharT, \_Traits>::\_\_ostream\_type& std::basic\_ostream<\_CharT, \_Traits>::operator<<(double) [with \_CharT = char; \_Traits = std::char\_traits<char>; std::basic\_ostream<\_CharT, \_Traits>::\_\_ostream\_type = std::basic\_ostream<char>]

operator<<(double \_\_f)

^~~~~~~~

/usr/include/c++/7/ostream:220:7: note: no known conversion for argument 1 from ‘std::istream {aka std::basic\_istream<char>}’ to ‘double’

/usr/include/c++/7/ostream:224:7: note: candidate: std::basic\_ostream<\_CharT, \_Traits>::\_\_ostream\_type& std::basic\_ostream<\_CharT, \_Traits>::operator<<(float) [with \_CharT = char; \_Traits = std::char\_traits<char>; std::basic\_ostream<\_CharT, \_Traits>::\_\_ostream\_type = std::basic\_ostream<char>]

operator<<(float \_\_f)

^~~~~~~~

/usr/include/c++/7/ostream:224:7: note: no known conversion for argument 1 from ‘std::istream {aka std::basic\_istream<char>}’ to ‘float’

/usr/include/c++/7/ostream:232:7: note: candidate: std::basic\_ostream<\_CharT, \_Traits>::\_\_ostream\_type& std::basic\_ostream<\_CharT, \_Traits>::operator<<(long double) [with \_CharT = char; \_Traits = std::char\_traits<char>; std::basic\_ostream<\_CharT, \_Traits>::\_\_ostream\_type = std::basic\_ostream<char>]

operator<<(long double \_\_f)

^~~~~~~~

/usr/include/c++/7/ostream:232:7: note: no known conversion for argument 1 from ‘std::istream {aka std::basic\_istream<char>}’ to ‘long double’

/usr/include/c++/7/ostream:245:7: note: candidate: std::basic\_ostream<\_CharT, \_Traits>::\_\_ostream\_type& std::basic\_ostream<\_CharT, \_Traits>::operator<<(const void\*) [with \_CharT = char; \_Traits = std::char\_traits<char>; std::basic\_ostream<\_CharT, \_Traits>::\_\_ostream\_type = std::basic\_ostream<char>]

operator<<(const void\* \_\_p)

^~~~~~~~

/usr/include/c++/7/ostream:245:7: note: no known conversion for argument 1 from ‘std::istream {aka std::basic\_istream<char>}’ to ‘const void\*’

In file included from /usr/include/c++/7/ostream:693:0,

from /usr/include/c++/7/istream:39,

from /usr/include/c++/7/fstream:38,

from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/bundle.cc:1:

/usr/include/c++/7/bits/ostream.tcc:119:5: note: candidate: std::basic\_ostream<\_CharT, \_Traits>& std::basic\_ostream<\_CharT, \_Traits>::operator<<(std::basic\_ostream<\_CharT, \_Traits>::\_\_streambuf\_type\*) [with \_CharT = char; \_Traits = std::char\_traits<char>; std::basic\_ostream<\_CharT, \_Traits>::\_\_streambuf\_type = std::basic\_streambuf<char>]

basic\_ostream<\_CharT, \_Traits>::

^~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

/usr/include/c++/7/bits/ostream.tcc:119:5: note: no known conversion for argument 1 from ‘std::istream {aka std::basic\_istream<char>}’ to ‘std::basic\_ostream<char>::\_\_streambuf\_type\* {aka std::basic\_streambuf<char>\*}’

In file included from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/../stann/zorder\_lt.hpp:20:0,

from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/../stann/sfcnn.hpp:31,

from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/bundle.h:15,

from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/bundle.cc:10:

/root/structure-from-motion/cmvs-pmvs/program/base/cmvs/../stann/dpoint.hpp:474:1: note: candidate: template<class NumType, unsigned int D> std::ostream& reviver::operator<<(std::ostream&, const reviver::dpoint<NumType, D>&)

operator<<(std::ostream& os,const dpoint<NumType,D> &p)

^~~~~~~~

/root/structure-from-motion/cmvs-pmvs/program/base/cmvs/../stann/dpoint.hpp:474:1: note: template argument deduction/substitution failed:

/root/structure-from-motion/cmvs-pmvs/program/base/cmvs/../stann/dpoint.hpp:492:13: note: ‘std::istream {aka std::basic\_istream<char>}’ is not derived from ‘const reviver::dpoint<NumType, D>’

<< is << std::endl;

^~

In file included from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/../stann/dpoint.hpp:25:0,

from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/../stann/zorder\_lt.hpp:20,

from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/../stann/sfcnn.hpp:31,

from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/bundle.h:15,

from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/bundle.cc:10:

/usr/include/c++/7/valarray:1180:1: note: candidate: template<class \_Tp> std::\_Expr<std::\_BinClos<std::\_\_shift\_left, std::\_Constant, std::\_ValArray, \_Tp, \_Tp>, typename std::\_\_fun<std::\_\_shift\_left, \_Tp>::result\_type> std::operator<<(const \_Tp&, const std::valarray<\_Tp>&)

\_DEFINE\_BINARY\_OPERATOR(<<, \_\_shift\_left)

^

/usr/include/c++/7/valarray:1180:1: note: template argument deduction/substitution failed:

In file included from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/../stann/zorder\_lt.hpp:20:0,

from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/../stann/sfcnn.hpp:31,

from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/bundle.h:15,

from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/bundle.cc:10:

/root/structure-from-motion/cmvs-pmvs/program/base/cmvs/../stann/dpoint.hpp:492:13: note: ‘std::istream {aka std::basic\_istream<char>}’ is not derived from ‘const std::valarray<\_Tp>’

<< is << std::endl;

^~

In file included from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/../stann/dpoint.hpp:25:0,

from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/../stann/zorder\_lt.hpp:20,

from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/../stann/sfcnn.hpp:31,

from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/bundle.h:15,

from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/bundle.cc:10:

/usr/include/c++/7/valarray:1180:1: note: candidate: template<class \_Tp> std::\_Expr<std::\_BinClos<std::\_\_shift\_left, std::\_ValArray, std::\_Constant, \_Tp, \_Tp>, typename std::\_\_fun<std::\_\_shift\_left, \_Tp>::result\_type> std::operator<<(const std::valarray<\_Tp>&, const \_Tp&)

\_DEFINE\_BINARY\_OPERATOR(<<, \_\_shift\_left)

^

/usr/include/c++/7/valarray:1180:1: note: template argument deduction/substitution failed:

In file included from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/../stann/zorder\_lt.hpp:20:0,

from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/../stann/sfcnn.hpp:31,

from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/bundle.h:15,

from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/bundle.cc:10:

/root/structure-from-motion/cmvs-pmvs/program/base/cmvs/../stann/dpoint.hpp:492:13: note: ‘std::basic\_ostream<char>’ is not derived from ‘const std::valarray<\_Tp>’

<< is << std::endl;

^~

In file included from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/../stann/dpoint.hpp:25:0,

from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/../stann/zorder\_lt.hpp:20,

from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/../stann/sfcnn.hpp:31,

from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/bundle.h:15,

from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/bundle.cc:10:

/usr/include/c++/7/valarray:1180:1: note: candidate: template<class \_Tp> std::\_Expr<std::\_BinClos<std::\_\_shift\_left, std::\_ValArray, std::\_ValArray, \_Tp, \_Tp>, typename std::\_\_fun<std::\_\_shift\_left, \_Tp>::result\_type> std::operator<<(const std::valarray<\_Tp>&, const std::valarray<\_Tp>&)

\_DEFINE\_BINARY\_OPERATOR(<<, \_\_shift\_left)

^

/usr/include/c++/7/valarray:1180:1: note: template argument deduction/substitution failed:

In file included from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/../stann/zorder\_lt.hpp:20:0,

from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/../stann/sfcnn.hpp:31,

from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/bundle.h:15,

from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/bundle.cc:10:

/root/structure-from-motion/cmvs-pmvs/program/base/cmvs/../stann/dpoint.hpp:492:13: note: ‘std::basic\_ostream<char>’ is not derived from ‘const std::valarray<\_Tp>’

<< is << std::endl;

^~

In file included from /usr/include/c++/7/valarray:592:0,

from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/../stann/dpoint.hpp:25,

from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/../stann/zorder\_lt.hpp:20,

from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/../stann/sfcnn.hpp:31,

from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/bundle.h:15,

from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/bundle.cc:10:

/usr/include/c++/7/bits/valarray\_after.h:410:5: note: candidate: template<class \_Dom> std::\_Expr<std::\_BinClos<std::\_\_shift\_left, std::\_ValArray, std::\_Expr, typename \_Dom::value\_type, \_Dom>, typename std::\_\_fun<std::\_\_shift\_left, typename \_Dom1::value\_type>::result\_type> std::operator<<(const std::valarray<typename \_Dom::value\_type>&, const std::\_Expr<\_Dom1, typename \_Dom1::value\_type>&)

\_DEFINE\_EXPR\_BINARY\_OPERATOR(<<, \_\_shift\_left)

^

/usr/include/c++/7/bits/valarray\_after.h:410:5: note: template argument deduction/substitution failed:

In file included from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/../stann/zorder\_lt.hpp:20:0,

from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/../stann/sfcnn.hpp:31,

from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/bundle.h:15,

from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/bundle.cc:10:

/root/structure-from-motion/cmvs-pmvs/program/base/cmvs/../stann/dpoint.hpp:492:13: note: ‘std::istream {aka std::basic\_istream<char>}’ is not derived from ‘const std::\_Expr<\_Dom1, typename \_Dom1::value\_type>’

<< is << std::endl;

^~

In file included from /usr/include/c++/7/valarray:592:0,

from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/../stann/dpoint.hpp:25,

from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/../stann/zorder\_lt.hpp:20,

from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/../stann/sfcnn.hpp:31,

from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/bundle.h:15,

from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/bundle.cc:10:

/usr/include/c++/7/bits/valarray\_after.h:410:5: note: candidate: template<class \_Dom> std::\_Expr<std::\_BinClos<std::\_\_shift\_left, std::\_Expr, std::\_ValArray, \_Dom, typename \_Dom::value\_type>, typename std::\_\_fun<std::\_\_shift\_left, typename \_Dom1::value\_type>::result\_type> std::operator<<(const std::\_Expr<\_Dom1, typename \_Dom1::value\_type>&, const std::valarray<typename \_Dom::value\_type>&)

\_DEFINE\_EXPR\_BINARY\_OPERATOR(<<, \_\_shift\_left)

^

/usr/include/c++/7/bits/valarray\_after.h:410:5: note: template argument deduction/substitution failed:

In file included from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/../stann/zorder\_lt.hpp:20:0,

from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/../stann/sfcnn.hpp:31,

from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/bundle.h:15,

from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/bundle.cc:10:

/root/structure-from-motion/cmvs-pmvs/program/base/cmvs/../stann/dpoint.hpp:492:13: note: ‘std::basic\_ostream<char>’ is not derived from ‘const std::\_Expr<\_Dom1, typename \_Dom1::value\_type>’

<< is << std::endl;

^~

In file included from /usr/include/c++/7/valarray:592:0,

from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/../stann/dpoint.hpp:25,

from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/../stann/zorder\_lt.hpp:20,

from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/../stann/sfcnn.hpp:31,

from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/bundle.h:15,

from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/bundle.cc:10:

/usr/include/c++/7/bits/valarray\_after.h:410:5: note: candidate: template<class \_Dom> std::\_Expr<std::\_BinClos<std::\_\_shift\_left, std::\_Constant, std::\_Expr, typename \_Dom::value\_type, \_Dom>, typename std::\_\_fun<std::\_\_shift\_left, typename \_Dom1::value\_type>::result\_type> std::operator<<(const typename \_Dom::value\_type&, const std::\_Expr<\_Dom1, typename \_Dom1::value\_type>&)

\_DEFINE\_EXPR\_BINARY\_OPERATOR(<<, \_\_shift\_left)

^

/usr/include/c++/7/bits/valarray\_after.h:410:5: note: template argument deduction/substitution failed:

In file included from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/../stann/zorder\_lt.hpp:20:0,

from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/../stann/sfcnn.hpp:31,

from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/bundle.h:15,

from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/bundle.cc:10:

/root/structure-from-motion/cmvs-pmvs/program/base/cmvs/../stann/dpoint.hpp:492:13: note: ‘std::istream {aka std::basic\_istream<char>}’ is not derived from ‘const std::\_Expr<\_Dom1, typename \_Dom1::value\_type>’

<< is << std::endl;

^~

In file included from /usr/include/c++/7/valarray:592:0,

from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/../stann/dpoint.hpp:25,

from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/../stann/zorder\_lt.hpp:20,

from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/../stann/sfcnn.hpp:31,

from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/bundle.h:15,

from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/bundle.cc:10:

/usr/include/c++/7/bits/valarray\_after.h:410:5: note: candidate: template<class \_Dom> std::\_Expr<std::\_BinClos<std::\_\_shift\_left, std::\_Expr, std::\_Constant, \_Dom, typename \_Dom::value\_type>, typename std::\_\_fun<std::\_\_shift\_left, typename \_Dom1::value\_type>::result\_type> std::operator<<(const std::\_Expr<\_Dom1, typename \_Dom1::value\_type>&, const typename \_Dom::value\_type&)

\_DEFINE\_EXPR\_BINARY\_OPERATOR(<<, \_\_shift\_left)

^

/usr/include/c++/7/bits/valarray\_after.h:410:5: note: template argument deduction/substitution failed:

In file included from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/../stann/zorder\_lt.hpp:20:0,

from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/../stann/sfcnn.hpp:31,

from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/bundle.h:15,

from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/bundle.cc:10:

/root/structure-from-motion/cmvs-pmvs/program/base/cmvs/../stann/dpoint.hpp:492:13: note: ‘std::basic\_ostream<char>’ is not derived from ‘const std::\_Expr<\_Dom1, typename \_Dom1::value\_type>’

<< is << std::endl;

^~

In file included from /usr/include/c++/7/valarray:592:0,

from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/../stann/dpoint.hpp:25,

from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/../stann/zorder\_lt.hpp:20,

from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/../stann/sfcnn.hpp:31,

from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/bundle.h:15,

from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/bundle.cc:10:

/usr/include/c++/7/bits/valarray\_after.h:410:5: note: candidate: template<class \_Dom1, class \_Dom2> std::\_Expr<std::\_BinClos<std::\_\_shift\_left, std::\_Expr, std::\_Expr, \_Dom1, \_Dom2>, typename std::\_\_fun<std::\_\_shift\_left, typename \_Dom1::value\_type>::result\_type> std::operator<<(const std::\_Expr<\_Dom1, typename \_Dom1::value\_type>&, const std::\_Expr<\_Dom2, typename \_Dom2::value\_type>&)

\_DEFINE\_EXPR\_BINARY\_OPERATOR(<<, \_\_shift\_left)

^

/usr/include/c++/7/bits/valarray\_after.h:410:5: note: template argument deduction/substitution failed:

In file included from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/../stann/zorder\_lt.hpp:20:0,

from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/../stann/sfcnn.hpp:31,

from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/bundle.h:15,

from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/bundle.cc:10:

/root/structure-from-motion/cmvs-pmvs/program/base/cmvs/../stann/dpoint.hpp:492:13: note: ‘std::basic\_ostream<char>’ is not derived from ‘const std::\_Expr<\_Dom1, typename \_Dom1::value\_type>’

<< is << std::endl;

^~

In file included from /usr/include/c++/7/memory:81:0,

from /usr/include/boost/config/no\_tr1/memory.hpp:21,

from /usr/include/boost/smart\_ptr/shared\_ptr.hpp:23,

from /usr/include/boost/shared\_ptr.hpp:17,

from /usr/include/boost/property\_map/vector\_property\_map.hpp:14,

from /usr/include/boost/property\_map/property\_map.hpp:601,

from /usr/include/boost/graph/properties.hpp:19,

from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/bundle.h:12,

from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/bundle.cc:10:

/usr/include/c++/7/bits/shared\_ptr.h:66:5: note: candidate: template<class \_Ch, class \_Tr, class \_Tp, \_\_gnu\_cxx::\_Lock\_policy \_Lp> std::basic\_ostream<\_CharT, \_Traits>& std::operator<<(std::basic\_ostream<\_CharT, \_Traits>&, const std::\_\_shared\_ptr<\_Tp, \_Lp>&)

operator<<(std::basic\_ostream<\_Ch, \_Tr>& \_\_os,

^~~~~~~~

/usr/include/c++/7/bits/shared\_ptr.h:66:5: note: template argument deduction/substitution failed:

In file included from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/../stann/zorder\_lt.hpp:20:0,

from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/../stann/sfcnn.hpp:31,

from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/bundle.h:15,

from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/bundle.cc:10:

/root/structure-from-motion/cmvs-pmvs/program/base/cmvs/../stann/dpoint.hpp:492:13: note: ‘std::istream {aka std::basic\_istream<char>}’ is not derived from ‘const std::\_\_shared\_ptr<\_Tp, \_Lp>’

<< is << std::endl;

^~

In file included from /usr/include/boost/type\_traits/is\_complex.hpp:11:0,

from /usr/include/boost/type\_traits.hpp:93,

from /usr/include/boost/pending/property.hpp:13,

from /usr/include/boost/graph/properties.hpp:15,

from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/bundle.h:12,

from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/bundle.cc:10:

/usr/include/c++/7/complex:528:5: note: candidate: template<class \_Tp, class \_CharT, class \_Traits> std::basic\_ostream<\_CharT, \_Traits>& std::operator<<(std::basic\_ostream<\_CharT, \_Traits>&, const std::complex<\_Tp>&)

operator<<(basic\_ostream<\_CharT, \_Traits>& \_\_os, const complex<\_Tp>& \_\_x)

^~~~~~~~

/usr/include/c++/7/complex:528:5: note: template argument deduction/substitution failed:

In file included from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/../stann/zorder\_lt.hpp:20:0,

from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/../stann/sfcnn.hpp:31,

from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/bundle.h:15,

from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/bundle.cc:10:

/root/structure-from-motion/cmvs-pmvs/program/base/cmvs/../stann/dpoint.hpp:492:13: note: ‘std::istream {aka std::basic\_istream<char>}’ is not derived from ‘const std::complex<\_Tp>’

<< is << std::endl;

^~

In file included from /usr/include/c++/7/istream:39:0,

from /usr/include/c++/7/fstream:38,

from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/bundle.cc:1:

/usr/include/c++/7/ostream:682:5: note: candidate: template<class \_Ostream, class \_Tp> typename std::enable\_if<std::\_\_and\_<std::\_\_not\_<std::is\_lvalue\_reference<\_Tp> >, std::\_\_is\_convertible\_to\_basic\_ostream<\_Ostream>, std::\_\_is\_insertable<typename std::\_\_is\_convertible\_to\_basic\_ostream<\_Tp>::\_\_ostream\_type, const \_Tp&, void> >::value, typename std::\_\_is\_convertible\_to\_basic\_ostream<\_Tp>::\_\_ostream\_type>::type std::operator<<(\_Ostream&&, const \_Tp&)

operator<<(\_Ostream&& \_\_os, const \_Tp& \_\_x)

^~~~~~~~

/usr/include/c++/7/ostream:682:5: note: template argument deduction/substitution failed:

/usr/include/c++/7/ostream: In substitution of ‘template<class \_Ostream, class \_Tp> typename std::enable\_if<std::\_\_and\_<std::\_\_not\_<std::is\_lvalue\_reference<\_Tp> >, std::\_\_is\_convertible\_to\_basic\_ostream<\_Ostream>, std::\_\_is\_insertable<typename std::\_\_is\_convertible\_to\_basic\_ostream<\_Tp>::\_\_ostream\_type, const \_Tp&, void> >::value, typename std::\_\_is\_convertible\_to\_basic\_ostream<\_Tp>::\_\_ostream\_type>::type std::operator<<(\_Ostream&&, const \_Tp&) [with \_Ostream = std::basic\_ostream<char>&; \_Tp = std::basic\_istream<char>]’:

/root/structure-from-motion/cmvs-pmvs/program/base/cmvs/../stann/dpoint.hpp:492:13: required from here

/usr/include/c++/7/ostream:682:5: error: no type named ‘type’ in ‘struct std::enable\_if<false, std::basic\_ostream<char>&>’

/usr/include/c++/7/ostream:574:5: note: candidate: template<class \_Traits> std::basic\_ostream<char, \_Traits>& std::operator<<(std::basic\_ostream<char, \_Traits>&, const unsigned char\*)

operator<<(basic\_ostream<char, \_Traits>& \_\_out, const unsigned char\* \_\_s)

^~~~~~~~

/usr/include/c++/7/ostream:574:5: note: template argument deduction/substitution failed:

In file included from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/../stann/zorder\_lt.hpp:20:0,

from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/../stann/sfcnn.hpp:31,

from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/bundle.h:15,

from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/bundle.cc:10:

/root/structure-from-motion/cmvs-pmvs/program/base/cmvs/../stann/dpoint.hpp:492:13: note: cannot convert ‘is’ (type ‘std::istream {aka std::basic\_istream<char>}’) to type ‘const unsigned char\*’

<< is << std::endl;

^~

In file included from /usr/include/c++/7/istream:39:0,

from /usr/include/c++/7/fstream:38,

from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/bundle.cc:1:

/usr/include/c++/7/ostream:569:5: note: candidate: template<class \_Traits> std::basic\_ostream<char, \_Traits>& std::operator<<(std::basic\_ostream<char, \_Traits>&, const signed char\*)

operator<<(basic\_ostream<char, \_Traits>& \_\_out, const signed char\* \_\_s)

^~~~~~~~

/usr/include/c++/7/ostream:569:5: note: template argument deduction/substitution failed:

In file included from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/../stann/zorder\_lt.hpp:20:0,

from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/../stann/sfcnn.hpp:31,

from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/bundle.h:15,

from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/bundle.cc:10:

/root/structure-from-motion/cmvs-pmvs/program/base/cmvs/../stann/dpoint.hpp:492:13: note: cannot convert ‘is’ (type ‘std::istream {aka std::basic\_istream<char>}’) to type ‘const signed char\*’

<< is << std::endl;

^~

In file included from /usr/include/c++/7/istream:39:0,

from /usr/include/c++/7/fstream:38,

from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/bundle.cc:1:

/usr/include/c++/7/ostream:556:5: note: candidate: template<class \_Traits> std::basic\_ostream<char, \_Traits>& std::operator<<(std::basic\_ostream<char, \_Traits>&, const char\*)

operator<<(basic\_ostream<char, \_Traits>& \_\_out, const char\* \_\_s)

^~~~~~~~

/usr/include/c++/7/ostream:556:5: note: template argument deduction/substitution failed:

In file included from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/../stann/zorder\_lt.hpp:20:0,

from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/../stann/sfcnn.hpp:31,

from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/bundle.h:15,

from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/bundle.cc:10:

/root/structure-from-motion/cmvs-pmvs/program/base/cmvs/../stann/dpoint.hpp:492:13: note: cannot convert ‘is’ (type ‘std::istream {aka std::basic\_istream<char>}’) to type ‘const char\*’

<< is << std::endl;

^~

In file included from /usr/include/c++/7/ostream:693:0,

from /usr/include/c++/7/istream:39,

from /usr/include/c++/7/fstream:38,

from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/bundle.cc:1:

/usr/include/c++/7/bits/ostream.tcc:321:5: note: candidate: template<class \_CharT, class \_Traits> std::basic\_ostream<\_CharT, \_Traits>& std::operator<<(std::basic\_ostream<\_CharT, \_Traits>&, const char\*)

operator<<(basic\_ostream<\_CharT, \_Traits>& \_\_out, const char\* \_\_s)

^~~~~~~~

/usr/include/c++/7/bits/ostream.tcc:321:5: note: template argument deduction/substitution failed:

In file included from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/../stann/zorder\_lt.hpp:20:0,

from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/../stann/sfcnn.hpp:31,

from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/bundle.h:15,

from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/bundle.cc:10:

/root/structure-from-motion/cmvs-pmvs/program/base/cmvs/../stann/dpoint.hpp:492:13: note: cannot convert ‘is’ (type ‘std::istream {aka std::basic\_istream<char>}’) to type ‘const char\*’

<< is << std::endl;

^~

In file included from /usr/include/c++/7/istream:39:0,

from /usr/include/c++/7/fstream:38,

from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/bundle.cc:1:

/usr/include/c++/7/ostream:539:5: note: candidate: template<class \_CharT, class \_Traits> std::basic\_ostream<\_CharT, \_Traits>& std::operator<<(std::basic\_ostream<\_CharT, \_Traits>&, const \_CharT\*)

operator<<(basic\_ostream<\_CharT, \_Traits>& \_\_out, const \_CharT\* \_\_s)

