

提交版本	提交日期	提交人	说明
V0.1	2022年3月26日	黄超	初始验证版本
V0.2	2022年3月27日	黄超	验证官方原版Paddle-Lite demo
V0.3	2022年4月20日	黄超	验证8bit、无双buffer、性能较低版本Paddle-Lite demo
V0.4	2023年3月24日	谢亭亭	验证稠密版本8bit Demo

本文使用的环境为：
操作系统：CentOS7 (VMware 16 Pro v16.2.0)
awcloud及root密码均为a
(注：本文流程在Ubuntu16.04/Ubuntu18.04/Ubuntu18.04(wsl2)等环境均通过验证)
CMAKE：v3.10.3
gcc/g++：v7.3.0
交叉编译器：gcc-linaro-5.4.1-2017.05-x86_64_arm-linux-gnueabi
Paddle-Lite：release/v2.9, commit 25ee87e401f7505a4d45a13e96b786e76f43f46e
PaddleDetection：release/v2.1, commit c37747460e3476c2e841f6cd2502959894a1c22c

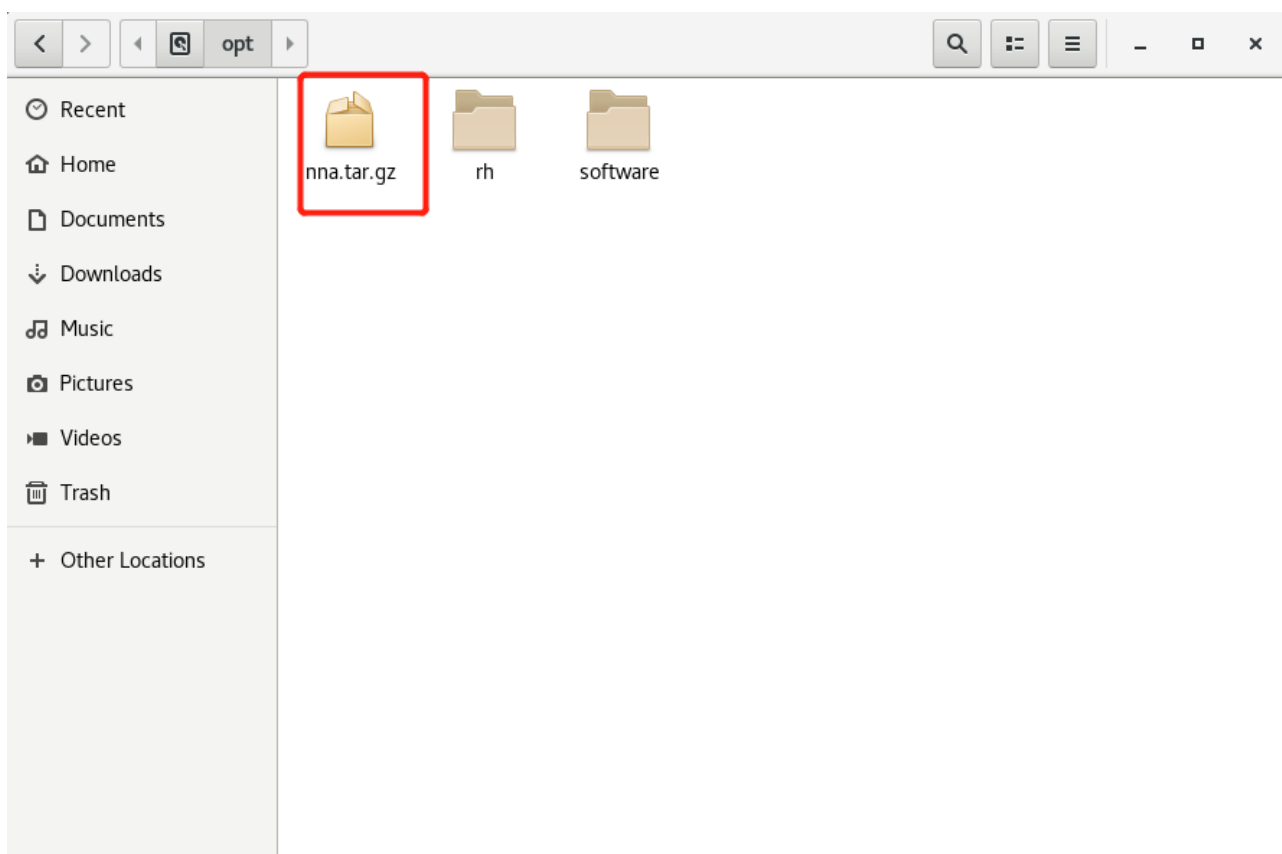
以下正文

下载并上传压缩包到CentOS7

1. 下载Demo压缩包nna.tar.gz

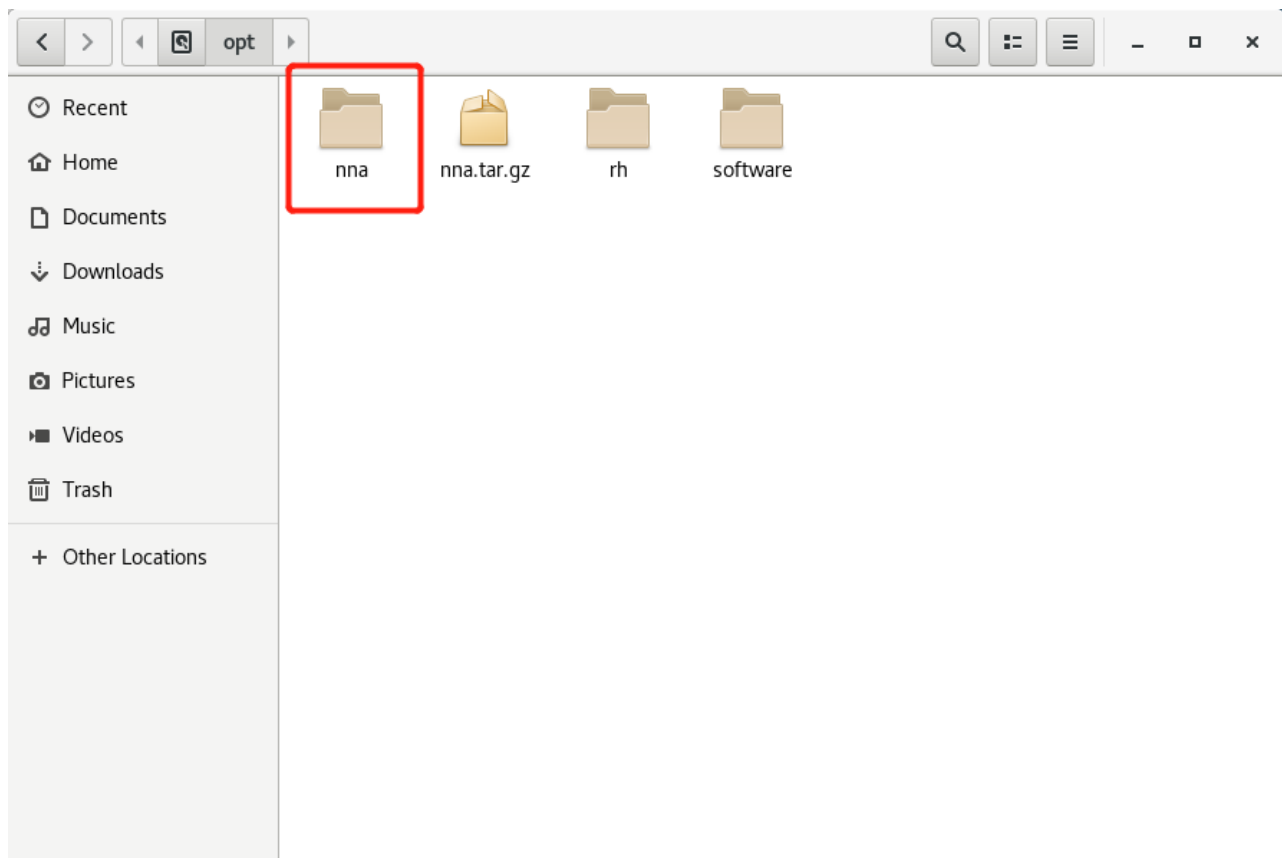


2. 将压缩包上传（或拷贝）到CentOS7的/opt目录下



3. 在CentOS7终端中执行以下指令解压压缩包

```
1 cd /opt
2 sudo tar -zxvf nna.tar.gz
```



编译Demo

1. 设置环境变量

```
1 export PATH=/opt/software/gcc-linaro-5.4.1-2017.05-x86_64_arm-linux-gnueabi/bin:$PATH
2 export AIEP_HOST=172.16.78.12
```

上述AIEP_HOST所对应的IP为AIEP软件中左上角所显示的IP地址

2. 编译Demo

```
1 cd /opt/nna
2 sudo ./build.sdk.sh
```

```
[root@awcloud nna]# ./build.sdk.sh
-- The C compiler identification is GNU 5.4.1
-- The CXX compiler identification is GNU 5.4.1
-- Check for working C compiler: /opt/software/gcc-linaro-5.4.1-2017.05-x86_64-linux-gnueabi-gcc
-- Check for working C compiler: /opt/software/gcc-linaro-5.4.1-2017.05-x86_64-linux-gnueabi-gcc -- 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: /opt/software/gcc-linaro-5.4.1-2017.05-x86_64-linux-gnueabi-g++