^~~~~~~~

/usr/include/c++/7/ostream:539:5: note: template argument deduction/substitution failed:

In file included from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/../stann/zorder\_lt.hpp:20:0,

from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/../stann/sfcnn.hpp:31,

from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/bundle.h:15,

from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/bundle.cc:10:

/root/structure-from-motion/cmvs-pmvs/program/base/cmvs/../stann/dpoint.hpp:492:13: note: mismatched types ‘const \_CharT\*’ and ‘std::basic\_istream<char>’

<< is << std::endl;

^~

In file included from /usr/include/c++/7/istream:39:0,

from /usr/include/c++/7/fstream:38,

from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/bundle.cc:1:

/usr/include/c++/7/ostream:519:5: note: candidate: template<class \_Traits> std::basic\_ostream<char, \_Traits>& std::operator<<(std::basic\_ostream<char, \_Traits>&, unsigned char)

operator<<(basic\_ostream<char, \_Traits>& \_\_out, unsigned char \_\_c)

^~~~~~~~

/usr/include/c++/7/ostream:519:5: note: template argument deduction/substitution failed:

In file included from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/../stann/zorder\_lt.hpp:20:0,

from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/../stann/sfcnn.hpp:31,

from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/bundle.h:15,

from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/bundle.cc:10:

/root/structure-from-motion/cmvs-pmvs/program/base/cmvs/../stann/dpoint.hpp:492:13: note: cannot convert ‘is’ (type ‘std::istream {aka std::basic\_istream<char>}’) to type ‘unsigned char’

<< is << std::endl;

^~

In file included from /usr/include/c++/7/istream:39:0,

from /usr/include/c++/7/fstream:38,

from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/bundle.cc:1:

/usr/include/c++/7/ostream:514:5: note: candidate: template<class \_Traits> std::basic\_ostream<char, \_Traits>& std::operator<<(std::basic\_ostream<char, \_Traits>&, signed char)

operator<<(basic\_ostream<char, \_Traits>& \_\_out, signed char \_\_c)

^~~~~~~~

/usr/include/c++/7/ostream:514:5: note: template argument deduction/substitution failed:

In file included from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/../stann/zorder\_lt.hpp:20:0,

from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/../stann/sfcnn.hpp:31,

from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/bundle.h:15,

from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/bundle.cc:10:

/root/structure-from-motion/cmvs-pmvs/program/base/cmvs/../stann/dpoint.hpp:492:13: note: cannot convert ‘is’ (type ‘std::istream {aka std::basic\_istream<char>}’) to type ‘signed char’

<< is << std::endl;

^~

In file included from /usr/include/c++/7/istream:39:0,

from /usr/include/c++/7/fstream:38,

from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/bundle.cc:1:

/usr/include/c++/7/ostream:508:5: note: candidate: template<class \_Traits> std::basic\_ostream<char, \_Traits>& std::operator<<(std::basic\_ostream<char, \_Traits>&, char)

operator<<(basic\_ostream<char, \_Traits>& \_\_out, char \_\_c)

^~~~~~~~

/usr/include/c++/7/ostream:508:5: note: template argument deduction/substitution failed:

In file included from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/../stann/zorder\_lt.hpp:20:0,

from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/../stann/sfcnn.hpp:31,

from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/bundle.h:15,

from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/bundle.cc:10:

/root/structure-from-motion/cmvs-pmvs/program/base/cmvs/../stann/dpoint.hpp:492:13: note: cannot convert ‘is’ (type ‘std::istream {aka std::basic\_istream<char>}’) to type ‘char’

<< is << std::endl;

^~

In file included from /usr/include/c++/7/istream:39:0,

from /usr/include/c++/7/fstream:38,

from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/bundle.cc:1:

/usr/include/c++/7/ostream:502:5: note: candidate: template<class \_CharT, class \_Traits> std::basic\_ostream<\_CharT, \_Traits>& std::operator<<(std::basic\_ostream<\_CharT, \_Traits>&, char)

operator<<(basic\_ostream<\_CharT, \_Traits>& \_\_out, char \_\_c)

^~~~~~~~

/usr/include/c++/7/ostream:502:5: note: template argument deduction/substitution failed:

In file included from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/../stann/zorder\_lt.hpp:20:0,

from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/../stann/sfcnn.hpp:31,

from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/bundle.h:15,

from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/bundle.cc:10:

/root/structure-from-motion/cmvs-pmvs/program/base/cmvs/../stann/dpoint.hpp:492:13: note: cannot convert ‘is’ (type ‘std::istream {aka std::basic\_istream<char>}’) to type ‘char’

<< is << std::endl;

^~

In file included from /usr/include/c++/7/istream:39:0,

from /usr/include/c++/7/fstream:38,

from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/bundle.cc:1:

/usr/include/c++/7/ostream:497:5: note: candidate: template<class \_CharT, class \_Traits> std::basic\_ostream<\_CharT, \_Traits>& std::operator<<(std::basic\_ostream<\_CharT, \_Traits>&, \_CharT)

operator<<(basic\_ostream<\_CharT, \_Traits>& \_\_out, \_CharT \_\_c)

^~~~~~~~

/usr/include/c++/7/ostream:497:5: note: template argument deduction/substitution failed:

In file included from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/../stann/zorder\_lt.hpp:20:0,

from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/../stann/sfcnn.hpp:31,

from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/bundle.h:15,

from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/bundle.cc:10:

/root/structure-from-motion/cmvs-pmvs/program/base/cmvs/../stann/dpoint.hpp:492:13: note: deduced conflicting types for parameter ‘\_CharT’ (‘char’ and ‘std::basic\_istream<char>’)

<< is << std::endl;

^~

In file included from /usr/include/c++/7/bits/ios\_base.h:46:0,

from /usr/include/c++/7/ios:42,

from /usr/include/c++/7/istream:38,

from /usr/include/c++/7/fstream:38,

from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/bundle.cc:1:

/usr/include/c++/7/system\_error:217:5: note: candidate: template<class \_CharT, class \_Traits> std::basic\_ostream<\_CharT, \_Traits>& std::operator<<(std::basic\_ostream<\_CharT, \_Traits>&, const std::error\_code&)

operator<<(basic\_ostream<\_CharT, \_Traits>& \_\_os, const error\_code& \_\_e)

^~~~~~~~

/usr/include/c++/7/system\_error:217:5: note: template argument deduction/substitution failed:

In file included from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/../stann/zorder\_lt.hpp:20:0,

from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/../stann/sfcnn.hpp:31,

from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/bundle.h:15,

from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/bundle.cc:10:

/root/structure-from-motion/cmvs-pmvs/program/base/cmvs/../stann/dpoint.hpp:492:13: note: cannot convert ‘is’ (type ‘std::istream {aka std::basic\_istream<char>}’) to type ‘const std::error\_code&’

<< is << std::endl;

^~

In file included from /usr/include/c++/7/string:52:0,

from /usr/include/c++/7/bits/locale\_classes.h:40,

from /usr/include/c++/7/bits/ios\_base.h:41,

from /usr/include/c++/7/ios:42,

from /usr/include/c++/7/istream:38,

from /usr/include/c++/7/fstream:38,

from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/bundle.cc:1:

/usr/include/c++/7/bits/basic\_string.h:6284:5: note: candidate: template<class \_CharT, class \_Traits, class \_Alloc> std::basic\_ostream<\_CharT, \_Traits>& std::operator<<(std::basic\_ostream<\_CharT, \_Traits>&, const std::\_\_cxx11::basic\_string<\_CharT, \_Traits, \_Alloc>&)

operator<<(basic\_ostream<\_CharT, \_Traits>& \_\_os,

^~~~~~~~

/usr/include/c++/7/bits/basic\_string.h:6284:5: note: template argument deduction/substitution failed:

In file included from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/../stann/zorder\_lt.hpp:20:0,

from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/../stann/sfcnn.hpp:31,

from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/bundle.h:15,

from /root/structure-from-motion/cmvs-pmvs/program/base/cmvs/bundle.cc:10:

/root/structure-from-motion/cmvs-pmvs/program/base/cmvs/../stann/dpoint.hpp:492:13: note: ‘std::istream {aka std::basic\_istream<char>}’ is not derived from ‘const std::\_\_cxx11::basic\_string<\_CharT, \_Traits, \_Alloc>’

<< is << std::endl;

^~

base/cmvs/CMakeFiles/cmvs\_lib.dir/build.make:62: recipe for target 'base/cmvs/CMakeFiles/cmvs\_lib.dir/bundle.cc.o' failed

make[2]: \*\*\* [base/cmvs/CMakeFiles/cmvs\_lib.dir/bundle.cc.o] Error 1

CMakeFiles/Makefile2:112: recipe for target 'base/cmvs/CMakeFiles/cmvs\_lib.dir/all' failed

make[1]: \*\*\* [base/cmvs/CMakeFiles/cmvs\_lib.dir/all] Error 2

Makefile:129: recipe for target 'all' failed

make: \*\*\* [all] Error 2

应该是环境的问题，哪个环境的问题呢？

重新编译bundler，这次好像没有出错

(sfm) root@container-8fb311a93c-926d03ef:~/structure-from-motion# cd bundler\_sfm

(sfm) root@container-8fb311a93c-926d03ef:~/structure-from-motion/bundler\_sfm# make

cd lib/5point; make

make[1]: Entering directory '/root/structure-from-motion/bundler\_sfm/lib/5point'

make[1]: Nothing to be done for 'all'.

make[1]: Leaving directory '/root/structure-from-motion/bundler\_sfm/lib/5point'

cd lib/ann\_1.1\_char; make linux-g++-shared

make[1]: Entering directory '/root/structure-from-motion/bundler\_sfm/lib/ann\_1.1\_char'

cd src ; make linux-g++-shared

make[2]: Entering directory '/root/structure-from-motion/bundler\_sfm/lib/ann\_1.1\_char/src'

make targets \

"ANNLIB = libANN\_char.so" \

"C++ = g++" \

"CFLAGS = -g2 -fPIC" \

"MAKELIB = g++ -shared -o " \

"RANLIB = true"

make[3]: Entering directory '/root/structure-from-motion/bundler\_sfm/lib/ann\_1.1\_char/src'

g++ -shared -o libANN\_char.so ANN.o brute.o kd\_tree.o kd\_util.o kd\_split.o kd\_dump.o kd\_search.o kd\_pr\_search.o kd\_fix\_rad\_search.o bd\_tree.o bd\_search.o bd\_pr\_search.o bd\_fix\_rad\_search.o perf.o

true libANN\_char.so

cp libANN\_char.so ../..

cp libANN\_char.so ../../../bin

mv libANN\_char.so ../lib

make[3]: Leaving directory '/root/structure-from-motion/bundler\_sfm/lib/ann\_1.1\_char/src'

make[2]: Leaving directory '/root/structure-from-motion/bundler\_sfm/lib/ann\_1.1\_char/src'

make[1]: Leaving directory '/root/structure-from-motion/bundler\_sfm/lib/ann\_1.1\_char'

cd lib/imagelib; make

make[1]: Entering directory '/root/structure-from-motion/bundler\_sfm/lib/imagelib'

make[1]: Nothing to be done for 'all'.

make[1]: Leaving directory '/root/structure-from-motion/bundler\_sfm/lib/imagelib'

cd lib/matrix; make

make[1]: Entering directory '/root/structure-from-motion/bundler\_sfm/lib/matrix'

make[1]: Nothing to be done for 'all'.

make[1]: Leaving directory '/root/structure-from-motion/bundler\_sfm/lib/matrix'

cd lib/sba-1.5; make

make[1]: Entering directory '/root/structure-from-motion/bundler\_sfm/lib/sba-1.5'

make[1]: Nothing to be done for 'all'.

make[1]: Leaving directory '/root/structure-from-motion/bundler\_sfm/lib/sba-1.5'

cd lib/sfm-driver; make

make[1]: Entering directory '/root/structure-from-motion/bundler\_sfm/lib/sfm-driver'

make[1]: Nothing to be done for 'all'.

make[1]: Leaving directory '/root/structure-from-motion/bundler\_sfm/lib/sfm-driver'

cd lib/minpack; make

make[1]: Entering directory '/root/structure-from-motion/bundler\_sfm/lib/minpack'

make[1]: Nothing to be done for 'all'.

make[1]: Leaving directory '/root/structure-from-motion/bundler\_sfm/lib/minpack'

cd lib/cblas; make

make[1]: Entering directory '/root/structure-from-motion/bundler\_sfm/lib/cblas'

make[1]: Nothing to be done for 'all'.

make[1]: Leaving directory '/root/structure-from-motion/bundler\_sfm/lib/cblas'

cd lib/f2c; make

make[1]: Entering directory '/root/structure-from-motion/bundler\_sfm/lib/f2c'

make[1]: Nothing to be done for 'all'.

make[1]: Leaving directory '/root/structure-from-motion/bundler\_sfm/lib/f2c'

cd src; make

make[1]: Entering directory '/root/structure-from-motion/bundler\_sfm/src'

make[1]: Nothing to be done for 'all'.

make[1]: Leaving directory '/root/structure-from-motion/bundler\_sfm/src'

再次编译cmvs pmvs2

删除原有的cmvs，重新安装，参考[使用openMVG+PMVS实现视觉三维重建 |](https://blog.yanjingang.com/?p=3329)

git clone <https://github.com/pmoulon/CMVS-PMVS.git>

cd CMVS-PMVS

mkdir build && cd build

cmake ../program/

make

不行，重新下载原来版本的cmvs，

[errors compiling cmvs-pmvs · Issue #1 · pmoulon/CMVS-PMVS (github.com)](https://github.com/pmoulon/CMVS-PMVS/issues/1)

## cmvs还是不行，可能是g++ 版本不匹配造成的。

**“gcc -v”"g++ -v"**,按回车键则看到对版本信息

[linux下gcc、g++不同版本的安装和切换 - 简书 (jianshu.com)](https://www.jianshu.com/p/f66eed3a3a25)

**1. 可以通过如下命令查看当前安装的版本：**

ll /usr/bin/gcc\*

**2. 安装gcc-4.8 和gcc-5：**

sudo apt install gcc-4.8 gcc-4.8-multilib g++-4.8 g++-4.8-multilib  
sudo apt install gcc-5 gcc-5--multilib g++-5 g++-5—multilib

## 安装gcc-4.8

(sfm) root@container-8fb311a93c-926d03ef:~/structure-from-motion/build# sudo apt install gcc-4.8 gcc-4.8-multilib g++-4.8 g++-4.8-multilib

Reading package lists... Done

Building dependency tree

Reading state information... Done

The following additional packages will be installed:

cpp-4.8 gcc-4.8-base gcc-7-multilib gcc-multilib lib32asan0 lib32asan4 lib32atomic1 lib32cilkrts5 lib32gcc-4.8-dev lib32gcc-7-dev lib32gcc1 lib32gomp1 lib32itm1 lib32mpx2 lib32quadmath0 lib32stdc++-4.8-dev lib32stdc++6 lib32ubsan0 libasan0 libc-dev-bin libc6 libc6-dev libc6-dev-i386 libc6-dev-x32 libc6-i386 libc6-x32 libgcc-4.8-dev libstdc++-4.8-dev

libx32asan0 libx32asan4 libx32atomic1 libx32cilkrts5 libx32gcc-4.8-dev libx32gcc-7-dev libx32gcc1 libx32gomp1 libx32itm1 libx32quadmath0 libx32stdc++-4.8-dev libx32stdc++6 libx32ubsan0

Suggested packages:

gcc-4.8-locales gcc-4.8-doc libstdc++6-4.8-dbg lib32stdc++6-4.8-dbg libx32stdc++6-4.8-dbg libgcc1-dbg libgomp1-dbg libitm1-dbg libatomic1-dbg libasan0-dbg libtsan0-dbg libquadmath0-dbg glibc-doc manpages-dev libstdc++-4.8-doc

Recommended packages:

manpages manpages-dev

The following NEW packages will be installed:

cpp-4.8 g++-4.8 g++-4.8-multilib gcc-4.8 gcc-4.8-base gcc-4.8-multilib gcc-7-multilib gcc-multilib lib32asan0 lib32asan4 lib32atomic1 lib32cilkrts5 lib32gcc-4.8-dev lib32gcc-7-dev lib32gcc1 lib32gomp1 lib32itm1 lib32mpx2 lib32quadmath0 lib32stdc++-4.8-dev lib32stdc++6 lib32ubsan0 libasan0 libc6-dev-i386 libc6-dev-x32 libc6-i386 libc6-x32

libgcc-4.8-dev libstdc++-4.8-dev libx32asan0 libx32asan4 libx32atomic1 libx32cilkrts5 libx32gcc-4.8-dev libx32gcc-7-dev libx32gcc1 libx32gomp1 libx32itm1 libx32quadmath0 libx32stdc++-4.8-dev libx32stdc++6 libx32ubsan0

The following packages will be upgraded:

libc-dev-bin libc6 libc6-dev

3 upgraded, 42 newly installed, 0 to remove and 92 not upgraded.

Need to get 54.9 MB of archives.

After this operation, 167 MB of additional disk space will be used.

Do you want to continue? [Y/n] y

Get:1 http://mirrors.aliyun.com/ubuntu bionic-security/main amd64 libc6-dev amd64 2.27-3ubuntu1.5 [2,587 kB]

Get:2 http://mirrors.aliyun.com/ubuntu bionic-security/main amd64 libc-dev-bin amd64 2.27-3ubuntu1.5 [71.9 kB]

Get:3 http://mirrors.aliyun.com/ubuntu bionic-security/main amd64 libc6 amd64 2.27-3ubuntu1.5 [2,830 kB]

Get:4 http://mirrors.aliyun.com/ubuntu bionic/universe amd64 gcc-4.8-base amd64 4.8.5-4ubuntu8 [15.8 kB]

Get:5 http://mirrors.aliyun.com/ubuntu bionic/universe amd64 cpp-4.8 amd64 4.8.5-4ubuntu8 [4,368 kB]

Get:6 http://mirrors.aliyun.com/ubuntu bionic/universe amd64 libasan0 amd64 4.8.5-4ubuntu8 [63.0 kB]

Get:7 http://mirrors.aliyun.com/ubuntu bionic/universe amd64 libgcc-4.8-dev amd64 4.8.5-4ubuntu8 [1,691 kB]

Get:8 http://mirrors.aliyun.com/ubuntu bionic/universe amd64 gcc-4.8 amd64 4.8.5-4ubuntu8 [4,510 kB]

Get:9 http://mirrors.aliyun.com/ubuntu bionic/universe amd64 libstdc++-4.8-dev amd64 4.8.5-4ubuntu8 [1,043 kB]

Get:10 http://mirrors.aliyun.com/ubuntu bionic/universe amd64 g++-4.8 amd64 4.8.5-4ubuntu8 [17.6 MB]

Get:11 http://mirrors.aliyun.com/ubuntu bionic-security/main amd64 libc6-i386 amd64 2.27-3ubuntu1.5 [2,648 kB]

Get:12 http://mirrors.aliyun.com/ubuntu bionic-security/main amd64 libc6-dev-i386 amd64 2.27-3ubuntu1.5 [1,818 kB]

Get:13 http://mirrors.aliyun.com/ubuntu bionic-security/main amd64 libc6-x32 amd64 2.27-3ubuntu1.5 [2,847 kB]

Get:14 http://mirrors.aliyun.com/ubuntu bionic-security/main amd64 libc6-dev-x32 amd64 2.27-3ubuntu1.5 [2,018 kB]

Get:15 http://mirrors.aliyun.com/ubuntu bionic-security/main amd64 lib32gcc1 amd64 1:8.4.0-1ubuntu1~18.04 [48.1 kB]

Get:16 http://mirrors.aliyun.com/ubuntu bionic-security/main amd64 libx32gcc1 amd64 1:8.4.0-1ubuntu1~18.04 [40.5 kB]

Get:17 http://mirrors.aliyun.com/ubuntu bionic-security/main amd64 lib32gomp1 amd64 8.4.0-1ubuntu1~18.04 [83.7 kB]

Get:18 http://mirrors.aliyun.com/ubuntu bionic-security/main amd64 libx32gomp1 amd64 8.4.0-1ubuntu1~18.04 [77.8 kB]

Get:19 http://mirrors.aliyun.com/ubuntu bionic-security/main amd64 lib32itm1 amd64 8.4.0-1ubuntu1~18.04 [30.0 kB]

Get:20 http://mirrors.aliyun.com/ubuntu bionic-security/main amd64 libx32itm1 amd64 8.4.0-1ubuntu1~18.04 [28.1 kB]

Get:21 http://mirrors.aliyun.com/ubuntu bionic-security/main amd64 lib32atomic1 amd64 8.4.0-1ubuntu1~18.04 [8,664 B]

Get:22 http://mirrors.aliyun.com/ubuntu bionic-security/main amd64 libx32atomic1 amd64 8.4.0-1ubuntu1~18.04 [9,188 B]

Get:23 http://mirrors.aliyun.com/ubuntu bionic/universe amd64 lib32asan0 amd64 4.8.5-4ubuntu8 [64.1 kB]

Get:24 http://mirrors.aliyun.com/ubuntu bionic/universe amd64 libx32asan0 amd64 4.8.5-4ubuntu8 [63.0 kB]

Get:25 http://mirrors.aliyun.com/ubuntu bionic-security/main amd64 lib32quadmath0 amd64 8.4.0-1ubuntu1~18.04 [208 kB]

Get:26 http://mirrors.aliyun.com/ubuntu bionic-security/main amd64 libx32quadmath0 amd64 8.4.0-1ubuntu1~18.04 [135 kB]

Get:27 http://mirrors.aliyun.com/ubuntu bionic/universe amd64 lib32gcc-4.8-dev amd64 4.8.5-4ubuntu8 [1,683 kB]

Get:28 http://mirrors.aliyun.com/ubuntu bionic/universe amd64 libx32gcc-4.8-dev amd64 4.8.5-4ubuntu8 [1,556 kB]

Get:29 http://mirrors.aliyun.com/ubuntu bionic/universe amd64 gcc-4.8-multilib amd64 4.8.5-4ubuntu8 [1,044 B]

Get:30 http://mirrors.aliyun.com/ubuntu bionic-security/main amd64 lib32stdc++6 amd64 8.4.0-1ubuntu1~18.04 [415 kB]

Get:31 http://mirrors.aliyun.com/ubuntu bionic/universe amd64 lib32stdc++-4.8-dev amd64 4.8.5-4ubuntu8 [321 kB]

Get:32 http://mirrors.aliyun.com/ubuntu bionic-security/main amd64 libx32stdc++6 amd64 8.4.0-1ubuntu1~18.04 [387 kB]

Get:33 http://mirrors.aliyun.com/ubuntu bionic/universe amd64 libx32stdc++-4.8-dev amd64 4.8.5-4ubuntu8 [314 kB]

Get:34 http://mirrors.aliyun.com/ubuntu bionic/universe amd64 g++-4.8-multilib amd64 4.8.5-4ubuntu8 [1,060 B]

Get:35 http://mirrors.aliyun.com/ubuntu bionic-security/main amd64 lib32asan4 amd64 7.5.0-3ubuntu1~18.04 [362 kB]

Get:36 http://mirrors.aliyun.com/ubuntu bionic-security/main amd64 libx32asan4 amd64 7.5.0-3ubuntu1~18.04 [351 kB]

Get:37 http://mirrors.aliyun.com/ubuntu bionic-security/main amd64 lib32ubsan0 amd64 7.5.0-3ubuntu1~18.04 [140 kB]

Get:38 http://mirrors.aliyun.com/ubuntu bionic-security/main amd64 libx32ubsan0 amd64 7.5.0-3ubuntu1~18.04 [127 kB]

Get:39 http://mirrors.aliyun.com/ubuntu bionic-security/main amd64 lib32cilkrts5 amd64 7.5.0-3ubuntu1~18.04 [47.2 kB]

Get:40 http://mirrors.aliyun.com/ubuntu bionic-security/main amd64 libx32cilkrts5 amd64 7.5.0-3ubuntu1~18.04 [43.0 kB]

Get:41 http://mirrors.aliyun.com/ubuntu bionic-security/main amd64 lib32mpx2 amd64 8.4.0-1ubuntu1~18.04 [12.9 kB]

Get:42 http://mirrors.aliyun.com/ubuntu bionic-security/main amd64 lib32gcc-7-dev amd64 7.5.0-3ubuntu1~18.04 [2,211 kB]

Get:43 http://mirrors.aliyun.com/ubuntu bionic-security/main amd64 libx32gcc-7-dev amd64 7.5.0-3ubuntu1~18.04 [1,999 kB]

Get:44 http://mirrors.aliyun.com/ubuntu bionic-security/main amd64 gcc-7-multilib amd64 7.5.0-3ubuntu1~18.04 [1,048 B]

Get:45 http://mirrors.aliyun.com/ubuntu bionic-security/main amd64 gcc-multilib amd64 4:7.4.0-1ubuntu2.3 [1,428 B]

Fetched 54.9 MB in 7s (8,419 kB/s)

debconf: delaying package configuration, since apt-utils is not installed

(Reading database ... 57509 files and directories currently installed.)

Preparing to unpack .../libc6-dev\_2.27-3ubuntu1.5\_amd64.deb ...

Unpacking libc6-dev:amd64 (2.27-3ubuntu1.5) over (2.27-3ubuntu1.3) ...

Preparing to unpack .../libc-dev-bin\_2.27-3ubuntu1.5\_amd64.deb ...

Unpacking libc-dev-bin (2.27-3ubuntu1.5) over (2.27-3ubuntu1.3) ...

Preparing to unpack .../libc6\_2.27-3ubuntu1.5\_amd64.deb ...

Unpacking libc6:amd64 (2.27-3ubuntu1.5) over (2.27-3ubuntu1.3) ...

Setting up libc6:amd64 (2.27-3ubuntu1.5) ...

Selecting previously unselected package gcc-4.8-base:amd64.

(Reading database ... 57509 files and directories currently installed.)

Preparing to unpack .../00-gcc-4.8-base\_4.8.5-4ubuntu8\_amd64.deb ...

Unpacking gcc-4.8-base:amd64 (4.8.5-4ubuntu8) ...

Selecting previously unselected package cpp-4.8.

Preparing to unpack .../01-cpp-4.8\_4.8.5-4ubuntu8\_amd64.deb ...

Unpacking cpp-4.8 (4.8.5-4ubuntu8) ...

Selecting previously unselected package libasan0:amd64.

Preparing to unpack .../02-libasan0\_4.8.5-4ubuntu8\_amd64.deb ...

Unpacking libasan0:amd64 (4.8.5-4ubuntu8) ...

Selecting previously unselected package libgcc-4.8-dev:amd64.

Preparing to unpack .../03-libgcc-4.8-dev\_4.8.5-4ubuntu8\_amd64.deb ...

Unpacking libgcc-4.8-dev:amd64 (4.8.5-4ubuntu8) ...

Selecting previously unselected package gcc-4.8.

Preparing to unpack .../04-gcc-4.8\_4.8.5-4ubuntu8\_amd64.deb ...

Unpacking gcc-4.8 (4.8.5-4ubuntu8) ...

Selecting previously unselected package libstdc++-4.8-dev:amd64.

Preparing to unpack .../05-libstdc++-4.8-dev\_4.8.5-4ubuntu8\_amd64.deb ...

Unpacking libstdc++-4.8-dev:amd64 (4.8.5-4ubuntu8) ...

Selecting previously unselected package g++-4.8.

Preparing to unpack .../06-g++-4.8\_4.8.5-4ubuntu8\_amd64.deb ...

Unpacking g++-4.8 (4.8.5-4ubuntu8) ...

Selecting previously unselected package libc6-i386.

Preparing to unpack .../07-libc6-i386\_2.27-3ubuntu1.5\_amd64.deb ...

Unpacking libc6-i386 (2.27-3ubuntu1.5) ...

Selecting previously unselected package libc6-dev-i386.

Preparing to unpack .../08-libc6-dev-i386\_2.27-3ubuntu1.5\_amd64.deb ...

Unpacking libc6-dev-i386 (2.27-3ubuntu1.5) ...

Selecting previously unselected package libc6-x32.

Preparing to unpack .../09-libc6-x32\_2.27-3ubuntu1.5\_amd64.deb ...

Unpacking libc6-x32 (2.27-3ubuntu1.5) ...

Selecting previously unselected package libc6-dev-x32.

Preparing to unpack .../10-libc6-dev-x32\_2.27-3ubuntu1.5\_amd64.deb ...

Unpacking libc6-dev-x32 (2.27-3ubuntu1.5) ...

Selecting previously unselected package lib32gcc1.

Preparing to unpack .../11-lib32gcc1\_1%3a8.4.0-1ubuntu1~18.04\_amd64.deb ...

Unpacking lib32gcc1 (1:8.4.0-1ubuntu1~18.04) ...

Selecting previously unselected package libx32gcc1.

Preparing to unpack .../12-libx32gcc1\_1%3a8.4.0-1ubuntu1~18.04\_amd64.deb ...

Unpacking libx32gcc1 (1:8.4.0-1ubuntu1~18.04) ...

Selecting previously unselected package lib32gomp1.

Preparing to unpack .../13-lib32gomp1\_8.4.0-1ubuntu1~18.04\_amd64.deb ...

Unpacking lib32gomp1 (8.4.0-1ubuntu1~18.04) ...

Selecting previously unselected package libx32gomp1.

Preparing to unpack .../14-libx32gomp1\_8.4.0-1ubuntu1~18.04\_amd64.deb ...

Unpacking libx32gomp1 (8.4.0-1ubuntu1~18.04) ...

Selecting previously unselected package lib32itm1.

Preparing to unpack .../15-lib32itm1\_8.4.0-1ubuntu1~18.04\_amd64.deb ...

Unpacking lib32itm1 (8.4.0-1ubuntu1~18.04) ...

Selecting previously unselected package libx32itm1.

Preparing to unpack .../16-libx32itm1\_8.4.0-1ubuntu1~18.04\_amd64.deb ...

Unpacking libx32itm1 (8.4.0-1ubuntu1~18.04) ...

Selecting previously unselected package lib32atomic1.

Preparing to unpack .../17-lib32atomic1\_8.4.0-1ubuntu1~18.04\_amd64.deb ...

Unpacking lib32atomic1 (8.4.0-1ubuntu1~18.04) ...

Selecting previously unselected package libx32atomic1.

Preparing to unpack .../18-libx32atomic1\_8.4.0-1ubuntu1~18.04\_amd64.deb ...

Unpacking libx32atomic1 (8.4.0-1ubuntu1~18.04) ...

Selecting previously unselected package lib32asan0.

Preparing to unpack .../19-lib32asan0\_4.8.5-4ubuntu8\_amd64.deb ...

Unpacking lib32asan0 (4.8.5-4ubuntu8) ...

Selecting previously unselected package libx32asan0.

Preparing to unpack .../20-libx32asan0\_4.8.5-4ubuntu8\_amd64.deb ...

Unpacking libx32asan0 (4.8.5-4ubuntu8) ...

Selecting previously unselected package lib32quadmath0.

Preparing to unpack .../21-lib32quadmath0\_8.4.0-1ubuntu1~18.04\_amd64.deb ...

Unpacking lib32quadmath0 (8.4.0-1ubuntu1~18.04) ...

Selecting previously unselected package libx32quadmath0.

Preparing to unpack .../22-libx32quadmath0\_8.4.0-1ubuntu1~18.04\_amd64.deb ...

Unpacking libx32quadmath0 (8.4.0-1ubuntu1~18.04) ...

Selecting previously unselected package lib32gcc-4.8-dev.

Preparing to unpack .../23-lib32gcc-4.8-dev\_4.8.5-4ubuntu8\_amd64.deb ...

Unpacking lib32gcc-4.8-dev (4.8.5-4ubuntu8) ...

Selecting previously unselected package libx32gcc-4.8-dev.

Preparing to unpack .../24-libx32gcc-4.8-dev\_4.8.5-4ubuntu8\_amd64.deb ...

Unpacking libx32gcc-4.8-dev (4.8.5-4ubuntu8) ...

Selecting previously unselected package gcc-4.8-multilib.

Preparing to unpack .../25-gcc-4.8-multilib\_4.8.5-4ubuntu8\_amd64.deb ...

Unpacking gcc-4.8-multilib (4.8.5-4ubuntu8) ...

Selecting previously unselected package lib32stdc++6.

Preparing to unpack .../26-lib32stdc++6\_8.4.0-1ubuntu1~18.04\_amd64.deb ...

Unpacking lib32stdc++6 (8.4.0-1ubuntu1~18.04) ...

Selecting previously unselected package lib32stdc++-4.8-dev.

Preparing to unpack .../27-lib32stdc++-4.8-dev\_4.8.5-4ubuntu8\_amd64.deb ...

Unpacking lib32stdc++-4.8-dev (4.8.5-4ubuntu8) ...

Selecting previously unselected package libx32stdc++6.

Preparing to unpack .../28-libx32stdc++6\_8.4.0-1ubuntu1~18.04\_amd64.deb ...

Unpacking libx32stdc++6 (8.4.0-1ubuntu1~18.04) ...

Selecting previously unselected package libx32stdc++-4.8-dev.

Preparing to unpack .../29-libx32stdc++-4.8-dev\_4.8.5-4ubuntu8\_amd64.deb ...

Unpacking libx32stdc++-4.8-dev (4.8.5-4ubuntu8) ...

Selecting previously unselected package g++-4.8-multilib.

Preparing to unpack .../30-g++-4.8-multilib\_4.8.5-4ubuntu8\_amd64.deb ...

Unpacking g++-4.8-multilib (4.8.5-4ubuntu8) ...

Selecting previously unselected package lib32asan4.

Preparing to unpack .../31-lib32asan4\_7.5.0-3ubuntu1~18.04\_amd64.deb ...

Unpacking lib32asan4 (7.5.0-3ubuntu1~18.04) ...

Selecting previously unselected package libx32asan4.

Preparing to unpack .../32-libx32asan4\_7.5.0-3ubuntu1~18.04\_amd64.deb ...

Unpacking libx32asan4 (7.5.0-3ubuntu1~18.04) ...

Selecting previously unselected package lib32ubsan0.

Preparing to unpack .../33-lib32ubsan0\_7.5.0-3ubuntu1~18.04\_amd64.deb ...

Unpacking lib32ubsan0 (7.5.0-3ubuntu1~18.04) ...

Selecting previously unselected package libx32ubsan0.

Preparing to unpack .../34-libx32ubsan0\_7.5.0-3ubuntu1~18.04\_amd64.deb ...

Unpacking libx32ubsan0 (7.5.0-3ubuntu1~18.04) ...

Selecting previously unselected package lib32cilkrts5.

Preparing to unpack .../35-lib32cilkrts5\_7.5.0-3ubuntu1~18.04\_amd64.deb ...

Unpacking lib32cilkrts5 (7.5.0-3ubuntu1~18.04) ...

Selecting previously unselected package libx32cilkrts5.

Preparing to unpack .../36-libx32cilkrts5\_7.5.0-3ubuntu1~18.04\_amd64.deb ...

Unpacking libx32cilkrts5 (7.5.0-3ubuntu1~18.04) ...

Selecting previously unselected package lib32mpx2.

Preparing to unpack .../37-lib32mpx2\_8.4.0-1ubuntu1~18.04\_amd64.deb ...

Unpacking lib32mpx2 (8.4.0-1ubuntu1~18.04) ...

Selecting previously unselected package lib32gcc-7-dev.

Preparing to unpack .../38-lib32gcc-7-dev\_7.5.0-3ubuntu1~18.04\_amd64.deb ...

Unpacking lib32gcc-7-dev (7.5.0-3ubuntu1~18.04) ...

Selecting previously unselected package libx32gcc-7-dev.

Preparing to unpack .../39-libx32gcc-7-dev\_7.5.0-3ubuntu1~18.04\_amd64.deb ...

Unpacking libx32gcc-7-dev (7.5.0-3ubuntu1~18.04) ...

Selecting previously unselected package gcc-7-multilib.

Preparing to unpack .../40-gcc-7-multilib\_7.5.0-3ubuntu1~18.04\_amd64.deb ...

Unpacking gcc-7-multilib (7.5.0-3ubuntu1~18.04) ...

Selecting previously unselected package gcc-multilib.

Preparing to unpack .../41-gcc-multilib\_4%3a7.4.0-1ubuntu2.3\_amd64.deb ...

Unpacking gcc-multilib (4:7.4.0-1ubuntu2.3) ...

Setting up libc6-x32 (2.27-3ubuntu1.5) ...

Setting up gcc-4.8-base:amd64 (4.8.5-4ubuntu8) ...

Setting up libx32gcc1 (1:8.4.0-1ubuntu1~18.04) ...

Setting up libx32asan0 (4.8.5-4ubuntu8) ...

Setting up libc6-i386 (2.27-3ubuntu1.5) ...

Setting up libx32stdc++6 (8.4.0-1ubuntu1~18.04) ...

Setting up lib32atomic1 (8.4.0-1ubuntu1~18.04) ...

Setting up libx32atomic1 (8.4.0-1ubuntu1~18.04) ...

Setting up libx32gomp1 (8.4.0-1ubuntu1~18.04) ...

Setting up libx32itm1 (8.4.0-1ubuntu1~18.04) ...

Setting up cpp-4.8 (4.8.5-4ubuntu8) ...

Setting up libc-dev-bin (2.27-3ubuntu1.5) ...

Setting up lib32quadmath0 (8.4.0-1ubuntu1~18.04) ...

Setting up libc6-dev:amd64 (2.27-3ubuntu1.5) ...

Setting up lib32itm1 (8.4.0-1ubuntu1~18.04) ...

Setting up libx32quadmath0 (8.4.0-1ubuntu1~18.04) ...

Setting up lib32gcc1 (1:8.4.0-1ubuntu1~18.04) ...

Setting up libasan0:amd64 (4.8.5-4ubuntu8) ...

Setting up libx32asan4 (7.5.0-3ubuntu1~18.04) ...

Setting up libx32cilkrts5 (7.5.0-3ubuntu1~18.04) ...

Setting up lib32gomp1 (8.4.0-1ubuntu1~18.04) ...

Setting up libgcc-4.8-dev:amd64 (4.8.5-4ubuntu8) ...

Setting up libx32ubsan0 (7.5.0-3ubuntu1~18.04) ...

Setting up lib32asan4 (7.5.0-3ubuntu1~18.04) ...

Setting up lib32mpx2 (8.4.0-1ubuntu1~18.04) ...

Setting up lib32asan0 (4.8.5-4ubuntu8) ...

Setting up lib32gcc-4.8-dev (4.8.5-4ubuntu8) ...

Setting up gcc-4.8 (4.8.5-4ubuntu8) ...

Setting up libstdc++-4.8-dev:amd64 (4.8.5-4ubuntu8) ...

Setting up lib32stdc++6 (8.4.0-1ubuntu1~18.04) ...

Setting up lib32ubsan0 (7.5.0-3ubuntu1~18.04) ...

Setting up lib32cilkrts5 (7.5.0-3ubuntu1~18.04) ...

Setting up libc6-dev-i386 (2.27-3ubuntu1.5) ...

Setting up libc6-dev-x32 (2.27-3ubuntu1.5) ...

Setting up g++-4.8 (4.8.5-4ubuntu8) ...

Setting up libx32gcc-4.8-dev (4.8.5-4ubuntu8) ...

Setting up lib32stdc++-4.8-dev (4.8.5-4ubuntu8) ...

Setting up gcc-4.8-multilib (4.8.5-4ubuntu8) ...

Setting up libx32gcc-7-dev (7.5.0-3ubuntu1~18.04) ...

Setting up lib32gcc-7-dev (7.5.0-3ubuntu1~18.04) ...

Setting up libx32stdc++-4.8-dev (4.8.5-4ubuntu8) ...

Setting up gcc-7-multilib (7.5.0-3ubuntu1~18.04) ...

Setting up g++-4.8-multilib (4.8.5-4ubuntu8) ...

Setting up gcc-multilib (4:7.4.0-1ubuntu2.3) ...

Processing triggers for libc-bin (2.27-3ubuntu1.3) ...

/sbin/ldconfig.real: File /usr/lib/x86\_64-linux-gnu/libvdpau\_nvidia.so.510.60.02 is empty, not checked.

/sbin/ldconfig.real: File /usr/lib/x86\_64-linux-gnu/libnvidia-encode.so.510.60.02 is empty, not checked.

/sbin/ldconfig.real: File /usr/lib/x86\_64-linux-gnu/libnvidia-opticalflow.so.510.60.02 is empty, not checked.

/sbin/ldconfig.real: File /usr/lib/x86\_64-linux-gnu/libnvcuvid.so.510.60.02 is empty, not checked.

/sbin/ldconfig.real: File /usr/lib/x86\_64-linux-gnu/libnvidia-fbc.so.510.60.02 is empty, not checked.

/sbin/ldconfig.real: File /usr/lib/x86\_64-linux-gnu/libnvidia-opticalflow.so is empty, not checked.

/sbin/ldconfig.real: File /usr/lib/x86\_64-linux-gnu/libnvidia-fbc.so.1 is empty, not checked.

/sbin/ldconfig.real: File /usr/lib/x86\_64-linux-gnu/libnvcuvid.so.1 is empty, not checked.

/sbin/ldconfig.real: File /usr/lib/x86\_64-linux-gnu/libnvidia-opticalflow.so.1 is empty, not checked.

/sbin/ldconfig.real: File /usr/lib/x86\_64-linux-gnu/libnvidia-encode.so.1 is empty, not checked.

/sbin/ldconfig.real: File /usr/lib/x86\_64-linux-gnu/libvdpau\_nvidia.so.1 is empty, not checked.

(sfm) root@container-8fb311a93c-926d03ef:~/structure-from-motion/build# sudo apt install gcc-5 gcc-5--multilib g++-5 g++-5--multilib

Reading package lists... Done

Building dependency tree

Reading state information... Done

E: Unable to locate package gcc-5--multilib

E: Unable to locate package g++-5--multilib

E: Couldn't find any package by regex 'g++-5--multilib'

G++5装不上，不知道为啥。

**3. 使用update-alternatives设置gcc和g++：**

update-alternatives是ubuntu系统中专门维护系统命令链接符的工具，通过它可以很方便的设置系统默认使用哪个命令、哪个软件版本。  
其中40 ，50 ，70是优先级数值可以自己设定，--slave能保证gcc和g++保持相同的版本。

sudo update-alternatives --install /usr/bin/gcc gcc /usr/bin/gcc-4.8 40 --slave /usr/bin/g++ g++ /usr/bin/g++-4.8  
sudo update-alternatives --install /usr/bin/gcc gcc /usr/bin/gcc-5 50 --slave /usr/bin/g++ g++ /usr/bin/g++-5  
sudo update-alternatives --install /usr/bin/gcc gcc /usr/bin/gcc-7 70 --slave /usr/bin/g++ g++ /usr/bin/g++-7

### 4. 使用如下命令选择gcc的版本：

sudo update-alternatives --config gcc  
可以看到当前gcc默认的版本是gcc-7，下面我们修改为gcc-4.8，直接选择编号即可。

$ sudo update-alternatives --config gcc

There are 3 choices for the alternative gcc (providing /usr/bin/gcc).

Selection Path Priority Status

------------------------------------------------------------

\* 0 /usr/bin/gcc-7 70 auto mode

1 /usr/bin/gcc-4.8 40 manual mode

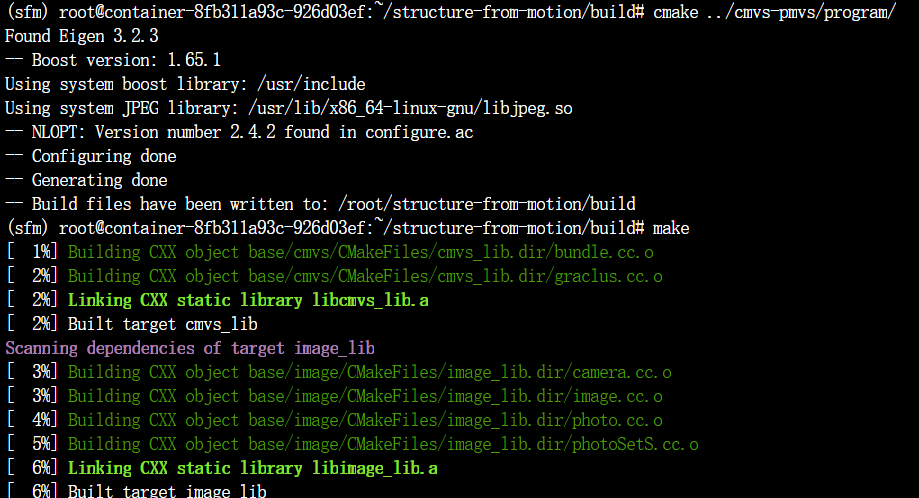
2 /usr/bin/gcc-5 50 manual mode

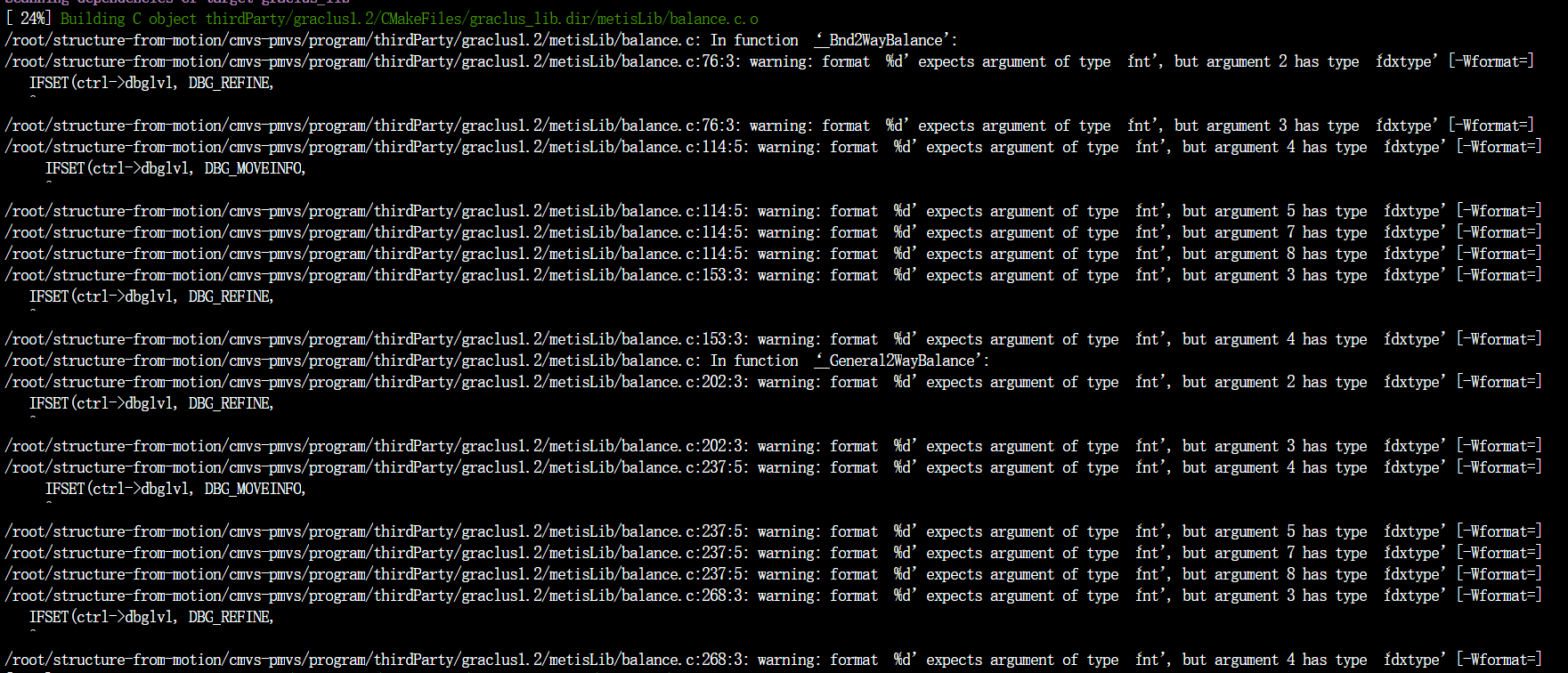
3 /usr/bin/gcc-7 70 manual mode

Press <enter> to keep the current choice[\*], or type selection number: 1

update-alternatives: using /usr/bin/gcc-4.8 to provide /usr/bin/gcc (gcc) in manual mode

修改之后，再次运行编译，居然没有报错，虽然有一些警告



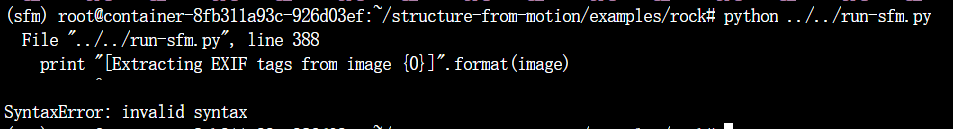


#### 5. 验证是否修改成功：

gcc -v  
g++ -v

#### 6. 删除

删除某个gcc版本的选项的话，可以使用  
sudo update-alternatives --remove gcc /usr/bin/gcc-4.5  
再使用apt-remove删除即可



## 运行还是出错了。可能是python版本的问题？重新安装2.7

(sfm) root@container-8fb311a93c-926d03ef:~/structure-from-motion# conda install python=2.7

Collecting package metadata (current\_repodata.json): done

Solving environment: failed with initial frozen solve. Retrying with flexible solve.

Solving environment: failed with repodata from current\_repodata.json, will retry with next repodata source.

Collecting package metadata (repodata.json): done

Solving environment: done

## Package Plan ##

environment location: /root/miniconda3/envs/sfm

added / updated specs:

- python=2.7

The following packages will be downloaded:

package | build

---------------------------|-----------------

\_libgcc\_mutex-0.1 | main 3 KB defaults

\_openmp\_mutex-4.5 | 1\_gnu 22 KB defaults

ca-certificates-2022.3.29 | h06a4308\_0 117 KB defaults

certifi-2020.6.20 | pyhd3eb1b0\_3 155 KB defaults

libffi-3.3 | he6710b0\_2 50 KB defaults

libgcc-ng-9.3.0 | h5101ec6\_17 4.8 MB defaults

libgomp-9.3.0 | h5101ec6\_17 311 KB defaults

libstdcxx-ng-9.3.0 | hd4cf53a\_17 3.1 MB defaults

ncurses-6.3 | h7f8727e\_2 782 KB defaults

pip-19.3.1 | py27\_0 1.7 MB defaults

python-2.7.18 | ha1903f6\_2 9.8 MB defaults

readline-8.1.2 | h7f8727e\_1 354 KB defaults

setuptools-44.0.0 | py27\_0 512 KB defaults

sqlite-3.38.2 | hc218d9a\_0 1.0 MB defaults

tk-8.6.11 | h1ccaba5\_0 3.0 MB defaults

wheel-0.37.1 | pyhd3eb1b0\_0 33 KB defaults

zlib-1.2.11 | h7f8727e\_4 108 KB defaults

------------------------------------------------------------

Total: 25.8 MB

The following NEW packages will be INSTALLED:

\_libgcc\_mutex anaconda/pkgs/main/linux-64::\_libgcc\_mutex-0.1-main

\_openmp\_mutex anaconda/pkgs/main/linux-64::\_openmp\_mutex-4.5-1\_gnu

ca-certificates anaconda/pkgs/main/linux-64::ca-certificates-2022.3.29-h06a4308\_0

certifi anaconda/pkgs/main/noarch::certifi-2020.6.20-pyhd3eb1b0\_3

libffi anaconda/pkgs/main/linux-64::libffi-3.3-he6710b0\_2

libgcc-ng anaconda/pkgs/main/linux-64::libgcc-ng-9.3.0-h5101ec6\_17

libgomp anaconda/pkgs/main/linux-64::libgomp-9.3.0-h5101ec6\_17

libstdcxx-ng anaconda/pkgs/main/linux-64::libstdcxx-ng-9.3.0-hd4cf53a\_17

ncurses anaconda/pkgs/main/linux-64::ncurses-6.3-h7f8727e\_2

pip anaconda/pkgs/main/linux-64::pip-19.3.1-py27\_0

python anaconda/pkgs/main/linux-64::python-2.7.18-ha1903f6\_2

readline anaconda/pkgs/main/linux-64::readline-8.1.2-h7f8727e\_1

setuptools anaconda/pkgs/main/linux-64::setuptools-44.0.0-py27\_0

sqlite anaconda/pkgs/main/linux-64::sqlite-3.38.2-hc218d9a\_0

tk anaconda/pkgs/main/linux-64::tk-8.6.11-h1ccaba5\_0

wheel anaconda/pkgs/main/noarch::wheel-0.37.1-pyhd3eb1b0\_0

zlib anaconda/pkgs/main/linux-64::zlib-1.2.11-h7f8727e\_4

Proceed ([y]/n)? y

Downloading and Extracting Packages

libstdcxx-ng-9.3.0 | 3.1 MB | ################ | 100%

zlib-1.2.11 | 108 KB | ################ | 100%

\_libgcc\_mutex-0.1 | 3 KB | ######## | 100%

ca-certificates-2022 | 117 KB | ######## | 100%

\_openmp\_mutex-4.5 | 22 KB | ######## | 100%

readline-8.1.2 | 354 KB | ######## | 100%

tk-8.6.11 | 3.0 MB | ######## | 100%

sqlite-3.38.2 | 1.0 MB | ######## | 100%

wheel-0.37.1 | 33 KB | ######## | 100%

python-2.7.18 | 9.8 MB | ######## | 100%

libffi-3.3 | 50 KB | ######## | 100%

libgomp-9.3.0 | 311 KB | ######## | 100%

certifi-2020.6.20 | 155 KB | ######## | 100%

pip-19.3.1 | 1.7 MB | ######## | 100%

libgcc-ng-9.3.0 | 4.8 MB | ######## | 100%

ncurses-6.3 | 782 KB | ######## | 100%

setuptools-44.0.0 | 512 KB | ######## | 100%

Preparing transaction: done

Verifying transaction: done

Executing transaction: done

(sfm) root@container-8fb311a93c-926d03ef:~/structure-from-motion# cd ./examples/rock

(sfm) root@container-8fb311a93c-926d03ef:~/structure-from-motion/examples/rock# python ../../run-sfm.py

Traceback (most recent call last):

File "../../run-sfm.py", line 42, in <module>

from PIL import Image, ExifTags

ImportError: No module named PIL

(sfm) root@container-8fb311a93c-926d03ef:~/structure-from-motion/examples/rock# conda install pillow

Collecting package metadata (current\_repodata.json): done

Solving environment: failed with initial frozen solve. Retrying with flexible solve.

Solving environment: failed with repodata from current\_repodata.json, will retry with next repodata source.

Collecting package metadata (repodata.json): done

Solving environment: done

## Package Plan ##

environment location: /root/miniconda3/envs/sfm

added / updated specs:

- pillow

The following packages will be downloaded:

package | build

---------------------------|-----------------

freetype-2.11.0 | h70c0345\_0 618 KB defaults

jpeg-9d | h7f8727e\_0 232 KB defaults

libpng-1.6.37 | hbc83047\_0 278 KB defaults

libtiff-4.2.0 | h85742a9\_0 502 KB defaults

libwebp-base-1.2.2 | h7f8727e\_0 440 KB defaults

lz4-c-1.9.3 | h295c915\_1 185 KB defaults

olefile-0.46 | py27\_0 49 KB defaults

pillow-6.2.1 | py27h34e0f95\_0 587 KB defaults

xz-5.2.5 | h7b6447c\_0 341 KB defaults

zstd-1.4.9 | haebb681\_0 480 KB defaults

------------------------------------------------------------

Total: 3.6 MB

The following NEW packages will be INSTALLED:

freetype anaconda/pkgs/main/linux-64::freetype-2.11.0-h70c0345\_0

jpeg anaconda/pkgs/main/linux-64::jpeg-9d-h7f8727e\_0

libpng anaconda/pkgs/main/linux-64::libpng-1.6.37-hbc83047\_0

libtiff anaconda/pkgs/main/linux-64::libtiff-4.2.0-h85742a9\_0

libwebp-base anaconda/pkgs/main/linux-64::libwebp-base-1.2.2-h7f8727e\_0

lz4-c anaconda/pkgs/main/linux-64::lz4-c-1.9.3-h295c915\_1

olefile anaconda/pkgs/main/linux-64::olefile-0.46-py27\_0

pillow anaconda/pkgs/main/linux-64::pillow-6.2.1-py27h34e0f95\_0

xz anaconda/pkgs/main/linux-64::xz-5.2.5-h7b6447c\_0

zstd anaconda/pkgs/main/linux-64::zstd-1.4.9-haebb681\_0

Proceed ([y]/n)? y

Downloading and Extracting Packages

pillow-6.2.1 | 587 KB | ######## | 100%

xz-5.2.5 | 341 KB | ######## | 100%

jpeg-9d | 232 KB | ######## | 100%

olefile-0.46 | 49 KB | ######## | 100%

freetype-2.11.0 | 618 KB | ######## | 100%

zstd-1.4.9 | 480 KB | ######## | 100%

libtiff-4.2.0 | 502 KB | ######## | 100%

libpng-1.6.37 | 278 KB | ######## | 100%

libwebp-base-1.2.2 | 440 KB | ######## | 100%

lz4-c-1.9.3 | 185 KB | ######## | 100%

Preparing transaction: done

Verifying transaction: done

Executing transaction: done

(sfm) root@container-8fb311a93c-926d03ef:~/structure-from-motion/examples/rock# python ../../run-sfm.py

[- Step 1/6 Creating list of images -]

[- Retrieved 53 images in 0.0 seconds -]

[- Step 2/6 Extracting EXIF tags from images -]

[Extracting EXIF tags from image ./img\_0001.jpg]

[WARNING: EXIF resolution (4310 x 2868) does not match image resolution (2155 x 1434) for image ./img\_0001.jpg (using image resolution instead)]

[EXIF focal length = 35.0mm]

[EXIF CCD width = 23.6mm]

[EXIF resolution = 2155 x 1434]

[Focal length (pixels) = 3195.97457627]

[Extracting EXIF tags from image ./img\_0002.jpg]

[WARNING: EXIF resolution (4310 x 2868) does not match image resolution (2155 x 1434) for image ./img\_0002.jpg (using image resolution instead)]

[EXIF focal length = 35.0mm]

[EXIF CCD width = 23.6mm]

[EXIF resolution = 2155 x 1434]

[Focal length (pixels) = 3195.97457627]

[Extracting EXIF tags from image ./img\_0003.jpg]

[WARNING: EXIF resolution (4310 x 2868) does not match image resolution (2155 x 1434) for image ./img\_0003.jpg (using image resolution instead)]

[EXIF focal length = 35.0mm]

[EXIF CCD width = 23.6mm]

[EXIF resolution = 2155 x 1434]

[Focal length (pixels) = 3195.97457627]

[Extracting EXIF tags from image ./img\_0004.jpg]

[WARNING: EXIF resolution (4310 x 2868) does not match image resolution (2155 x 1434) for image ./img\_0004.jpg (using image resolution instead)]

[EXIF focal length = 35.0mm]

[EXIF CCD width = 23.6mm]

[EXIF resolution = 2155 x 1434]

[Focal length (pixels) = 3195.97457627]

[Extracting EXIF tags from image ./img\_0005.jpg]

[WARNING: EXIF resolution (4310 x 2868) does not match image resolution (2155 x 1434) for image ./img\_0005.jpg (using image resolution instead)]

[EXIF focal length = 35.0mm]

[EXIF CCD width = 23.6mm]

[EXIF resolution = 2155 x 1434]

[Focal length (pixels) = 3195.97457627]

[Extracting EXIF tags from image ./img\_0006.jpg]

[WARNING: EXIF resolution (4310 x 2868) does not match image resolution (2155 x 1434) for image ./img\_0006.jpg (using image resolution instead)]

[EXIF focal length = 35.0mm]

[EXIF CCD width = 23.6mm]

[EXIF resolution = 2155 x 1434]

[Focal length (pixels) = 3195.97457627]

[Extracting EXIF tags from image ./img\_0007.jpg]

[WARNING: EXIF resolution (4310 x 2868) does not match image resolution (2155 x 1434) for image ./img\_0007.jpg (using image resolution instead)]

[EXIF focal length = 35.0mm]

[EXIF CCD width = 23.6mm]

[EXIF resolution = 2155 x 1434]

[Focal length (pixels) = 3195.97457627]

[Extracting EXIF tags from image ./img\_0008.jpg]

[WARNING: EXIF resolution (4310 x 2868) does not match image resolution (2155 x 1434) for image ./img\_0008.jpg (using image resolution instead)]

[EXIF focal length = 35.0mm]

[EXIF CCD width = 23.6mm]

[EXIF resolution = 2155 x 1434]

[Focal length (pixels) = 3195.97457627]

[Extracting EXIF tags from image ./img\_0009.jpg]

[WARNING: EXIF resolution (4310 x 2868) does not match image resolution (2155 x 1434) for image ./img\_0009.jpg (using image resolution instead)]

[EXIF focal length = 35.0mm]

[EXIF CCD width = 23.6mm]

[EXIF resolution = 2155 x 1434]

[Focal length (pixels) = 3195.97457627]

[Extracting EXIF tags from image ./img\_0010.jpg]

[WARNING: EXIF resolution (4310 x 2868) does not match image resolution (2155 x 1434) for image ./img\_0010.jpg (using image resolution instead)]

[EXIF focal length = 35.0mm]

[EXIF CCD width = 23.6mm]

[EXIF resolution = 2155 x 1434]

[Focal length (pixels) = 3195.97457627]

[Extracting EXIF tags from image ./img\_0011.jpg]

[WARNING: EXIF resolution (4310 x 2868) does not match image resolution (2155 x 1434) for image ./img\_0011.jpg (using image resolution instead)]

[EXIF focal length = 35.0mm]

[EXIF CCD width = 23.6mm]

[EXIF resolution = 2155 x 1434]

[Focal length (pixels) = 3195.97457627]

[Extracting EXIF tags from image ./img\_0012.jpg]

[WARNING: EXIF resolution (4310 x 2868) does not match image resolution (2155 x 1434) for image ./img\_0012.jpg (using image resolution instead)]

[EXIF focal length = 35.0mm]

[EXIF CCD width = 23.6mm]

[EXIF resolution = 2155 x 1434]

[Focal length (pixels) = 3195.97457627]

[Extracting EXIF tags from image ./img\_0013.jpg]

[WARNING: EXIF resolution (4310 x 2868) does not match image resolution (2155 x 1434) for image ./img\_0013.jpg (using image resolution instead)]

[EXIF focal length = 35.0mm]

[EXIF CCD width = 23.6mm]

[EXIF resolution = 2155 x 1434]

[Focal length (pixels) = 3195.97457627]

[Extracting EXIF tags from image ./img\_0014.jpg]

[WARNING: EXIF resolution (4310 x 2868) does not match image resolution (2155 x 1434) for image ./img\_0014.jpg (using image resolution instead)]

[EXIF focal length = 35.0mm]

[EXIF CCD width = 23.6mm]

[EXIF resolution = 2155 x 1434]

[Focal length (pixels) = 3195.97457627]

[Extracting EXIF tags from image ./img\_0015.jpg]

[WARNING: EXIF resolution (4310 x 2868) does not match image resolution (2155 x 1434) for image ./img\_0015.jpg (using image resolution instead)]

[EXIF focal length = 35.0mm]

[EXIF CCD width = 23.6mm]

[EXIF resolution = 2155 x 1434]

[Focal length (pixels) = 3195.97457627]

[Extracting EXIF tags from image ./img\_0016.jpg]

[WARNING: EXIF resolution (4310 x 2868) does not match image resolution (2155 x 1434) for image ./img\_0016.jpg (using image resolution instead)]

[EXIF focal length = 35.0mm]

[EXIF CCD width = 23.6mm]

[EXIF resolution = 2155 x 1434]

[Focal length (pixels) = 3195.97457627]

[Extracting EXIF tags from image ./img\_0017.jpg]

[WARNING: EXIF resolution (4310 x 2868) does not match image resolution (2155 x 1434) for image ./img\_0017.jpg (using image resolution instead)]

[EXIF focal length = 35.0mm]

[EXIF CCD width = 23.6mm]

[EXIF resolution = 2155 x 1434]

[Focal length (pixels) = 3195.97457627]

[Extracting EXIF tags from image ./img\_0018.jpg]

[WARNING: EXIF resolution (4310 x 2868) does not match image resolution (2155 x 1434) for image ./img\_0018.jpg (using image resolution instead)]

[EXIF focal length = 35.0mm]

[EXIF CCD width = 23.6mm]

[EXIF resolution = 2155 x 1434]

[Focal length (pixels) = 3195.97457627]

[Extracting EXIF tags from image ./img\_0019.jpg]

[WARNING: EXIF resolution (4310 x 2868) does not match image resolution (2155 x 1434) for image ./img\_0019.jpg (using image resolution instead)]

[EXIF focal length = 35.0mm]

[EXIF CCD width = 23.6mm]

[EXIF resolution = 2155 x 1434]

[Focal length (pixels) = 3195.97457627]

[Extracting EXIF tags from image ./img\_0020.jpg]

[WARNING: EXIF resolution (4310 x 2868) does not match image resolution (2155 x 1434) for image ./img\_0020.jpg (using image resolution instead)]

[EXIF focal length = 35.0mm]

[EXIF CCD width = 23.6mm]

[EXIF resolution = 2155 x 1434]

[Focal length (pixels) = 3195.97457627]

[Extracting EXIF tags from image ./img\_0021.jpg]

[WARNING: EXIF resolution (4310 x 2868) does not match image resolution (2155 x 1434) for image ./img\_0021.jpg (using image resolution instead)]

[EXIF focal length = 35.0mm]

[EXIF CCD width = 23.6mm]

[EXIF resolution = 2155 x 1434]

[Focal length (pixels) = 3195.97457627]

[Extracting EXIF tags from image ./img\_0022.jpg]

[WARNING: EXIF resolution (4310 x 2868) does not match image resolution (2155 x 1434) for image ./img\_0022.jpg (using image resolution instead)]

[EXIF focal length = 35.0mm]

[EXIF CCD width = 23.6mm]

[EXIF resolution = 2155 x 1434]

[Focal length (pixels) = 3195.97457627]

[Extracting EXIF tags from image ./img\_0023.jpg]

[WARNING: EXIF resolution (4310 x 2868) does not match image resolution (2155 x 1434) for image ./img\_0023.jpg (using image resolution instead)]

[EXIF focal length = 35.0mm]

[EXIF CCD width = 23.6mm]

[EXIF resolution = 2155 x 1434]

[Focal length (pixels) = 3195.97457627]

[Extracting EXIF tags from image ./img\_0024.jpg]

[WARNING: EXIF resolution (4310 x 2868) does not match image resolution (2155 x 1434) for image ./img\_0024.jpg (using image resolution instead)]

[EXIF focal length = 35.0mm]

[EXIF CCD width = 23.6mm]

[EXIF resolution = 2155 x 1434]

[Focal length (pixels) = 3195.97457627]

[Extracting EXIF tags from image ./img\_0025.jpg]

[WARNING: EXIF resolution (4310 x 2868) does not match image resolution (2155 x 1434) for image ./img\_0025.jpg (using image resolution instead)]

[EXIF focal length = 35.0mm]

[EXIF CCD width = 23.6mm]

[EXIF resolution = 2155 x 1434]

[Focal length (pixels) = 3195.97457627]

[Extracting EXIF tags from image ./img\_0026.jpg]

[WARNING: EXIF resolution (4310 x 2868) does not match image resolution (2155 x 1434) for image ./img\_0026.jpg (using image resolution instead)]

[EXIF focal length = 35.0mm]

[EXIF CCD width = 23.6mm]

[EXIF resolution = 2155 x 1434]

[Focal length (pixels) = 3195.97457627]

[Extracting EXIF tags from image ./img\_0027.jpg]

[WARNING: EXIF resolution (4310 x 2868) does not match image resolution (2155 x 1434) for image ./img\_0027.jpg (using image resolution instead)]

[EXIF focal length = 35.0mm]

[EXIF CCD width = 23.6mm]

[EXIF resolution = 2155 x 1434]

[Focal length (pixels) = 3195.97457627]

[Extracting EXIF tags from image ./img\_0028.jpg]

[WARNING: EXIF resolution (4310 x 2868) does not match image resolution (2155 x 1434) for image ./img\_0028.jpg (using image resolution instead)]

[EXIF focal length = 35.0mm]

[EXIF CCD width = 23.6mm]

[EXIF resolution = 2155 x 1434]

[Focal length (pixels) = 3195.97457627]

[Extracting EXIF tags from image ./img\_0029.jpg]

[WARNING: EXIF resolution (4310 x 2868) does not match image resolution (2155 x 1434) for image ./img\_0029.jpg (using image resolution instead)]

[EXIF focal length = 35.0mm]

[EXIF CCD width = 23.6mm]

[EXIF resolution = 2155 x 1434]

[Focal length (pixels) = 3195.97457627]

[Extracting EXIF tags from image ./img\_0030.jpg]

[WARNING: EXIF resolution (4310 x 2868) does not match image resolution (2155 x 1434) for image ./img\_0030.jpg (using image resolution instead)]

[EXIF focal length = 35.0mm]

[EXIF CCD width = 23.6mm]

[EXIF resolution = 2155 x 1434]

[Focal length (pixels) = 3195.97457627]

[Extracting EXIF tags from image ./img\_0031.jpg]

[WARNING: EXIF resolution (4310 x 2868) does not match image resolution (2155 x 1434) for image ./img\_0031.jpg (using image resolution instead)]

[EXIF focal length = 35.0mm]

[EXIF CCD width = 23.6mm]

[EXIF resolution = 2155 x 1434]

[Focal length (pixels) = 3195.97457627]

[Extracting EXIF tags from image ./img\_0032.jpg]

[WARNING: EXIF resolution (4310 x 2868) does not match image resolution (2155 x 1434) for image ./img\_0032.jpg (using image resolution instead)]

[EXIF focal length = 35.0mm]

[EXIF CCD width = 23.6mm]

[EXIF resolution = 2155 x 1434]

[Focal length (pixels) = 3195.97457627]

[Extracting EXIF tags from image ./img\_0033.jpg]

[WARNING: EXIF resolution (4310 x 2868) does not match image resolution (2155 x 1434) for image ./img\_0033.jpg (using image resolution instead)]

[EXIF focal length = 35.0mm]

[EXIF CCD width = 23.6mm]

[EXIF resolution = 2155 x 1434]

[Focal length (pixels) = 3195.97457627]

[Extracting EXIF tags from image ./img\_0034.jpg]

[WARNING: EXIF resolution (4310 x 2868) does not match image resolution (2155 x 1434) for image ./img\_0034.jpg (using image resolution instead)]

[EXIF focal length = 35.0mm]

[EXIF CCD width = 23.6mm]

[EXIF resolution = 2155 x 1434]

[Focal length (pixels) = 3195.97457627]

[Extracting EXIF tags from image ./img\_0035.jpg]

[WARNING: EXIF resolution (4310 x 2868) does not match image resolution (2155 x 1434) for image ./img\_0035.jpg (using image resolution instead)]

[EXIF focal length = 35.0mm]

[EXIF CCD width = 23.6mm]

[EXIF resolution = 2155 x 1434]

[Focal length (pixels) = 3195.97457627]

[Extracting EXIF tags from image ./img\_0036.jpg]

[WARNING: EXIF resolution (4310 x 2868) does not match image resolution (2155 x 1434) for image ./img\_0036.jpg (using image resolution instead)]

[EXIF focal length = 35.0mm]

[EXIF CCD width = 23.6mm]

[EXIF resolution = 2155 x 1434]

[Focal length (pixels) = 3195.97457627]

[Extracting EXIF tags from image ./img\_0037.jpg]

[WARNING: EXIF resolution (4310 x 2868) does not match image resolution (2155 x 1434) for image ./img\_0037.jpg (using image resolution instead)]

[EXIF focal length = 35.0mm]

[EXIF CCD width = 23.6mm]

[EXIF resolution = 2155 x 1434]

[Focal length (pixels) = 3195.97457627]

[Extracting EXIF tags from image ./img\_0038.jpg]

[WARNING: EXIF resolution (4310 x 2868) does not match image resolution (2155 x 1434) for image ./img\_0038.jpg (using image resolution instead)]

[EXIF focal length = 35.0mm]

[EXIF CCD width = 23.6mm]

[EXIF resolution = 2155 x 1434]

[Focal length (pixels) = 3195.97457627]

[Extracting EXIF tags from image ./img\_0039.jpg]

[WARNING: EXIF resolution (4310 x 2868) does not match image resolution (2155 x 1434) for image ./img\_0039.jpg (using image resolution instead)]

[EXIF focal length = 35.0mm]

[EXIF CCD width = 23.6mm]

[EXIF resolution = 2155 x 1434]

[Focal length (pixels) = 3195.97457627]

[Extracting EXIF tags from image ./img\_0040.jpg]

[WARNING: EXIF resolution (4310 x 2868) does not match image resolution (2155 x 1434) for image ./img\_0040.jpg (using image resolution instead)]

[EXIF focal length = 35.0mm]

[EXIF CCD width = 23.6mm]

[EXIF resolution = 2155 x 1434]

[Focal length (pixels) = 3195.97457627]

[Extracting EXIF tags from image ./img\_0041.jpg]

[WARNING: EXIF resolution (4310 x 2868) does not match image resolution (2155 x 1434) for image ./img\_0041.jpg (using image resolution instead)]

[EXIF focal length = 35.0mm]

[EXIF CCD width = 23.6mm]

[EXIF resolution = 2155 x 1434]

[Focal length (pixels) = 3195.97457627]

[Extracting EXIF tags from image ./img\_0042.jpg]

[WARNING: EXIF resolution (4310 x 2868) does not match image resolution (2155 x 1434) for image ./img\_0042.jpg (using image resolution instead)]

[EXIF focal length = 35.0mm]

[EXIF CCD width = 23.6mm]

[EXIF resolution = 2155 x 1434]

[Focal length (pixels) = 3195.97457627]

[Extracting EXIF tags from image ./img\_0043.jpg]

[WARNING: EXIF resolution (4310 x 2868) does not match image resolution (2155 x 1434) for image ./img\_0043.jpg (using image resolution instead)]

[EXIF focal length = 35.0mm]

[EXIF CCD width = 23.6mm]

[EXIF resolution = 2155 x 1434]

[Focal length (pixels) = 3195.97457627]

[Extracting EXIF tags from image ./img\_0044.jpg]

[WARNING: EXIF resolution (4310 x 2868) does not match image resolution (2155 x 1434) for image ./img\_0044.jpg (using image resolution instead)]

[EXIF focal length = 35.0mm]

[EXIF CCD width = 23.6mm]

[EXIF resolution = 2155 x 1434]

[Focal length (pixels) = 3195.97457627]

[Extracting EXIF tags from image ./img\_0045.jpg]

[WARNING: EXIF resolution (4310 x 2868) does not match image resolution (2155 x 1434) for image ./img\_0045.jpg (using image resolution instead)]

[EXIF focal length = 35.0mm]

[EXIF CCD width = 23.6mm]

[EXIF resolution = 2155 x 1434]

[Focal length (pixels) = 3195.97457627]

[Extracting EXIF tags from image ./img\_0046.jpg]

[WARNING: EXIF resolution (4310 x 2868) does not match image resolution (2155 x 1434) for image ./img\_0046.jpg (using image resolution instead)]

[EXIF focal length = 35.0mm]

[EXIF CCD width = 23.6mm]

[EXIF resolution = 2155 x 1434]

[Focal length (pixels) = 3195.97457627]

[Extracting EXIF tags from image ./img\_0047.jpg]

[WARNING: EXIF resolution (4310 x 2868) does not match image resolution (2155 x 1434) for image ./img\_0047.jpg (using image resolution instead)]

[EXIF focal length = 35.0mm]

[EXIF CCD width = 23.6mm]

[EXIF resolution = 2155 x 1434]

[Focal length (pixels) = 3195.97457627]

[Extracting EXIF tags from image ./img\_0048.jpg]

[WARNING: EXIF resolution (4310 x 2868) does not match image resolution (2155 x 1434) for image ./img\_0048.jpg (using image resolution instead)]

[EXIF focal length = 35.0mm]

[EXIF CCD width = 23.6mm]

[EXIF resolution = 2155 x 1434]

[Focal length (pixels) = 3195.97457627]

[Extracting EXIF tags from image ./img\_0049.jpg]

[WARNING: EXIF resolution (4310 x 2868) does not match image resolution (2155 x 1434) for image ./img\_0049.jpg (using image resolution instead)]

[EXIF focal length = 35.0mm]

[EXIF CCD width = 23.6mm]

[EXIF resolution = 2155 x 1434]

[Focal length (pixels) = 3195.97457627]

[Extracting EXIF tags from image ./img\_0050.jpg]

[WARNING: EXIF resolution (4310 x 2868) does not match image resolution (2155 x 1434) for image ./img\_0050.jpg (using image resolution instead)]

[EXIF focal length = 35.0mm]

[EXIF CCD width = 23.6mm]

[EXIF resolution = 2155 x 1434]

[Focal length (pixels) = 3195.97457627]

[Extracting EXIF tags from image ./img\_0051.jpg]

[WARNING: EXIF resolution (4310 x 2868) does not match image resolution (2155 x 1434) for image ./img\_0051.jpg (using image resolution instead)]

[EXIF focal length = 35.0mm]

[EXIF CCD width = 23.6mm]

[EXIF resolution = 2155 x 1434]

[Focal length (pixels) = 3195.97457627]

[Extracting EXIF tags from image ./img\_0052.jpg]

[WARNING: EXIF resolution (4310 x 2868) does not match image resolution (2155 x 1434) for image ./img\_0052.jpg (using image resolution instead)]

[EXIF focal length = 35.0mm]

[EXIF CCD width = 23.6mm]

[EXIF resolution = 2155 x 1434]

[Focal length (pixels) = 3195.97457627]

[Extracting EXIF tags from image ./img\_0053.jpg]

[WARNING: EXIF resolution (4310 x 2868) does not match image resolution (2155 x 1434) for image ./img\_0053.jpg (using image resolution instead)]

[EXIF focal length = 35.0mm]

[EXIF CCD width = 23.6mm]

[EXIF resolution = 2155 x 1434]

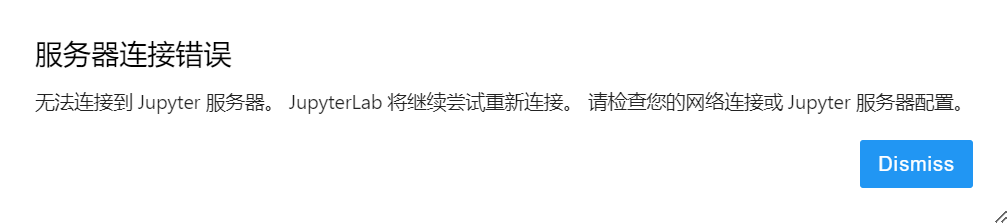
[Focal length (pixels) = 3195.97457627]

[- Retrieved EXIF tags of 53 images in 0.3 seconds -]

[- Step 3/6 Extracting keypoints -]

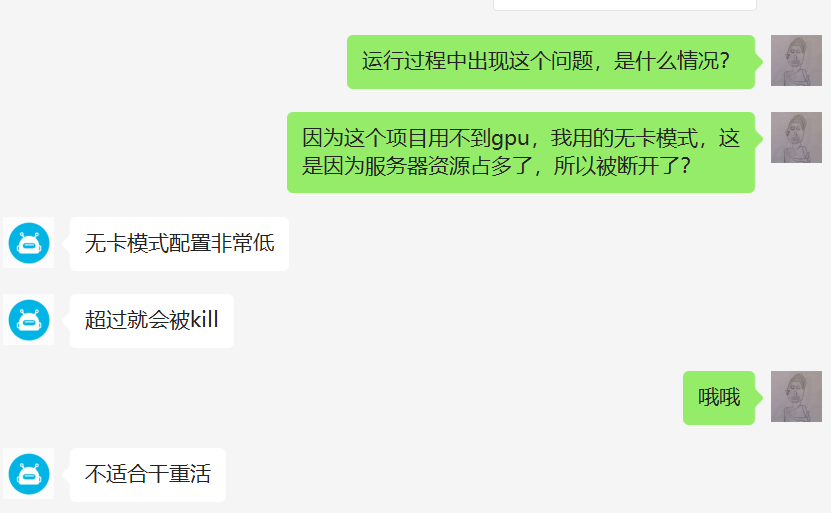
2138 keypoints found.

然后就断开了，显示如下。



再次运行还出现这个错误，而且还被kill掉了，这是什么原因？占用服务器太多资源？





切换到A5000，重新运行。

[- Step 3/6 Extracting keypoints -]

1991 keypoints found.

2119 keypoints found.

2587 keypoints found.

1505 keypoints found.

1215 keypoints found.

2635 keypoints found.

2392 keypoints found.

1927 keypoints found.

2460 keypoints found.

2911 keypoints found.

813 keypoints found.

1683 keypoints found.

2355 keypoints found.

1814 keypoints found.

745 keypoints found.

972 keypoints found.

1960 keypoints found.

2059 keypoints found.

2938 keypoints found.

2802 keypoints found.

2150 keypoints found.

2444 keypoints found.

2258 keypoints found.

472 keypoints found.

1582 keypoints found.

2491 keypoints found.

2059 keypoints found.

2546 keypoints found.

1246 keypoints found.

1815 keypoints found.

2575 keypoints found.

2453 keypoints found.

1810 keypoints found.

1386 keypoints found.

780 keypoints found.

2138 keypoints found.

1543 keypoints found.

2487 keypoints found.

1943 keypoints found.

2329 keypoints found.

1659 keypoints found.

670 keypoints found.

1877 keypoints found.

2609 keypoints found.

1523 keypoints found.

842 keypoints found.

709 keypoints found.

2716 keypoints found.

2097 keypoints found.

2343 keypoints found.

4559 keypoints found.

4007 keypoints found.

4622 keypoints found.

[- Extracting keypoints took 4.6 seconds -]

[- Step 4/6 Matching keypoints (this can take a while) -]

[KeyMatchPart 1] Reading keys took 0.028s

[KeyMatchPart 2] Reading keys took 0.055s

[KeyMatchPart 4] Reading keys took 0.089s

[KeyMatchPart 6] Reading keys took 0.121s

[KeyMatchPart 10] Reading keys took 0.217s

[KeyMatchPart 46] Reading keys took 0.604s

[KeyMatchPart 8] Reading keys took 0.173s

[KeyMatchPart 24] Reading keys took 0.389s

[KeyMatchPart 9] Reading keys took 0.217s

[KeyMatchPart 25] Reading keys took 0.405s

[KeyMatchPart 13] Reading keys took 0.268s

[KeyMatchPart 3] Reading keys took 0.112s

[KeyMatchPart 16] Reading keys took 0.321s

[KeyMatchPart 5] Reading keys took 0.166s

[KeyMatchPart 37] Reading keys took 0.584s

[KeyMatchPart 39] Reading keys took 0.570s

[KeyMatchPart 51] Reading keys took 0.723s

[KeyMatchPart 1] Matching took 0.130s

[KeyMatchPart 48] Reading keys took 0.669s

[KeyMatchPart 23] Reading keys took 0.408s

[KeyMatchPart 21] Reading keys took 0.396s

[KeyMatchPart 18] Reading keys took 0.358s

[KeyMatchPart 41] Reading keys took 0.600s

[KeyMatchPart 45] Reading keys took 0.653s

[KeyMatchPart 52] Reading keys took 0.713s

[KeyMatchPart 7] Reading keys took 0.244s

[KeyMatchPart 19] Reading keys took 0.375s

[KeyMatchPart 32] Reading keys took 0.555s

[KeyMatchPart 22] Reading keys took 0.456s

[KeyMatchPart 36] Reading keys took 0.607s

[KeyMatchPart 11] Reading keys took 0.319s

[KeyMatchPart 30] Reading keys took 0.544s

[KeyMatchPart 14] Reading keys took 0.362s

[KeyMatchPart 12] Reading keys took 0.369s

[KeyMatchPart 35] Reading keys took 0.594s

[KeyMatchPart 50] Reading keys took 0.802s

[KeyMatchPart 15] Reading keys took 0.411s

[KeyMatchPart 29] Reading keys took 0.542s

[KeyMatchPart 20] Reading keys took 0.492s

[KeyMatchPart 42] Reading keys took 0.691s

[KeyMatchPart 47] Reading keys took 0.757s

[KeyMatchPart 38] Reading keys took 0.653s

[KeyMatchPart 34] Reading keys took 0.605s

[KeyMatchPart 26] Reading keys took 0.558s

[KeyMatchPart 31] Reading keys took 0.633s

[KeyMatchPart 17] Reading keys took 0.451s

[KeyMatchPart 28] Reading keys took 0.590s

[KeyMatchPart 49] Reading keys took 0.812s

[KeyMatchPart 27] Reading keys took 0.589s

[KeyMatchPart 44] Reading keys took 0.790s

[KeyMatchPart 2] Matching took 0.313s

[KeyMatchPart 43] Reading keys took 0.786s

[KeyMatchPart 33] Reading keys took 0.705s

[KeyMatchPart 40] Reading keys took 0.825s

[KeyMatchPart 3] Matching took 0.462s

[KeyMatchPart 4] Matching took 0.593s

[KeyMatchPart 5] Matching took 0.801s

[KeyMatchPart 6] Matching took 0.960s

[KeyMatchPart 7] Matching took 1.085s

[KeyMatchPart 8] Matching took 1.287s

[KeyMatchPart 10] Matching took 1.635s

[KeyMatchPart 9] Matching took 1.614s

[KeyMatchPart 11] Matching took 1.808s

[KeyMatchPart 12] Matching took 2.071s

[KeyMatchPart 13] Matching took 2.250s

[KeyMatchPart 16] Matching took 2.667s

[KeyMatchPart 14] Matching took 2.505s

[KeyMatchPart 15] Matching took 2.537s

[KeyMatchPart 18] Matching took 2.918s

[KeyMatchPart 17] Matching took 2.917s

[KeyMatchPart 19] Matching took 3.053s

[KeyMatchPart 22] Matching took 3.040s

[KeyMatchPart 20] Matching took 3.100s

[KeyMatchPart 23] Matching took 3.294s

[KeyMatchPart 24] Matching took 3.482s

[KeyMatchPart 21] Matching took 3.398s

[KeyMatchPart 25] Matching took 3.785s

[KeyMatchPart 26] Matching took 3.742s

[KeyMatchPart 28] Matching took 3.908s

[KeyMatchPart 27] Matching took 3.962s

[KeyMatchPart 35] Matching took 4.263s

[KeyMatchPart 30] Matching took 4.235s

[KeyMatchPart 29] Matching took 4.291s

[KeyMatchPart 31] Matching took 4.248s

[KeyMatchPart 37] Matching took 4.820s

[KeyMatchPart 32] Matching took 4.799s

[KeyMatchPart 33] Matching took 4.575s

[KeyMatchPart 36] Matching took 4.744s

[KeyMatchPart 41] Matching took 4.949s

[KeyMatchPart 40] Matching took 4.720s

[KeyMatchPart 42] Matching took 4.856s

[KeyMatchPart 38] Matching took 4.934s

[KeyMatchPart 34] Matching took 4.864s

[KeyMatchPart 45] Matching took 5.086s

[KeyMatchPart 44] Matching took 4.967s

[KeyMatchPart 43] Matching took 5.027s

[KeyMatchPart 39] Matching took 5.317s

[KeyMatchPart 46] Matching took 5.690s

[KeyMatchPart 49] Matching took 5.540s

[KeyMatchPart 47] Matching took 5.656s

[KeyMatchPart 52] Matching took 5.994s

[KeyMatchPart 48] Matching took 6.506s

[KeyMatchPart 50] Matching took 6.773s

[KeyMatchPart 51] Matching took 7.135s

[- Matching keypoints took 15.9 seconds -]

[- Step 5/6 Running Bundler (sparse pointcloud generation) -]

[- Bundler took 62.6 seconds-]

[- Step 6/6 Creating CMVS/PMVS configuration and running PMVS2 -]

[ReadBundleFile] Bundle version: 0.300

[ReadBundleFile] Reading 53 images and 9749 points...

[GetJPEGDimensions] File ./img\_0001.jpg: ( 2155 , 1434 )

[GetJPEGDimensions] File ./img\_0002.jpg: ( 2155 , 1434 )

[GetJPEGDimensions] File ./img\_0003.jpg: ( 2155 , 1434 )

[GetJPEGDimensions] File ./img\_0004.jpg: ( 2155 , 1434 )

[GetJPEGDimensions] File ./img\_0005.jpg: ( 2155 , 1434 )

[GetJPEGDimensions] File ./img\_0006.jpg: ( 2155 , 1434 )

[GetJPEGDimensions] File ./img\_0007.jpg: ( 2155 , 1434 )

[GetJPEGDimensions] File ./img\_0008.jpg: ( 2155 , 1434 )

[GetJPEGDimensions] File ./img\_0009.jpg: ( 2155 , 1434 )

[GetJPEGDimensions] File ./img\_0010.jpg: ( 2155 , 1434 )

[GetJPEGDimensions] File ./img\_0011.jpg: ( 2155 , 1434 )

[GetJPEGDimensions] File ./img\_0012.jpg: ( 2155 , 1434 )

[GetJPEGDimensions] File ./img\_0013.jpg: ( 2155 , 1434 )

[GetJPEGDimensions] File ./img\_0014.jpg: ( 2155 , 1434 )

[GetJPEGDimensions] File ./img\_0015.jpg: ( 2155 , 1434 )

[GetJPEGDimensions] File ./img\_0016.jpg: ( 2155 , 1434 )

[GetJPEGDimensions] File ./img\_0017.jpg: ( 2155 , 1434 )

[GetJPEGDimensions] File ./img\_0018.jpg: ( 2155 , 1434 )

[GetJPEGDimensions] File ./img\_0019.jpg: ( 2155 , 1434 )

[GetJPEGDimensions] File ./img\_0020.jpg: ( 2155 , 1434 )

[GetJPEGDimensions] File ./img\_0021.jpg: ( 2155 , 1434 )

[GetJPEGDimensions] File ./img\_0022.jpg: ( 2155 , 1434 )

[GetJPEGDimensions] File ./img\_0023.jpg: ( 2155 , 1434 )

[GetJPEGDimensions] File ./img\_0024.jpg: ( 2155 , 1434 )

[GetJPEGDimensions] File ./img\_0025.jpg: ( 2155 , 1434 )

[GetJPEGDimensions] File ./img\_0026.jpg: ( 2155 , 1434 )

[GetJPEGDimensions] File ./img\_0027.jpg: ( 2155 , 1434 )

[GetJPEGDimensions] File ./img\_0028.jpg: ( 2155 , 1434 )

[GetJPEGDimensions] File ./img\_0029.jpg: ( 2155 , 1434 )

[GetJPEGDimensions] File ./img\_0030.jpg: ( 2155 , 1434 )

[GetJPEGDimensions] File ./img\_0031.jpg: ( 2155 , 1434 )

[GetJPEGDimensions] File ./img\_0032.jpg: ( 2155 , 1434 )

[GetJPEGDimensions] File ./img\_0033.jpg: ( 2155 , 1434 )

[GetJPEGDimensions] File ./img\_0034.jpg: ( 2155 , 1434 )

[GetJPEGDimensions] File ./img\_0035.jpg: ( 2155 , 1434 )

[GetJPEGDimensions] File ./img\_0036.jpg: ( 2155 , 1434 )

[GetJPEGDimensions] File ./img\_0037.jpg: ( 2155 , 1434 )

[GetJPEGDimensions] File ./img\_0038.jpg: ( 2155 , 1434 )

[GetJPEGDimensions] File ./img\_0039.jpg: ( 2155 , 1434 )

[GetJPEGDimensions] File ./img\_0040.jpg: ( 2155 , 1434 )

[GetJPEGDimensions] File ./img\_0041.jpg: ( 2155 , 1434 )

[GetJPEGDimensions] File ./img\_0042.jpg: ( 2155 , 1434 )

[GetJPEGDimensions] File ./img\_0043.jpg: ( 2155 , 1434 )

[GetJPEGDimensions] File ./img\_0044.jpg: ( 2155 , 1434 )

[GetJPEGDimensions] File ./img\_0045.jpg: ( 2155 , 1434 )

[GetJPEGDimensions] File ./img\_0046.jpg: ( 2155 , 1434 )

[GetJPEGDimensions] File ./img\_0047.jpg: ( 2155 , 1434 )

[GetJPEGDimensions] File ./img\_0048.jpg: ( 2155 , 1434 )

[GetJPEGDimensions] File ./img\_0049.jpg: ( 2155 , 1434 )

[GetJPEGDimensions] File ./img\_0051.jpg: ( 2155 , 1434 )

[GetJPEGDimensions] File ./img\_0052.jpg: ( 2155 , 1434 )

@@ Conversion complete, execute "sh pmvs/prep\_pmvs.sh" to finalize

@@ (you will first need to edit prep\_pmvs.sh to specify your bundler path,

@@ so that the script knows where to find your

@@ RadialUndistort and Bundle2Vis binaries)

[ReadBundleFile] Bundle version: 0.300

[ReadBundleFile] Reading 53 images and 9749 points...

Undistorting image ./img\_0001.jpg

Undistorting image ./img\_0002.jpg

Undistorting image ./img\_0003.jpg

Undistorting image ./img\_0004.jpg

Undistorting image ./img\_0005.jpg

Undistorting image ./img\_0006.jpg

Undistorting image ./img\_0007.jpg

Undistorting image ./img\_0008.jpg

Undistorting image ./img\_0009.jpg

Undistorting image ./img\_0010.jpg

Undistorting image ./img\_0011.jpg

Undistorting image ./img\_0012.jpg

Undistorting image ./img\_0013.jpg

Undistorting image ./img\_0014.jpg

Undistorting image ./img\_0015.jpg

Undistorting image ./img\_0016.jpg

Undistorting image ./img\_0017.jpg

Undistorting image ./img\_0018.jpg

Undistorting image ./img\_0019.jpg

Undistorting image ./img\_0020.jpg

Undistorting image ./img\_0021.jpg

Undistorting image ./img\_0022.jpg

Undistorting image ./img\_0023.jpg

Undistorting image ./img\_0024.jpg

Undistorting image ./img\_0025.jpg

Undistorting image ./img\_0026.jpg

Undistorting image ./img\_0027.jpg

Undistorting image ./img\_0028.jpg

Undistorting image ./img\_0029.jpg

Undistorting image ./img\_0030.jpg

Undistorting image ./img\_0031.jpg

Undistorting image ./img\_0032.jpg

Undistorting image ./img\_0033.jpg

Undistorting image ./img\_0034.jpg

Undistorting image ./img\_0035.jpg

Undistorting image ./img\_0036.jpg

Undistorting image ./img\_0037.jpg

Undistorting image ./img\_0038.jpg

Undistorting image ./img\_0039.jpg

Undistorting image ./img\_0040.jpg

Undistorting image ./img\_0041.jpg

Undistorting image ./img\_0042.jpg

Undistorting image ./img\_0043.jpg

Undistorting image ./img\_0044.jpg

Undistorting image ./img\_0045.jpg

Undistorting image ./img\_0046.jpg

Undistorting image ./img\_0047.jpg

Undistorting image ./img\_0048.jpg

Undistorting image ./img\_0049.jpg

Undistorting image ./img\_0051.jpg

Undistorting image ./img\_0052.jpg

[WriteBundleFile] Writing 51 images and 9749 points...

Traceback (most recent call last):

File "../../run-sfm.py", line 774, in <module>

run\_bundler()

File "../../run-sfm.py", line 766, in run\_bundler

create\_dense\_pointcloud(images, image\_list='list.txt', bundle\_out="bundle.out")

File "../../run-sfm.py", line 659, in create\_dense\_pointcloud

subprocess.call([BIN\_CMVS, os.path.join('.', 'pmvs', ''), '100', '16'], env=env)

File "/root/miniconda3/envs/sfm/lib/python2.7/subprocess.py", line 172, in call

return Popen(\*popenargs, \*\*kwargs).wait()

File "/root/miniconda3/envs/sfm/lib/python2.7/subprocess.py", line 394, in \_\_init\_\_

errread, errwrite)

File "/root/miniconda3/envs/sfm/lib/python2.7/subprocess.py", line 1047, in \_execute\_child

raise child\_exception

OSError: [Errno 2] No such file or directory

应该是之前的bundler编译不成功。

## 重新编译bundler\_sfm

cd ${HOME}/structure-from-motion/bundler\_sfm

make

(sfm) root@container-8fb311a93c-926d03ef:~/structure-from-motion/bundler\_sfm# make

cd lib/5point; make

make[1]: Entering directory '/root/structure-from-motion/bundler\_sfm/lib/5point'

make[1]: Nothing to be done for 'all'.

make[1]: Leaving directory '/root/structure-from-motion/bundler\_sfm/lib/5point'

cd lib/ann\_1.1\_char; make linux-g++-shared

make[1]: Entering directory '/root/structure-from-motion/bundler\_sfm/lib/ann\_1.1\_char'

cd src ; make linux-g++-shared

make[2]: Entering directory '/root/structure-from-motion/bundler\_sfm/lib/ann\_1.1\_char/src'

make targets \

"ANNLIB = libANN\_char.so" \

"C++ = g++" \

"CFLAGS = -g2 -fPIC" \

"MAKELIB = g++ -shared -o " \

"RANLIB = true"

make[3]: Entering directory '/root/structure-from-motion/bundler\_sfm/lib/ann\_1.1\_char/src'

g++ -shared -o libANN\_char.so ANN.o brute.o kd\_tree.o kd\_util.o kd\_split.o kd\_dump.o kd\_search.o kd\_pr\_search.o kd\_fix\_rad\_search.o bd\_tree.o bd\_search.o bd\_pr\_search.o bd\_fix\_rad\_search.o perf.o

true libANN\_char.so

cp libANN\_char.so ../..

cp libANN\_char.so ../../../bin

mv libANN\_char.so ../lib

make[3]: Leaving directory '/root/structure-from-motion/bundler\_sfm/lib/ann\_1.1\_char/src'

make[2]: Leaving directory '/root/structure-from-motion/bundler\_sfm/lib/ann\_1.1\_char/src'

make[1]: Leaving directory '/root/structure-from-motion/bundler\_sfm/lib/ann\_1.1\_char'

cd lib/imagelib; make

make[1]: Entering directory '/root/structure-from-motion/bundler\_sfm/lib/imagelib'

make[1]: Nothing to be done for 'all'.

make[1]: Leaving directory '/root/structure-from-motion/bundler\_sfm/lib/imagelib'

cd lib/matrix; make

make[1]: Entering directory '/root/structure-from-motion/bundler\_sfm/lib/matrix'

make[1]: Nothing to be done for 'all'.

make[1]: Leaving directory '/root/structure-from-motion/bundler\_sfm/lib/matrix'

cd lib/sba-1.5; make

make[1]: Entering directory '/root/structure-from-motion/bundler\_sfm/lib/sba-1.5'

make[1]: Nothing to be done for 'all'.

make[1]: Leaving directory '/root/structure-from-motion/bundler\_sfm/lib/sba-1.5'

cd lib/sfm-driver; make

make[1]: Entering directory '/root/structure-from-motion/bundler\_sfm/lib/sfm-driver'

make[1]: Nothing to be done for 'all'.

make[1]: Leaving directory '/root/structure-from-motion/bundler\_sfm/lib/sfm-driver'

cd lib/minpack; make

make[1]: Entering directory '/root/structure-from-motion/bundler\_sfm/lib/minpack'

gcc -O2 -ffast-math -c -o dpmpar.o dpmpar.f

gcc: error trying to exec 'f951': execvp: No such file or directory

<builtin>: recipe for target 'dpmpar.o' failed

make[1]: \*\*\* [dpmpar.o] Error 1

make[1]: Leaving directory '/root/structure-from-motion/bundler\_sfm/lib/minpack'

Makefile:21: recipe for target 'default' failed

make: \*\*\* [default] Error 2

安装gcc g++4.9

(sfm) root@container-8fb311a93c-926d03ef:~# sudo apt-get install gcc-4.9 g++-4.9

Reading package lists... Done

Building dependency tree

Reading state information... Done

Package gcc-4.9 is not available, but is referred to by another package.

This may mean that the package is missing, has been obsoleted, or

is only available from another source

Package g++-4.9 is not available, but is referred to by another package.

This may mean that the package is missing, has been obsoleted, or

is only available from another source

E: Package 'gcc-4.9' has no installation candidate

E: Package 'g++-4.9' has no installation candidate

出错，更新apt-get，然后再安装，问题依旧。

apt-get update

apt-get upgrade

## bunler\_sfm编译过程：

ge@ge:~/sfm/bundler\_sfm$ make

cd lib/5point; make

make[1]: Entering directory '/home/ge/sfm/bundler\_sfm/lib/5point'

make[1]: Nothing to be done for 'all'.

make[1]: Leaving directory '/home/ge/sfm/bundler\_sfm/lib/5point'

cd lib/ann\_1.1\_char; make linux-g++-shared

make[1]: Entering directory '/home/ge/sfm/bundler\_sfm/lib/ann\_1.1\_char'

cd src ; make linux-g++-shared

make[2]: Entering directory '/home/ge/sfm/bundler\_sfm/lib/ann\_1.1\_char/src'

make targets \

"ANNLIB = libANN\_char.so" \

"C++ = g++" \

"CFLAGS = -g2 -fPIC" \

"MAKELIB = g++ -shared -o " \

"RANLIB = true"

make[3]: Entering directory '/home/ge/sfm/bundler\_sfm/lib/ann\_1.1\_char/src'

g++ -shared -o libANN\_char.so ANN.o brute.o kd\_tree.o kd\_util.o kd\_split.o kd\_dump.o kd\_search.o kd\_pr\_search.o kd\_fix\_rad\_search.o bd\_tree.o bd\_search.o bd\_pr\_search.o bd\_fix\_rad\_search.o perf.o

true libANN\_char.so

cp libANN\_char.so ../..

cp libANN\_char.so ../../../bin

mv libANN\_char.so ../lib

make[3]: Leaving directory '/home/ge/sfm/bundler\_sfm/lib/ann\_1.1\_char/src'

make[2]: Leaving directory '/home/ge/sfm/bundler\_sfm/lib/ann\_1.1\_char/src'

make[1]: Leaving directory '/home/ge/sfm/bundler\_sfm/lib/ann\_1.1\_char'

cd lib/imagelib; make

make[1]: Entering directory '/home/ge/sfm/bundler\_sfm/lib/imagelib'

make[1]: Nothing to be done for 'all'.

make[1]: Leaving directory '/home/ge/sfm/bundler\_sfm/lib/imagelib'

cd lib/matrix; make

make[1]: Entering directory '/home/ge/sfm/bundler\_sfm/lib/matrix'

make[1]: Nothing to be done for 'all'.

make[1]: Leaving directory '/home/ge/sfm/bundler\_sfm/lib/matrix'

cd lib/sba-1.5; make

make[1]: Entering directory '/home/ge/sfm/bundler\_sfm/lib/sba-1.5'

make[1]: Nothing to be done for 'all'.

make[1]: Leaving directory '/home/ge/sfm/bundler\_sfm/lib/sba-1.5'

cd lib/sfm-driver; make

make[1]: Entering directory '/home/ge/sfm/bundler\_sfm/lib/sfm-driver'

make[1]: Nothing to be done for 'all'.

make[1]: Leaving directory '/home/ge/sfm/bundler\_sfm/lib/sfm-driver'

cd lib/minpack; make

make[1]: Entering directory '/home/ge/sfm/bundler\_sfm/lib/minpack'

gcc -O2 -ffast-math -c -o dpmpar.o dpmpar.f

gcc -O2 -ffast-math -c -o enorm.o enorm.f

gcc -O2 -ffast-math -c -o fdjac2.o fdjac2.f

gcc -O2 -ffast-math -c -o lmdif1.o lmdif1.f

gcc -O2 -ffast-math -c -o lmdif.o lmdif.f

gcc -O2 -ffast-math -c -o lmpar.o lmpar.f

gcc -O2 -ffast-math -c -o qrfac.o qrfac.f

gcc -O2 -ffast-math -c -o qrsolv.o qrsolv.f

ar rs libminpack.a dpmpar.o enorm.o fdjac2.o lmdif1.o lmdif.o lmpar.o qrfac.o qrsolv.o

ar: creating libminpack.a

cp libminpack.a ../

make[1]: Leaving directory '/home/ge/sfm/bundler\_sfm/lib/minpack'

cd lib/cblas; make

make[1]: Entering directory '/home/ge/sfm/bundler\_sfm/lib/cblas'

gcc -O3 -DADD\_ -c cblas\_dgemm.c

In file included from cblas\_dgemm.c:11:0:

cblas\_f77.h:42:0: warning: "ADD\_" redefined

#define ADD\_

^

<command-line>:0:0: note: this is the location of the previous definition

gcc -O3 -DADD\_ -c cblas\_globals.c

gcc -O3 -DADD\_ -c cblas\_xerbla.c

In file included from cblas\_xerbla.c:6:0:

cblas\_f77.h:42:0: warning: "ADD\_" redefined

#define ADD\_

^

<command-line>:0:0: note: this is the location of the previous definition

cblas\_xerbla.c: In function ‘cblas\_xerbla’:

cblas\_xerbla.c:10:11: warning: type defaults to ‘int’ in declaration of ‘RowMajorStrg’ [-Wimplicit-int]

extern RowMajorStrg;

^

gcc -O3 -DADD\_ -c xerbla.c

In file included from xerbla.c:4:0:

cblas\_f77.h:42:0: warning: "ADD\_" redefined

#define ADD\_

^

<command-line>:0:0: note: this is the location of the previous definition

ar rs libcblas.a cblas\_dgemm.o cblas\_globals.o cblas\_xerbla.o xerbla.o

ar: creating libcblas.a

cp libcblas.a ../

make[1]: Leaving directory '/home/ge/sfm/bundler\_sfm/lib/cblas'

cd lib/f2c; make

make[1]: Entering directory '/home/ge/sfm/bundler\_sfm/lib/f2c'

cp signal1.h0 signal1.h

cp sysdep1.h0 sysdep1.h

gcc -c f77vers.c

gcc -c i77vers.c

gcc -c -DSkip\_f2c\_Undefs -O main.c

ld -r -x -o main.xxx main.o

mv main.xxx main.o

gcc -c -DSkip\_f2c\_Undefs -O s\_rnge.c

ld -r -x -o s\_rnge.xxx s\_rnge.o

mv s\_rnge.xxx s\_rnge.o

gcc -c -DSkip\_f2c\_Undefs -O abort\_.c

ld -r -x -o abort\_.xxx abort\_.o

mv abort\_.xxx abort\_.o

gcc -c -DSkip\_f2c\_Undefs -O exit\_.c

ld -r -x -o exit\_.xxx exit\_.o

mv exit\_.xxx exit\_.o

gcc -c -DSkip\_f2c\_Undefs -O getarg\_.c

ld -r -x -o getarg\_.xxx getarg\_.o

mv getarg\_.xxx getarg\_.o

gcc -c -DSkip\_f2c\_Undefs -O iargc\_.c

ld -r -x -o iargc\_.xxx iargc\_.o

mv iargc\_.xxx iargc\_.o

gcc -c -DSkip\_f2c\_Undefs -O getenv\_.c

ld -r -x -o getenv\_.xxx getenv\_.o

mv getenv\_.xxx getenv\_.o

gcc -c -DSkip\_f2c\_Undefs -O signal\_.c

ld -r -x -o signal\_.xxx signal\_.o

mv signal\_.xxx signal\_.o

gcc -c -DSkip\_f2c\_Undefs -O s\_stop.c

ld -r -x -o s\_stop.xxx s\_stop.o

mv s\_stop.xxx s\_stop.o

gcc -c -DSkip\_f2c\_Undefs -O s\_paus.c

ld -r -x -o s\_paus.xxx s\_paus.o

mv s\_paus.xxx s\_paus.o

gcc -c -DSkip\_f2c\_Undefs -O system\_.c

ld -r -x -o system\_.xxx system\_.o

mv system\_.xxx system\_.o

gcc -c -DSkip\_f2c\_Undefs -O cabs.c

ld -r -x -o cabs.xxx cabs.o

mv cabs.xxx cabs.o

gcc -c -DSkip\_f2c\_Undefs -O ctype.c

ld -r -x -o ctype.xxx ctype.o

mv ctype.xxx ctype.o

gcc -c -DSkip\_f2c\_Undefs -O derf\_.c

ld -r -x -o derf\_.xxx derf\_.o

mv derf\_.xxx derf\_.o

gcc -c -DSkip\_f2c\_Undefs -O derfc\_.c

ld -r -x -o derfc\_.xxx derfc\_.o

mv derfc\_.xxx derfc\_.o

gcc -c -DSkip\_f2c\_Undefs -O erf\_.c

ld -r -x -o erf\_.xxx erf\_.o

mv erf\_.xxx erf\_.o

gcc -c -DSkip\_f2c\_Undefs -O erfc\_.c

ld -r -x -o erfc\_.xxx erfc\_.o

mv erfc\_.xxx erfc\_.o

gcc -c -DSkip\_f2c\_Undefs -O sig\_die.c

ld -r -x -o sig\_die.xxx sig\_die.o

mv sig\_die.xxx sig\_die.o

gcc -O -DNO\_FPINIT arithchk.c -lm ||\

gcc -DNO\_LONG\_LONG -O -DNO\_FPINIT arithchk.c -lm

arithchk.c: In function ‘ccheck’:

arithchk.c:125:2: warning: format not a string literal and no format arguments [-Wformat-security]

Cray1 = printf(emptyfmt) < 0 ? 0 : 4617762;

^

./a.out >arith.h

rm -f ./a.out arithchk.o

gcc -c -DSkip\_f2c\_Undefs -O uninit.c

ld -r -x -o uninit.xxx uninit.o

mv uninit.xxx uninit.o

gcc -c -DSkip\_f2c\_Undefs -O pow\_ci.c

ld -r -x -o pow\_ci.xxx pow\_ci.o

mv pow\_ci.xxx pow\_ci.o

gcc -c -DSkip\_f2c\_Undefs -O pow\_dd.c

ld -r -x -o pow\_dd.xxx pow\_dd.o

mv pow\_dd.xxx pow\_dd.o

gcc -c -DSkip\_f2c\_Undefs -O pow\_di.c

ld -r -x -o pow\_di.xxx pow\_di.o

mv pow\_di.xxx pow\_di.o

gcc -c -DSkip\_f2c\_Undefs -O pow\_hh.c

ld -r -x -o pow\_hh.xxx pow\_hh.o

mv pow\_hh.xxx pow\_hh.o

gcc -c -DSkip\_f2c\_Undefs -O pow\_ii.c

ld -r -x -o pow\_ii.xxx pow\_ii.o

mv pow\_ii.xxx pow\_ii.o

gcc -c -DSkip\_f2c\_Undefs -O pow\_ri.c

ld -r -x -o pow\_ri.xxx pow\_ri.o

mv pow\_ri.xxx pow\_ri.o

gcc -c -DSkip\_f2c\_Undefs -O pow\_zi.c

ld -r -x -o pow\_zi.xxx pow\_zi.o

mv pow\_zi.xxx pow\_zi.o

gcc -c -DSkip\_f2c\_Undefs -O pow\_zz.c

ld -r -x -o pow\_zz.xxx pow\_zz.o

mv pow\_zz.xxx pow\_zz.o

gcc -c -DSkip\_f2c\_Undefs -O c\_abs.c

ld -r -x -o c\_abs.xxx c\_abs.o

mv c\_abs.xxx c\_abs.o

gcc -c -DSkip\_f2c\_Undefs -O c\_cos.c

ld -r -x -o c\_cos.xxx c\_cos.o

mv c\_cos.xxx c\_cos.o

gcc -c -DSkip\_f2c\_Undefs -O c\_div.c

ld -r -x -o c\_div.xxx c\_div.o

mv c\_div.xxx c\_div.o

gcc -c -DSkip\_f2c\_Undefs -O c\_exp.c

ld -r -x -o c\_exp.xxx c\_exp.o

mv c\_exp.xxx c\_exp.o

gcc -c -DSkip\_f2c\_Undefs -O c\_log.c

ld -r -x -o c\_log.xxx c\_log.o

mv c\_log.xxx c\_log.o

gcc -c -DSkip\_f2c\_Undefs -O c\_sin.c

ld -r -x -o c\_sin.xxx c\_sin.o

mv c\_sin.xxx c\_sin.o

gcc -c -DSkip\_f2c\_Undefs -O c\_sqrt.c

ld -r -x -o c\_sqrt.xxx c\_sqrt.o

mv c\_sqrt.xxx c\_sqrt.o

gcc -c -DSkip\_f2c\_Undefs -O z\_abs.c

ld -r -x -o z\_abs.xxx z\_abs.o

mv z\_abs.xxx z\_abs.o

gcc -c -DSkip\_f2c\_Undefs -O z\_cos.c

ld -r -x -o z\_cos.xxx z\_cos.o

mv z\_cos.xxx z\_cos.o

gcc -c -DSkip\_f2c\_Undefs -O z\_div.c

ld -r -x -o z\_div.xxx z\_div.o

mv z\_div.xxx z\_div.o

gcc -c -DSkip\_f2c\_Undefs -O z\_exp.c

ld -r -x -o z\_exp.xxx z\_exp.o

mv z\_exp.xxx z\_exp.o

gcc -c -DSkip\_f2c\_Undefs -O z\_log.c

ld -r -x -o z\_log.xxx z\_log.o

mv z\_log.xxx z\_log.o

gcc -c -DSkip\_f2c\_Undefs -O z\_sin.c

ld -r -x -o z\_sin.xxx z\_sin.o

mv z\_sin.xxx z\_sin.o

gcc -c -DSkip\_f2c\_Undefs -O z\_sqrt.c

ld -r -x -o z\_sqrt.xxx z\_sqrt.o

mv z\_sqrt.xxx z\_sqrt.o

gcc -c -DSkip\_f2c\_Undefs -O r\_abs.c

ld -r -x -o r\_abs.xxx r\_abs.o

mv r\_abs.xxx r\_abs.o

gcc -c -DSkip\_f2c\_Undefs -O r\_acos.c

ld -r -x -o r\_acos.xxx r\_acos.o

mv r\_acos.xxx r\_acos.o

gcc -c -DSkip\_f2c\_Undefs -O r\_asin.c

ld -r -x -o r\_asin.xxx r\_asin.o

mv r\_asin.xxx r\_asin.o

gcc -c -DSkip\_f2c\_Undefs -O r\_atan.c

ld -r -x -o r\_atan.xxx r\_atan.o

mv r\_atan.xxx r\_atan.o

gcc -c -DSkip\_f2c\_Undefs -O r\_atn2.c

ld -r -x -o r\_atn2.xxx r\_atn2.o

mv r\_atn2.xxx r\_atn2.o

gcc -c -DSkip\_f2c\_Undefs -O r\_cnjg.c

ld -r -x -o r\_cnjg.xxx r\_cnjg.o

mv r\_cnjg.xxx r\_cnjg.o

gcc -c -DSkip\_f2c\_Undefs -O r\_cos.c

ld -r -x -o r\_cos.xxx r\_cos.o

mv r\_cos.xxx r\_cos.o

gcc -c -DSkip\_f2c\_Undefs -O r\_cosh.c

ld -r -x -o r\_cosh.xxx r\_cosh.o

mv r\_cosh.xxx r\_cosh.o

gcc -c -DSkip\_f2c\_Undefs -O r\_dim.c

ld -r -x -o r\_dim.xxx r\_dim.o

mv r\_dim.xxx r\_dim.o

gcc -c -DSkip\_f2c\_Undefs -O r\_exp.c

ld -r -x -o r\_exp.xxx r\_exp.o

mv r\_exp.xxx r\_exp.o

gcc -c -DSkip\_f2c\_Undefs -O r\_imag.c

ld -r -x -o r\_imag.xxx r\_imag.o

mv r\_imag.xxx r\_imag.o

gcc -c -DSkip\_f2c\_Undefs -O r\_int.c

ld -r -x -o r\_int.xxx r\_int.o

mv r\_int.xxx r\_int.o

gcc -c -DSkip\_f2c\_Undefs -O r\_lg10.c

ld -r -x -o r\_lg10.xxx r\_lg10.o

mv r\_lg10.xxx r\_lg10.o

gcc -c -DSkip\_f2c\_Undefs -O r\_log.c

ld -r -x -o r\_log.xxx r\_log.o

mv r\_log.xxx r\_log.o

gcc -c -DSkip\_f2c\_Undefs -O r\_mod.c

ld -r -x -o r\_mod.xxx r\_mod.o

mv r\_mod.xxx r\_mod.o

gcc -c -DSkip\_f2c\_Undefs -O r\_nint.c

ld -r -x -o r\_nint.xxx r\_nint.o

mv r\_nint.xxx r\_nint.o

gcc -c -DSkip\_f2c\_Undefs -O r\_sign.c

ld -r -x -o r\_sign.xxx r\_sign.o

mv r\_sign.xxx r\_sign.o

gcc -c -DSkip\_f2c\_Undefs -O r\_sin.c

ld -r -x -o r\_sin.xxx r\_sin.o

mv r\_sin.xxx r\_sin.o

gcc -c -DSkip\_f2c\_Undefs -O r\_sinh.c

ld -r -x -o r\_sinh.xxx r\_sinh.o

mv r\_sinh.xxx r\_sinh.o

gcc -c -DSkip\_f2c\_Undefs -O r\_sqrt.c

ld -r -x -o r\_sqrt.xxx r\_sqrt.o

mv r\_sqrt.xxx r\_sqrt.o

gcc -c -DSkip\_f2c\_Undefs -O r\_tan.c

ld -r -x -o r\_tan.xxx r\_tan.o

mv r\_tan.xxx r\_tan.o

gcc -c -DSkip\_f2c\_Undefs -O r\_tanh.c

ld -r -x -o r\_tanh.xxx r\_tanh.o

mv r\_tanh.xxx r\_tanh.o

gcc -c -DSkip\_f2c\_Undefs -O d\_abs.c

ld -r -x -o d\_abs.xxx d\_abs.o

mv d\_abs.xxx d\_abs.o

gcc -c -DSkip\_f2c\_Undefs -O d\_acos.c

ld -r -x -o d\_acos.xxx d\_acos.o

mv d\_acos.xxx d\_acos.o

gcc -c -DSkip\_f2c\_Undefs -O d\_asin.c

ld -r -x -o d\_asin.xxx d\_asin.o

mv d\_asin.xxx d\_asin.o

gcc -c -DSkip\_f2c\_Undefs -O d\_atan.c

ld -r -x -o d\_atan.xxx d\_atan.o

mv d\_atan.xxx d\_atan.o

gcc -c -DSkip\_f2c\_Undefs -O d\_atn2.c

ld -r -x -o d\_atn2.xxx d\_atn2.o

mv d\_atn2.xxx d\_atn2.o

gcc -c -DSkip\_f2c\_Undefs -O d\_cnjg.c

ld -r -x -o d\_cnjg.xxx d\_cnjg.o

mv d\_cnjg.xxx d\_cnjg.o

gcc -c -DSkip\_f2c\_Undefs -O d\_cos.c

ld -r -x -o d\_cos.xxx d\_cos.o

mv d\_cos.xxx d\_cos.o

gcc -c -DSkip\_f2c\_Undefs -O d\_cosh.c

ld -r -x -o d\_cosh.xxx d\_cosh.o

mv d\_cosh.xxx d\_cosh.o

gcc -c -DSkip\_f2c\_Undefs -O d\_dim.c

ld -r -x -o d\_dim.xxx d\_dim.o

mv d\_dim.xxx d\_dim.o

gcc -c -DSkip\_f2c\_Undefs -O d\_exp.c

ld -r -x -o d\_exp.xxx d\_exp.o

mv d\_exp.xxx d\_exp.o

gcc -c -DSkip\_f2c\_Undefs -O d\_imag.c

ld -r -x -o d\_imag.xxx d\_imag.o

mv d\_imag.xxx d\_imag.o

gcc -c -DSkip\_f2c\_Undefs -O d\_int.c

ld -r -x -o d\_int.xxx d\_int.o

mv d\_int.xxx d\_int.o

gcc -c -DSkip\_f2c\_Undefs -O d\_lg10.c

ld -r -x -o d\_lg10.xxx d\_lg10.o

mv d\_lg10.xxx d\_lg10.o

gcc -c -DSkip\_f2c\_Undefs -O d\_log.c

ld -r -x -o d\_log.xxx d\_log.o

mv d\_log.xxx d\_log.o

gcc -c -DSkip\_f2c\_Undefs -O d\_mod.c

ld -r -x -o d\_mod.xxx d\_mod.o

mv d\_mod.xxx d\_mod.o

gcc -c -DSkip\_f2c\_Undefs -O d\_nint.c

ld -r -x -o d\_nint.xxx d\_nint.o

mv d\_nint.xxx d\_nint.o

gcc -c -DSkip\_f2c\_Undefs -O d\_prod.c

ld -r -x -o d\_prod.xxx d\_prod.o

mv d\_prod.xxx d\_prod.o

gcc -c -DSkip\_f2c\_Undefs -O d\_sign.c

ld -r -x -o d\_sign.xxx d\_sign.o

mv d\_sign.xxx d\_sign.o

gcc -c -DSkip\_f2c\_Undefs -O d\_sin.c

ld -r -x -o d\_sin.xxx d\_sin.o

mv d\_sin.xxx d\_sin.o

gcc -c -DSkip\_f2c\_Undefs -O d\_sinh.c

ld -r -x -o d\_sinh.xxx d\_sinh.o

mv d\_sinh.xxx d\_sinh.o

gcc -c -DSkip\_f2c\_Undefs -O d\_sqrt.c

ld -r -x -o d\_sqrt.xxx d\_sqrt.o

mv d\_sqrt.xxx d\_sqrt.o

gcc -c -DSkip\_f2c\_Undefs -O d\_tan.c

ld -r -x -o d\_tan.xxx d\_tan.o

mv d\_tan.xxx d\_tan.o

gcc -c -DSkip\_f2c\_Undefs -O d\_tanh.c

ld -r -x -o d\_tanh.xxx d\_tanh.o

mv d\_tanh.xxx d\_tanh.o

gcc -c -DSkip\_f2c\_Undefs -O i\_abs.c

ld -r -x -o i\_abs.xxx i\_abs.o

mv i\_abs.xxx i\_abs.o

gcc -c -DSkip\_f2c\_Undefs -O i\_dim.c

ld -r -x -o i\_dim.xxx i\_dim.o

mv i\_dim.xxx i\_dim.o

gcc -c -DSkip\_f2c\_Undefs -O i\_dnnt.c

ld -r -x -o i\_dnnt.xxx i\_dnnt.o

mv i\_dnnt.xxx i\_dnnt.o

gcc -c -DSkip\_f2c\_Undefs -O i\_indx.c

ld -r -x -o i\_indx.xxx i\_indx.o

mv i\_indx.xxx i\_indx.o

gcc -c -DSkip\_f2c\_Undefs -O i\_len.c

ld -r -x -o i\_len.xxx i\_len.o

mv i\_len.xxx i\_len.o

gcc -c -DSkip\_f2c\_Undefs -O i\_mod.c

ld -r -x -o i\_mod.xxx i\_mod.o

mv i\_mod.xxx i\_mod.o

gcc -c -DSkip\_f2c\_Undefs -O i\_nint.c

ld -r -x -o i\_nint.xxx i\_nint.o

mv i\_nint.xxx i\_nint.o

gcc -c -DSkip\_f2c\_Undefs -O i\_sign.c

ld -r -x -o i\_sign.xxx i\_sign.o

mv i\_sign.xxx i\_sign.o

gcc -c -DSkip\_f2c\_Undefs -O lbitbits.c

ld -r -x -o lbitbits.xxx lbitbits.o

mv lbitbits.xxx lbitbits.o

gcc -c -DSkip\_f2c\_Undefs -O lbitshft.c

ld -r -x -o lbitshft.xxx lbitshft.o

mv lbitshft.xxx lbitshft.o

gcc -c -DSkip\_f2c\_Undefs -O h\_abs.c

ld -r -x -o h\_abs.xxx h\_abs.o

mv h\_abs.xxx h\_abs.o

gcc -c -DSkip\_f2c\_Undefs -O h\_dim.c

ld -r -x -o h\_dim.xxx h\_dim.o

mv h\_dim.xxx h\_dim.o

gcc -c -DSkip\_f2c\_Undefs -O h\_dnnt.c

ld -r -x -o h\_dnnt.xxx h\_dnnt.o

mv h\_dnnt.xxx h\_dnnt.o

gcc -c -DSkip\_f2c\_Undefs -O h\_indx.c

ld -r -x -o h\_indx.xxx h\_indx.o

mv h\_indx.xxx h\_indx.o

gcc -c -DSkip\_f2c\_Undefs -O h\_len.c

ld -r -x -o h\_len.xxx h\_len.o

mv h\_len.xxx h\_len.o

gcc -c -DSkip\_f2c\_Undefs -O h\_mod.c

ld -r -x -o h\_mod.xxx h\_mod.o

mv h\_mod.xxx h\_mod.o

gcc -c -DSkip\_f2c\_Undefs -O h\_nint.c

ld -r -x -o h\_nint.xxx h\_nint.o

mv h\_nint.xxx h\_nint.o

gcc -c -DSkip\_f2c\_Undefs -O h\_sign.c

ld -r -x -o h\_sign.xxx h\_sign.o

mv h\_sign.xxx h\_sign.o

gcc -c -DSkip\_f2c\_Undefs -O l\_ge.c

ld -r -x -o l\_ge.xxx l\_ge.o

mv l\_ge.xxx l\_ge.o

gcc -c -DSkip\_f2c\_Undefs -O l\_gt.c

ld -r -x -o l\_gt.xxx l\_gt.o

mv l\_gt.xxx l\_gt.o

gcc -c -DSkip\_f2c\_Undefs -O l\_le.c

ld -r -x -o l\_le.xxx l\_le.o

mv l\_le.xxx l\_le.o

gcc -c -DSkip\_f2c\_Undefs -O l\_lt.c

ld -r -x -o l\_lt.xxx l\_lt.o

mv l\_lt.xxx l\_lt.o

gcc -c -DSkip\_f2c\_Undefs -O hl\_ge.c

ld -r -x -o hl\_ge.xxx hl\_ge.o

mv hl\_ge.xxx hl\_ge.o

gcc -c -DSkip\_f2c\_Undefs -O hl\_gt.c

ld -r -x -o hl\_gt.xxx hl\_gt.o

mv hl\_gt.xxx hl\_gt.o

gcc -c -DSkip\_f2c\_Undefs -O hl\_le.c

ld -r -x -o hl\_le.xxx hl\_le.o

mv hl\_le.xxx hl\_le.o

gcc -c -DSkip\_f2c\_Undefs -O hl\_lt.c

ld -r -x -o hl\_lt.xxx hl\_lt.o

mv hl\_lt.xxx hl\_lt.o

gcc -c -DSkip\_f2c\_Undefs -O ef1asc\_.c

ld -r -x -o ef1asc\_.xxx ef1asc\_.o

mv ef1asc\_.xxx ef1asc\_.o

gcc -c -DSkip\_f2c\_Undefs -O ef1cmc\_.c

ld -r -x -o ef1cmc\_.xxx ef1cmc\_.o

mv ef1cmc\_.xxx ef1cmc\_.o

gcc -c -DSkip\_f2c\_Undefs -O f77\_aloc.c

ld -r -x -o f77\_aloc.xxx f77\_aloc.o

mv f77\_aloc.xxx f77\_aloc.o

gcc -c -DSkip\_f2c\_Undefs -O s\_cat.c

ld -r -x -o s\_cat.xxx s\_cat.o

mv s\_cat.xxx s\_cat.o

gcc -c -DSkip\_f2c\_Undefs -O s\_cmp.c

ld -r -x -o s\_cmp.xxx s\_cmp.o

mv s\_cmp.xxx s\_cmp.o

gcc -c -DSkip\_f2c\_Undefs -O s\_copy.c

ld -r -x -o s\_copy.xxx s\_copy.o

mv s\_copy.xxx s\_copy.o

gcc -c -DSkip\_f2c\_Undefs -O backspac.c

backspac.c: In function ‘f\_back’:

backspac.c:47:3: warning: ignoring return value of ‘fread’, declared with attribute warn\_unused\_result [-Wunused-result]

fread((char \*)&n,sizeof(uiolen),1,f);

^

ld -r -x -o backspac.xxx backspac.o

mv backspac.xxx backspac.o

gcc -c -DSkip\_f2c\_Undefs -O close.c

ld -r -x -o close.xxx close.o

mv close.xxx close.o

gcc -c -DSkip\_f2c\_Undefs -O dfe.c

ld -r -x -o dfe.xxx dfe.o

mv dfe.xxx dfe.o

gcc -c -DSkip\_f2c\_Undefs -O dolio.c

ld -r -x -o dolio.xxx dolio.o

mv dolio.xxx dolio.o

gcc -c -DSkip\_f2c\_Undefs -O due.c

ld -r -x -o due.xxx due.o

mv due.xxx due.o

gcc -c -DSkip\_f2c\_Undefs -O endfile.c

ld -r -x -o endfile.xxx endfile.o

mv endfile.xxx endfile.o

gcc -c -DSkip\_f2c\_Undefs -O err.c

ld -r -x -o err.xxx err.o

mv err.xxx err.o

gcc -c -DSkip\_f2c\_Undefs -O fmt.c

ld -r -x -o fmt.xxx fmt.o

mv fmt.xxx fmt.o

gcc -c -DSkip\_f2c\_Undefs -O fmtlib.c

ld -r -x -o fmtlib.xxx fmtlib.o

mv fmtlib.xxx fmtlib.o

gcc -c -DSkip\_f2c\_Undefs -O ftell\_.c

ld -r -x -o ftell\_.xxx ftell\_.o

mv ftell\_.xxx ftell\_.o

gcc -c -DSkip\_f2c\_Undefs -O iio.c

ld -r -x -o iio.xxx iio.o

mv iio.xxx iio.o

gcc -c -DSkip\_f2c\_Undefs -O ilnw.c

ld -r -x -o ilnw.xxx ilnw.o

mv ilnw.xxx ilnw.o

gcc -c -DSkip\_f2c\_Undefs -O inquire.c

ld -r -x -o inquire.xxx inquire.o

mv inquire.xxx inquire.o

gcc -c -DSkip\_f2c\_Undefs -O lread.c

ld -r -x -o lread.xxx lread.o

mv lread.xxx lread.o

gcc -c -DSkip\_f2c\_Undefs -O lwrite.c

ld -r -x -o lwrite.xxx lwrite.o

mv lwrite.xxx lwrite.o

gcc -c -DSkip\_f2c\_Undefs -O open.c

ld -r -x -o open.xxx open.o

mv open.xxx open.o

gcc -c -DSkip\_f2c\_Undefs -O rdfmt.c

ld -r -x -o rdfmt.xxx rdfmt.o

mv rdfmt.xxx rdfmt.o

gcc -c -DSkip\_f2c\_Undefs -O rewind.c

ld -r -x -o rewind.xxx rewind.o

mv rewind.xxx rewind.o

gcc -c -DSkip\_f2c\_Undefs -O rsfe.c

ld -r -x -o rsfe.xxx rsfe.o

mv rsfe.xxx rsfe.o

gcc -c -DSkip\_f2c\_Undefs -O rsli.c

ld -r -x -o rsli.xxx rsli.o

mv rsli.xxx rsli.o

gcc -c -DSkip\_f2c\_Undefs -O rsne.c

ld -r -x -o rsne.xxx rsne.o

mv rsne.xxx rsne.o

gcc -c -DSkip\_f2c\_Undefs -O sfe.c

ld -r -x -o sfe.xxx sfe.o

mv sfe.xxx sfe.o

gcc -c -DSkip\_f2c\_Undefs -O sue.c

ld -r -x -o sue.xxx sue.o

mv sue.xxx sue.o

gcc -c -DSkip\_f2c\_Undefs -O typesize.c

ld -r -x -o typesize.xxx typesize.o

mv typesize.xxx typesize.o

gcc -c -DSkip\_f2c\_Undefs -O uio.c

ld -r -x -o uio.xxx uio.o

mv uio.xxx uio.o

gcc -c -DSkip\_f2c\_Undefs -O util.c

ld -r -x -o util.xxx util.o

mv util.xxx util.o

gcc -c -DSkip\_f2c\_Undefs -O wref.c

ld -r -x -o wref.xxx wref.o

mv wref.xxx wref.o

gcc -c -DSkip\_f2c\_Undefs -O wrtfmt.c

ld -r -x -o wrtfmt.xxx wrtfmt.o

mv wrtfmt.xxx wrtfmt.o

gcc -c -DSkip\_f2c\_Undefs -O wsfe.c

ld -r -x -o wsfe.xxx wsfe.o

mv wsfe.xxx wsfe.o

gcc -c -DSkip\_f2c\_Undefs -O wsle.c

ld -r -x -o wsle.xxx wsle.o

mv wsle.xxx wsle.o

gcc -c -DSkip\_f2c\_Undefs -O wsne.c

ld -r -x -o wsne.xxx wsne.o

mv wsne.xxx wsne.o

gcc -c -DSkip\_f2c\_Undefs -O xwsne.c

ld -r -x -o xwsne.xxx xwsne.o

mv xwsne.xxx xwsne.o

gcc -c -DSkip\_f2c\_Undefs -O dtime\_.c

ld -r -x -o dtime\_.xxx dtime\_.o

mv dtime\_.xxx dtime\_.o

gcc -c -DSkip\_f2c\_Undefs -O etime\_.c

ld -r -x -o etime\_.xxx etime\_.o

mv etime\_.xxx etime\_.o

ar r libf2c.a f77vers.o i77vers.o main.o s\_rnge.o abort\_.o exit\_.o getarg\_.o iargc\_.o getenv\_.o signal\_.o s\_stop.o s\_paus.o system\_.o cabs.o ctype.o derf\_.o derfc\_.o erf\_.o erfc\_.o sig\_die.o uninit.o pow\_ci.o pow\_dd.o pow\_di.o pow\_hh.o pow\_ii.o pow\_ri.o pow\_zi.o pow\_zz.o c\_abs.o c\_cos.o c\_div.o c\_exp.o c\_log.o c\_sin.o c\_sqrt.o z\_abs.o z\_cos.o z\_div.o z\_exp.o z\_log.o z\_sin.o z\_sqrt.o r\_abs.o r\_acos.o r\_asin.o r\_atan.o r\_atn2.o r\_cnjg.o r\_cos.o r\_cosh.o r\_dim.o r\_exp.o r\_imag.o r\_int.o r\_lg10.o r\_log.o r\_mod.o r\_nint.o r\_sign.o r\_sin.o r\_sinh.o r\_sqrt.o r\_tan.o r\_tanh.o d\_abs.o d\_acos.o d\_asin.o d\_atan.o d\_atn2.o d\_cnjg.o d\_cos.o d\_cosh.o d\_dim.o d\_exp.o d\_imag.o d\_int.o d\_lg10.o d\_log.o d\_mod.o d\_nint.o d\_prod.o d\_sign.o d\_sin.o d\_sinh.o d\_sqrt.o d\_tan.o d\_tanh.o i\_abs.o i\_dim.o i\_dnnt.o i\_indx.o i\_len.o i\_mod.o i\_nint.o i\_sign.o lbitbits.o lbitshft.o h\_abs.o h\_dim.o h\_dnnt.o h\_indx.o h\_len.o h\_mod.o h\_nint.o h\_sign.o l\_ge.o l\_gt.o l\_le.o l\_lt.o hl\_ge.o hl\_gt.o hl\_le.o hl\_lt.o ef1asc\_.o ef1cmc\_.o f77\_aloc.o s\_cat.o s\_cmp.o s\_copy.o backspac.o close.o dfe.o dolio.o due.o endfile.o err.o fmt.o fmtlib.o ftell\_.o iio.o ilnw.o inquire.o lread.o lwrite.o open.o rdfmt.o rewind.o rsfe.o rsli.o rsne.o sfe.o sue.o typesize.o uio.o util.o wref.o wrtfmt.o wsfe.o wsle.o wsne.o xwsne.o dtime\_.o etime\_.o

ar: creating libf2c.a

cp libf2c.a ../

make[1]: Leaving directory '/home/ge/sfm/bundler\_sfm/lib/f2c'

cd src; make

make[1]: Entering directory '/home/ge/sfm/bundler\_sfm/src'

g++ -c -o BaseApp.o -O3 -Wall -Wno-unused-result -std=gnu++0x -I../lib/imagelib -I../lib/sfm-driver -I../lib/matrix -I../lib/5point -I../lib/sba-1.5 -I../lib/ann\_1.1\_char/include -I../include -D\_\_NO\_UI\_\_ -D\_\_BUNDLER\_\_ -D\_\_BUNDLER\_DISTR\_\_ BaseApp.cpp

g++ -c -o BundlerApp.o -O3 -Wall -Wno-unused-result -std=gnu++0x -I../lib/imagelib -I../lib/sfm-driver -I../lib/matrix -I../lib/5point -I../lib/sba-1.5 -I../lib/ann\_1.1\_char/include -I../include -D\_\_NO\_UI\_\_ -D\_\_BUNDLER\_\_ -D\_\_BUNDLER\_DISTR\_\_ BundlerApp.cpp

In file included from /usr/include/c++/5/ext/hash\_map:60:0,

from BundleUtil.h:26,

from BundlerApp.cpp:36:

/usr/include/c++/5/backward/backward\_warning.h:32:2: warning: #warning This file includes at least one deprecated or antiquated header which may be removed without further notice at a future date. Please use a non-deprecated interface with equivalent functionality instead. For a listing of replacement headers and interfaces, consult the file backward\_warning.h. To disable this warning use -Wno-deprecated. [-Wcpp]

#warning \

^

g++ -c -o keys.o -O3 -Wall -Wno-unused-result -std=gnu++0x -I../lib/imagelib -I../lib/sfm-driver -I../lib/matrix -I../lib/5point -I../lib/sba-1.5 -I../lib/ann\_1.1\_char/include -I../include -D\_\_NO\_UI\_\_ -D\_\_BUNDLER\_\_ -D\_\_BUNDLER\_DISTR\_\_ keys.cpp

In file included from /usr/include/c++/5/ext/hash\_map:60:0,

from keys.cpp:28:

/usr/include/c++/5/backward/backward\_warning.h:32:2: warning: #warning This file includes at least one deprecated or antiquated header which may be removed without further notice at a future date. Please use a non-deprecated interface with equivalent functionality instead. For a listing of replacement headers and interfaces, consult the file backward\_warning.h. To disable this warning use -Wno-deprecated. [-Wcpp]

#warning \

^

keys.cpp:292:14: warning: ‘char\* strchrn(char\*, int, int)’ defined but not used [-Wunused-function]

static char \*strchrn(char \*str, int c, int n) {

^

g++ -c -o Register.o -O3 -Wall -Wno-unused-result -std=gnu++0x -I../lib/imagelib -I../lib/sfm-driver -I../lib/matrix -I../lib/5point -I../lib/sba-1.5 -I../lib/ann\_1.1\_char/include -I../include -D\_\_NO\_UI\_\_ -D\_\_BUNDLER\_\_ -D\_\_BUNDLER\_DISTR\_\_ Register.cpp

g++ -c -o Epipolar.o -O3 -Wall -Wno-unused-result -std=gnu++0x -I../lib/imagelib -I../lib/sfm-driver -I../lib/matrix -I../lib/5point -I../lib/sba-1.5 -I../lib/ann\_1.1\_char/include -I../include -D\_\_NO\_UI\_\_ -D\_\_BUNDLER\_\_ -D\_\_BUNDLER\_DISTR\_\_ Epipolar.cpp

g++ -c -o Bundle.o -O3 -Wall -Wno-unused-result -std=gnu++0x -I../lib/imagelib -I../lib/sfm-driver -I../lib/matrix -I../lib/5point -I../lib/sba-1.5 -I../lib/ann\_1.1\_char/include -I../include -D\_\_NO\_UI\_\_ -D\_\_BUNDLER\_\_ -D\_\_BUNDLER\_DISTR\_\_ Bundle.cpp

Bundle.cpp: In member function ‘void BundlerApp::BundlePickInitialPair(int&, int&, bool)’:

Bundle.cpp:1584:12: warning: variable ‘max\_score’ set but not used [-Wunused-but-set-variable]

double max\_score = 0.0;

^

Bundle.cpp:1586:9: warning: variable ‘max\_matches\_2’ set but not used [-Wunused-but-set-variable]

int max\_matches\_2 = 0;

^

Bundle.cpp:1593:9: warning: unused variable ‘i\_best\_3’ [-Wunused-variable]

int i\_best\_3 = -1;

^

Bundle.cpp:1594:9: warning: unused variable ‘j\_best\_3’ [-Wunused-variable]

int j\_best\_3 = -1;

^

Bundle.cpp: In member function ‘void BundlerApp::BundleAdjust()’:

Bundle.cpp:2245:20: warning: variable ‘error1’ set but not used [-Wunused-but-set-variable]

double error1;

^

Bundle.cpp:2151:16: warning: variable ‘error0’ set but not used [-Wunused-but-set-variable]

double error0;

^

Bundle.cpp: In member function ‘std::vector<int> BundlerApp::RefineCameraAndPoints(const ImageData&, int, v3\_t\*, v2\_t\*, int\*, camera\_params\_t\*, int\*, const std::vector<std::vector<std::pair<int, int> > >&, camera\_params\_t\*, bool)’:

Bundle.cpp:2789:12: warning: variable ‘derror’ set but not used [-Wunused-but-set-variable]

double derror;

^

Bundle.cpp: At global scope:

Bundle.cpp:156:13: warning: ‘void RemoveImageKey(ImageKeyVector&, int)’ defined but not used [-Wunused-function]

static void RemoveImageKey(ImageKeyVector &vec, int view)

^

g++ -c -o BundleFast.o -O3 -Wall -Wno-unused-result -std=gnu++0x -I../lib/imagelib -I../lib/sfm-driver -I../lib/matrix -I../lib/5point -I../lib/sba-1.5 -I../lib/ann\_1.1\_char/include -I../include -D\_\_NO\_UI\_\_ -D\_\_BUNDLER\_\_ -D\_\_BUNDLER\_DISTR\_\_ BundleFast.cpp

BundleFast.cpp: In member function ‘void BundlerApp::BundleAdjustFast()’:

BundleFast.cpp:198:13: warning: variable ‘error1’ set but not used [-Wunused-but-set-variable]

double error1;

^

BundleFast.cpp:120:9: warning: variable ‘error0’ set but not used [-Wunused-but-set-variable]

double error0;

^

g++ -c -o MatchTracks.o -O3 -Wall -Wno-unused-result -std=gnu++0x -I../lib/imagelib -I../lib/sfm-driver -I../lib/matrix -I../lib/5point -I../lib/sba-1.5 -I../lib/ann\_1.1\_char/include -I../include -D\_\_NO\_UI\_\_ -D\_\_BUNDLER\_\_ -D\_\_BUNDLER\_DISTR\_\_ MatchTracks.cpp

In file included from /usr/include/c++/5/ext/hash\_map:60:0,

from BundleUtil.h:26,

from MatchTracks.cpp:26:

/usr/include/c++/5/backward/backward\_warning.h:32:2: warning: #warning This file includes at least one deprecated or antiquated header which may be removed without further notice at a future date. Please use a non-deprecated interface with equivalent functionality instead. For a listing of replacement headers and interfaces, consult the file backward\_warning.h. To disable this warning use -Wno-deprecated. [-Wcpp]

#warning \

^

g++ -c -o Camera.o -O3 -Wall -Wno-unused-result -std=gnu++0x -I../lib/imagelib -I../lib/sfm-driver -I../lib/matrix -I../lib/5point -I../lib/sba-1.5 -I../lib/ann\_1.1\_char/include -I../include -D\_\_NO\_UI\_\_ -D\_\_BUNDLER\_\_ -D\_\_BUNDLER\_DISTR\_\_ Camera.cpp

In file included from /usr/include/c++/5/ext/hash\_map:60:0,

from BundleUtil.h:26,

from Camera.cpp:24:

/usr/include/c++/5/backward/backward\_warning.h:32:2: warning: #warning This file includes at least one deprecated or antiquated header which may be removed without further notice at a future date. Please use a non-deprecated interface with equivalent functionality instead. For a listing of replacement headers and interfaces, consult the file backward\_warning.h. To disable this warning use -Wno-deprecated. [-Wcpp]

#warning \

^

Camera.cpp: In member function ‘bool CameraInfo::PointInsideImage(const double\*) const’:

Camera.cpp:166:30: warning: ‘\*((void\*)& proj +16)’ may be used uninitialized in this function [-Wmaybe-uninitialized]

return (proj[2] < 0.0);

^

Camera.cpp:855:9: note: ‘\*((void\*)& proj +16)’ was declared here

double proj[2];

^

g++ -c -o Geometry.o -O3 -Wall -Wno-unused-result -std=gnu++0x -I../lib/imagelib -I../lib/sfm-driver -I../lib/matrix -I../lib/5point -I../lib/sba-1.5 -I../lib/ann\_1.1\_char/include -I../include -D\_\_NO\_UI\_\_ -D\_\_BUNDLER\_\_ -D\_\_BUNDLER\_DISTR\_\_ Geometry.cpp

Geometry.cpp:142:12: warning: ‘cube\_faces’ defined but not used [-Wunused-variable]

static int cube\_faces[24] =

^

g++ -c -o ImageData.o -O3 -Wall -Wno-unused-result -std=gnu++0x -I../lib/imagelib -I../lib/sfm-driver -I../lib/matrix -I../lib/5point -I../lib/sba-1.5 -I../lib/ann\_1.1\_char/include -I../include -D\_\_NO\_UI\_\_ -D\_\_BUNDLER\_\_ -D\_\_BUNDLER\_DISTR\_\_ ImageData.cpp

In file included from /usr/include/c++/5/ext/hash\_map:60:0,

from BundleUtil.h:26,

from ImageData.cpp:28:

/usr/include/c++/5/backward/backward\_warning.h:32:2: warning: #warning This file includes at least one deprecated or antiquated header which may be removed without further notice at a future date. Please use a non-deprecated interface with equivalent functionality instead. For a listing of replacement headers and interfaces, consult the file backward\_warning.h. To disable this warning use -Wno-deprecated. [-Wcpp]

#warning \

^

ImageData.cpp: In member function ‘void ImageData::WriteCameraXML(FILE\*)’:

ImageData.cpp:2030:27: warning: ISO C++ forbids converting a string constant to ‘char\*’ [-Wwrite-strings]

static char \*spacer = " ";

^

ImageData.cpp: In member function ‘img\_t\* ImageData::UndistortImageResize(int, int)’:

ImageData.cpp:1310:27: warning: ‘y\_new’ may be used uninitialized in this function [-Wmaybe-uninitialized]

y\_new += 0.5 \* height;

^

ImageData.cpp:1309:26: warning: ‘x\_new’ may be used uninitialized in this function [-Wmaybe-uninitialized]

x\_new += 0.5 \* width;

^

ImageData.cpp: In member function ‘img\_t\* ImageData::UndistortImage(double, double, int)’:

ImageData.cpp:1380:27: warning: ‘y\_new’ may be used uninitialized in this function [-Wmaybe-uninitialized]

y\_new += 0.5 \* height;

^

ImageData.cpp:1379:26: warning: ‘x\_new’ may be used uninitialized in this function [-Wmaybe-uninitialized]

x\_new += 0.5 \* width;

^

ImageData.cpp: In member function ‘void ImageData::Gradient(double, double, double\*)’:

ImageData.cpp:1858:65: warning: ‘y\_d’ may be used uninitialized in this function [-Wmaybe-uninitialized]

fcolor\_t c = pixel\_lerp(m\_img, x\_d + 0.5 \* w, y\_d + 0.5 \* h);

^

ImageData.cpp:1858:65: warning: ‘x\_d’ may be used uninitialized in this function [-Wmaybe-uninitialized]

ImageData.cpp: In member function ‘void ImageData::ReadKeyColors()’:

ImageData.cpp:1898:54: warning: ‘y\_d’ may be used uninitialized in this function [-Wmaybe-uninitialized]

col = pixel\_lerp(m\_img, x\_d + 0.5 \* w, y\_d + 0.5 \* h);

^

ImageData.cpp:1898:54: warning: ‘x\_d’ may be used uninitialized in this function [-Wmaybe-uninitialized]

g++ -c -o BundleUtil.o -O3 -Wall -Wno-unused-result -std=gnu++0x -I../lib/imagelib -I../lib/sfm-driver -I../lib/matrix -I../lib/5point -I../lib/sba-1.5 -I../lib/ann\_1.1\_char/include -I../include -D\_\_NO\_UI\_\_ -D\_\_BUNDLER\_\_ -D\_\_BUNDLER\_DISTR\_\_ BundleUtil.cpp

In file included from /usr/include/c++/5/ext/hash\_set:60:0,

from BundleUtil.cpp:28:

/usr/include/c++/5/backward/backward\_warning.h:32:2: warning: #warning This file includes at least one deprecated or antiquated header which may be removed without further notice at a future date. Please use a non-deprecated interface with equivalent functionality instead. For a listing of replacement headers and interfaces, consult the file backward\_warning.h. To disable this warning use -Wno-deprecated. [-Wcpp]

#warning \

^

g++ -c -o BaseGeometry.o -O3 -Wall -Wno-unused-result -std=gnu++0x -I../lib/imagelib -I../lib/sfm-driver -I../lib/matrix -I../lib/5point -I../lib/sba-1.5 -I../lib/ann\_1.1\_char/include -I../include -D\_\_NO\_UI\_\_ -D\_\_BUNDLER\_\_ -D\_\_BUNDLER\_DISTR\_\_ BaseGeometry.cpp

In file included from /usr/include/c++/5/ext/hash\_map:60:0,

from BundleUtil.h:26,

from BaseGeometry.cpp:26:

/usr/include/c++/5/backward/backward\_warning.h:32:2: warning: #warning This file includes at least one deprecated or antiquated header which may be removed without further notice at a future date. Please use a non-deprecated interface with equivalent functionality instead. For a listing of replacement headers and interfaces, consult the file backward\_warning.h. To disable this warning use -Wno-deprecated. [-Wcpp]

#warning \

^

BaseGeometry.cpp: In member function ‘void BaseApp::EstimateAxes(double\*, double\*, double\*)’:

BaseGeometry.cpp:563:10: warning: variable ‘found’ set but not used [-Wunused-but-set-variable]

bool found = false;

^

BaseGeometry.cpp: In member function ‘virtual void BaseApp::RepositionScene(double\*, double\*, double&)’:

BaseGeometry.cpp:1092:20: warning: unused variable ‘norm’ [-Wunused-variable]

double norm = matrix\_norm(3, 1, pos);

^

BaseGeometry.cpp: In member function ‘void BaseApp::UnscaleCameras(int)’:

BaseGeometry.cpp:1294:20: warning: unused variable ‘norm’ [-Wunused-variable]

double norm = matrix\_norm(3, 1, pos);

^

g++ -c -o BundlerGeometry.o -O3 -Wall -Wno-unused-result -std=gnu++0x -I../lib/imagelib -I../lib/sfm-driver -I../lib/matrix -I../lib/5point -I../lib/sba-1.5 -I../lib/ann\_1.1\_char/include -I../include -D\_\_NO\_UI\_\_ -D\_\_BUNDLER\_\_ -D\_\_BUNDLER\_DISTR\_\_ BundlerGeometry.cpp

In file included from /usr/include/c++/5/ext/hash\_map:60:0,

from BundleUtil.h:26,

from BundlerGeometry.cpp:28:

/usr/include/c++/5/backward/backward\_warning.h:32:2: warning: #warning This file includes at least one deprecated or antiquated header which may be removed without further notice at a future date. Please use a non-deprecated interface with equivalent functionality instead. For a listing of replacement headers and interfaces, consult the file backward\_warning.h. To disable this warning use -Wno-deprecated. [-Wcpp]

#warning \

^

g++ -c -o BoundingBox.o -O3 -Wall -Wno-unused-result -std=gnu++0x -I../lib/imagelib -I../lib/sfm-driver -I../lib/matrix -I../lib/5point -I../lib/sba-1.5 -I../lib/ann\_1.1\_char/include -I../include -D\_\_NO\_UI\_\_ -D\_\_BUNDLER\_\_ -D\_\_BUNDLER\_DISTR\_\_ BoundingBox.cpp

g++ -c -o BundleAdd.o -O3 -Wall -Wno-unused-result -std=gnu++0x -I../lib/imagelib -I../lib/sfm-driver -I../lib/matrix -I../lib/5point -I../lib/sba-1.5 -I../lib/ann\_1.1\_char/include -I../include -D\_\_NO\_UI\_\_ -D\_\_BUNDLER\_\_ -D\_\_BUNDLER\_DISTR\_\_ BundleAdd.cpp

BundleAdd.cpp:178:13: warning: ‘void PrintTrack(const ImageKeyVector&)’ defined but not used [-Wunused-function]

static void PrintTrack(const ImageKeyVector &track)

^

g++ -c -o ComputeTracks.o -O3 -Wall -Wno-unused-result -std=gnu++0x -I../lib/imagelib -I../lib/sfm-driver -I../lib/matrix -I../lib/5point -I../lib/sba-1.5 -I../lib/ann\_1.1\_char/include -I../include -D\_\_NO\_UI\_\_ -D\_\_BUNDLER\_\_ -D\_\_BUNDLER\_DISTR\_\_ ComputeTracks.cpp

In file included from /usr/include/c++/5/ext/hash\_map:60:0,

from BundleUtil.h:26,

from ComputeTracks.cpp:28:

/usr/include/c++/5/backward/backward\_warning.h:32:2: warning: #warning This file includes at least one deprecated or antiquated header which may be removed without further notice at a future date. Please use a non-deprecated interface with equivalent functionality instead. For a listing of replacement headers and interfaces, consult the file backward\_warning.h. To disable this warning use -Wno-deprecated. [-Wcpp]

#warning \

^

ComputeTracks.cpp: In member function ‘void BundlerApp::ComputeTracks(int)’:

ComputeTracks.cpp:151:7: warning: variable ‘start\_idx’ set but not used [-Wunused-but-set-variable]

int start\_idx;

^

g++ -c -o BruteForceSearch.o -O3 -Wall -Wno-unused-result -std=gnu++0x -I../lib/imagelib -I../lib/sfm-driver -I../lib/matrix -I../lib/5point -I../lib/sba-1.5 -I../lib/ann\_1.1\_char/include -I../include -D\_\_NO\_UI\_\_ -D\_\_BUNDLER\_\_ -D\_\_BUNDLER\_DISTR\_\_ BruteForceSearch.cpp

g++ -c -o BundleIO.o -O3 -Wall -Wno-unused-result -std=gnu++0x -I../lib/imagelib -I../lib/sfm-driver -I../lib/matrix -I../lib/5point -I../lib/sba-1.5 -I../lib/ann\_1.1\_char/include -I../include -D\_\_NO\_UI\_\_ -D\_\_BUNDLER\_\_ -D\_\_BUNDLER\_DISTR\_\_ BundleIO.cpp

In file included from /usr/include/c++/5/ext/hash\_map:60:0,

from BundleUtil.h:26,

from BundleIO.cpp:28:

/usr/include/c++/5/backward/backward\_warning.h:32:2: warning: #warning This file includes at least one deprecated or antiquated header which may be removed without further notice at a future date. Please use a non-deprecated interface with equivalent functionality instead. For a listing of replacement headers and interfaces, consult the file backward\_warning.h. To disable this warning use -Wno-deprecated. [-Wcpp]

#warning \

^

g++ -c -o ProcessBundle.o -O3 -Wall -Wno-unused-result -std=gnu++0x -I../lib/imagelib -I../lib/sfm-driver -I../lib/matrix -I../lib/5point -I../lib/sba-1.5 -I../lib/ann\_1.1\_char/include -I../include -D\_\_NO\_UI\_\_ -D\_\_BUNDLER\_\_ -D\_\_BUNDLER\_DISTR\_\_ ProcessBundle.cpp

ProcessBundle.cpp: In member function ‘void BundlerApp::OutputRelativePoses2D(const char\*)’:

ProcessBundle.cpp:610:13: warning: unused variable ‘num\_nbrs’ [-Wunused-variable]

int num\_nbrs = (int) nbrs.size();

^

ProcessBundle.cpp: In member function ‘void BundlerApp::OutputRelativePoses3D(const char\*)’:

ProcessBundle.cpp:748:20: warning: unused variable ‘viewdir’ [-Wunused-variable]

double viewdir[3] = { -R[2], -R[5], -R[8] };

^

ProcessBundle.cpp:749:20: warning: unused variable ‘twist\_angle’ [-Wunused-variable]

double twist\_angle = GetTwist(R);

^

ProcessBundle.cpp:722:13: warning: unused variable ‘num\_nbrs’ [-Wunused-variable]

int num\_nbrs = (int) nbrs.size();

^

g++ -c -o BundleTwo.o -O3 -Wall -Wno-unused-result -std=gnu++0x -I../lib/imagelib -I../lib/sfm-driver -I../lib/matrix -I../lib/5point -I../lib/sba-1.5 -I../lib/ann\_1.1\_char/include -I../include -D\_\_NO\_UI\_\_ -D\_\_BUNDLER\_\_ -D\_\_BUNDLER\_DISTR\_\_ BundleTwo.cpp

In file included from /usr/include/c++/5/ext/hash\_map:60:0,

from BundleUtil.h:26,

from BundleTwo.cpp:31:

/usr/include/c++/5/backward/backward\_warning.h:32:2: warning: #warning This file includes at least one deprecated or antiquated header which may be removed without further notice at a future date. Please use a non-deprecated interface with equivalent functionality instead. For a listing of replacement headers and interfaces, consult the file backward\_warning.h. To disable this warning use -Wno-deprecated. [-Wcpp]

#warning \

^

BundleTwo.cpp:361:13: warning: ‘void FixScaffoldEdges(int, ModelMap&)’ defined but not used [-Wunused-function]

static void FixScaffoldEdges(int num\_images, ModelMap &models)

^

g++ -c -o Decompose.o -O3 -Wall -Wno-unused-result -std=gnu++0x -I../lib/imagelib -I../lib/sfm-driver -I../lib/matrix -I../lib/5point -I../lib/sba-1.5 -I../lib/ann\_1.1\_char/include -I../include -D\_\_NO\_UI\_\_ -D\_\_BUNDLER\_\_ -D\_\_BUNDLER\_DISTR\_\_ Decompose.cpp

g++ -c -o RelativePose.o -O3 -Wall -Wno-unused-result -std=gnu++0x -I../lib/imagelib -I../lib/sfm-driver -I../lib/matrix -I../lib/5point -I../lib/sba-1.5 -I../lib/ann\_1.1\_char/include -I../include -D\_\_NO\_UI\_\_ -D\_\_BUNDLER\_\_ -D\_\_BUNDLER\_DISTR\_\_ RelativePose.cpp

g++ -c -o Distortion.o -O3 -Wall -Wno-unused-result -std=gnu++0x -I../lib/imagelib -I../lib/sfm-driver -I../lib/matrix -I../lib/5point -I../lib/sba-1.5 -I../lib/ann\_1.1\_char/include -I../include -D\_\_NO\_UI\_\_ -D\_\_BUNDLER\_\_ -D\_\_BUNDLER\_DISTR\_\_ Distortion.cpp

g++ -c -o TwoFrameModel.o -O3 -Wall -Wno-unused-result -std=gnu++0x -I../lib/imagelib -I../lib/sfm-driver -I../lib/matrix -I../lib/5point -I../lib/sba-1.5 -I../lib/ann\_1.1\_char/include -I../include -D\_\_NO\_UI\_\_ -D\_\_BUNDLER\_\_ -D\_\_BUNDLER\_DISTR\_\_ TwoFrameModel.cpp

TwoFrameModel.cpp: In member function ‘void TwoFrameModel::WriteSparse(FILE\*)’:

TwoFrameModel.cpp:210:12: warning: unused variable ‘viewdir’ [-Wunused-variable]

double viewdir[3] = { -R1[2], -R1[5], -R1[8] };

^

TwoFrameModel.cpp:211:12: warning: unused variable ‘twist\_angle’ [-Wunused-variable]

double twist\_angle = GetTwist(R1);

^

TwoFrameModel.cpp: In function ‘void ThresholdTwists(int, ModelMap&, std::vector<ImageData>&, bool)’:

TwoFrameModel.cpp:535:19: warning: comparison between signed and unsigned integer expressions [-Wsign-compare]

if (i >= j)

^

TwoFrameModel.cpp:587:19: warning: comparison between signed and unsigned integer expressions [-Wsign-compare]

if (i < j) {

^

TwoFrameModel.cpp: At global scope:

TwoFrameModel.cpp:61:13: warning: ‘void WriteCameraPose(FILE\*, const camera\_params\_t&)’ defined but not used [-Wunused-function]

static void WriteCameraPose(FILE \*f, const camera\_params\_t &camera)

^

g++ -c -o LoadJPEG.o -O3 -Wall -Wno-unused-result -std=gnu++0x -I../lib/imagelib -I../lib/sfm-driver -I../lib/matrix -I../lib/5point -I../lib/sba-1.5 -I../lib/ann\_1.1\_char/include -I../include -D\_\_NO\_UI\_\_ -D\_\_BUNDLER\_\_ -D\_\_BUNDLER\_DISTR\_\_ LoadJPEG.cpp

LoadJPEG.cpp: In function ‘void WriteJPEG(const img\_t\*, const char\*)’:

LoadJPEG.cpp:141:13: warning: variable ‘row\_stride’ set but not used [-Wunused-but-set-variable]

int row\_stride; /\* physical row width in buffer \*/

^

g++ -o bundler -O3 -Wall -Wno-unused-result -std=gnu++0x -I../lib/imagelib -I../lib/sfm-driver -I../lib/matrix -I../lib/5point -I../lib/sba-1.5 -I../lib/ann\_1.1\_char/include -I../include -L../lib -L../lib/ann\_1.1\_char/lib \

-D\_\_NO\_UI\_\_ -D\_\_BUNDLER\_\_ -D\_\_BUNDLER\_DISTR\_\_ BaseApp.o BundlerApp.o keys.o Register.o Epipolar.o Bundle.o BundleFast.o MatchTracks.o Camera.o Geometry.o ImageData.o BundleUtil.o BaseGeometry.o BundlerGeometry.o BoundingBox.o BundleAdd.o ComputeTracks.o BruteForceSearch.o BundleIO.o ProcessBundle.o BundleTwo.o Decompose.o RelativePose.o Distortion.o TwoFrameModel.o LoadJPEG.o -limage -lsfmdrv -lsba.v1.5 -lmatrix -lz -llapack -lblas -lcblas -lminpack -lm -l5point -ljpeg -lANN\_char -lgfortran

cp bundler ../bin

g++ -c -o KeyMatchFull.o -O3 -Wall -Wno-unused-result -std=gnu++0x -I../lib/imagelib -I../lib/sfm-driver -I../lib/matrix -I../lib/5point -I../lib/sba-1.5 -I../lib/ann\_1.1\_char/include -I../include -D\_\_NO\_UI\_\_ -D\_\_BUNDLER\_\_ -D\_\_BUNDLER\_DISTR\_\_ KeyMatchFull.cpp

g++ -c -o keys2a.o -O3 -Wall -Wno-unused-result -std=gnu++0x -I../lib/imagelib -I../lib/sfm-driver -I../lib/matrix -I../lib/5point -I../lib/sba-1.5 -I../lib/ann\_1.1\_char/include -I../include -D\_\_NO\_UI\_\_ -D\_\_BUNDLER\_\_ -D\_\_BUNDLER\_DISTR\_\_ keys2a.cpp

keys2a.cpp: In function ‘std::vector<KeypointMatch> MatchKeys(int, unsigned char\*, int, unsigned char\*, double, int)’:

keys2a.cpp:385:13: warning: variable ‘start’ set but not used [-Wunused-but-set-variable]

clock\_t start = clock();

^

keys2a.cpp:396:13: warning: variable ‘end’ set but not used [-Wunused-but-set-variable]

clock\_t end = clock();

^

g++ -o KeyMatchFull -O3 -Wall -Wno-unused-result -std=gnu++0x -I../lib/imagelib -I../lib/sfm-driver -I../lib/matrix -I../lib/5point -I../lib/sba-1.5 -I../lib/ann\_1.1\_char/include -I../include -L../lib -L../lib/ann\_1.1\_char/lib KeyMatchFull.o keys2a.o \

-lANN\_char -lz

cp KeyMatchFull ../bin

g++ -c -o Bundle2Ply.o -O3 -Wall -Wno-unused-result -std=gnu++0x -I../lib/imagelib -I../lib/sfm-driver -I../lib/matrix -I../lib/5point -I../lib/sba-1.5 -I../lib/ann\_1.1\_char/include -I../include -D\_\_NO\_UI\_\_ -D\_\_BUNDLER\_\_ -D\_\_BUNDLER\_DISTR\_\_ Bundle2Ply.cpp

Bundle2Ply.cpp: In function ‘void ReadBundleFile(char\*, std::vector<camera\_params\_t>&, std::vector<point\_t>&, double&)’:

Bundle2Ply.cpp:29:10: warning: unused variable ‘coalesced’ [-Wunused-variable]

bool coalesced;

^

g++ -o Bundle2Ply -O3 -Wall -Wno-unused-result -std=gnu++0x -I../lib/imagelib -I../lib/sfm-driver -I../lib/matrix -I../lib/5point -I../lib/sba-1.5 -I../lib/ann\_1.1\_char/include -I../include -L../lib -L../lib/ann\_1.1\_char/lib Bundle2Ply.o \

-lmatrix -llapack -lblas -lcblas -lgfortran -lminpack

cp Bundle2Ply ../bin

g++ -c -o Bundle2PMVS.o -O3 -Wall -Wno-unused-result -std=gnu++0x -I../lib/imagelib -I../lib/sfm-driver -I../lib/matrix -I../lib/5point -I../lib/sba-1.5 -I../lib/ann\_1.1\_char/include -I../include -D\_\_NO\_UI\_\_ -D\_\_BUNDLER\_\_ -D\_\_BUNDLER\_DISTR\_\_ Bundle2PMVS.cpp

g++ -o Bundle2PMVS -O3 -Wall -Wno-unused-result -std=gnu++0x -I../lib/imagelib -I../lib/sfm-driver -I../lib/matrix -I../lib/5point -I../lib/sba-1.5 -I../lib/ann\_1.1\_char/include -I../include -L../lib -L../lib/ann\_1.1\_char/lib Bundle2PMVS.o LoadJPEG.o \

-limage -lmatrix -llapack -lblas -lcblas -lgfortran \

-lminpack -ljpeg

cp Bundle2PMVS ../bin

g++ -c -o Bundle2Vis.o -O3 -Wall -Wno-unused-result -std=gnu++0x -I../lib/imagelib -I../lib/sfm-driver -I../lib/matrix -I../lib/5point -I../lib/sba-1.5 -I../lib/ann\_1.1\_char/include -I../include -D\_\_NO\_UI\_\_ -D\_\_BUNDLER\_\_ -D\_\_BUNDLER\_DISTR\_\_ Bundle2Vis.cpp

g++ -o Bundle2Vis -O3 -Wall -Wno-unused-result -std=gnu++0x -I../lib/imagelib -I../lib/sfm-driver -I../lib/matrix -I../lib/5point -I../lib/sba-1.5 -I../lib/ann\_1.1\_char/include -I../include -L../lib -L../lib/ann\_1.1\_char/lib Bundle2Vis.o

cp Bundle2Vis ../bin

g++ -c -o RadialUndistort.o -O3 -Wall -Wno-unused-result -std=gnu++0x -I../lib/imagelib -I../lib/sfm-driver -I../lib/matrix -I../lib/5point -I../lib/sba-1.5 -I../lib/ann\_1.1\_char/include -I../include -D\_\_NO\_UI\_\_ -D\_\_BUNDLER\_\_ -D\_\_BUNDLER\_DISTR\_\_ RadialUndistort.cpp

g++ -o RadialUndistort -O3 -Wall -Wno-unused-result -std=gnu++0x -I../lib/imagelib -I../lib/sfm-driver -I../lib/matrix -I../lib/5point -I../lib/sba-1.5 -I../lib/ann\_1.1\_char/include -I../include -L../lib -L../lib/ann\_1.1\_char/lib RadialUndistort.o LoadJPEG.o \

-limage -lmatrix -llapack -lblas -lcblas -lgfortran \

-lminpack -ljpeg

cp RadialUndistort ../bin

g++ -c -o FisheyeUndistort.o -O3 -Wall -Wno-unused-result -std=gnu++0x -I../lib/imagelib -I../lib/sfm-driver -I../lib/matrix -I../lib/5point -I../lib/sba-1.5 -I../lib/ann\_1.1\_char/include -I../include -D\_\_NO\_UI\_\_ -D\_\_BUNDLER\_\_ -D\_\_BUNDLER\_DISTR\_\_ FisheyeUndistort.cpp

In file included from /usr/include/c++/5/ext/hash\_map:60:0,

from BundleUtil.h:26,

from FisheyeUndistort.cpp:20:

/usr/include/c++/5/backward/backward\_warning.h:32:2: warning: #warning This file includes at least one deprecated or antiquated header which may be removed without further notice at a future date. Please use a non-deprecated interface with equivalent functionality instead. For a listing of replacement headers and interfaces, consult the file backward\_warning.h. To disable this warning use -Wno-deprecated. [-Wcpp]

#warning \

^

g++ -o FisheyeUndistort -O3 -Wall -Wno-unused-result -std=gnu++0x -I../lib/imagelib -I../lib/sfm-driver -I../lib/matrix -I../lib/5point -I../lib/sba-1.5 -I../lib/ann\_1.1\_char/include -I../include -L../lib -L../lib/ann\_1.1\_char/lib FisheyeUndistort.o BundleUtil.o LoadJPEG.o \

-limage -lmatrix -llapack -lblas -lcblas -lgfortran \

-lminpack -ljpeg

cp FisheyeUndistort ../bin

make[1]: Leaving directory '/home/ge/sfm/bundler\_sfm/src'