-- Check for working CXX compiler: /opt/software/gcc-linaro-5.4.1-2017.05-x86_64-linux-gnueabi-g++ -- works
-- Detecting CXX compiler ABI info
-- Detecting CXX compiler ABI info - done
-- Detecting CXX compile features
-- Detecting CXX compile features - done
-- TARGET ARCH ABI: armv7hf
-- Configuring done
-- Generating done
-- Build files have been written to: /opt/nna/intelfpga_sdk/lib/build
Scanning dependencies of target vnna
[ 50%] Building CXX object CMakeFiles/vnna.dir/intelfpga.cc.o
[100%] Linking CXX shared library libvnna.so
[100%] Built target vnna
```

```
1 cd /opt/nna
2 sudo ./build.paddlelite.sh
```

这个过程等待时间大约46-8分钟

```
root@awcloud:/opt/nna
File Edit View Search Terminal Help
[ 98%] Building CXX object lite/api/CMakeFiles/paddle_full_api_shared.dir/light_api_impl.cc.o
[ 98%] Building CXX object lite/api/CMakeFiles/paddle_full_api_shared.dir/paddle_place.cc.o
[ 99%] Linking CXX shared library libpaddle_light_api_shared.so
[ 99%] Built target bundle_full_api
Scanning dependencies of target benchmark_bin
[ 99%] Building CXX object lite/api/tools/benchmark/CMakeFiles/benchmark_bin.dir/benchmark.cc.o
[100%] Building CXX object lite/api/CMakeFiles/paddle_full_api_shared.dir/cxx_api_impl.cc.o
[100%] Built target paddle_light_api_shared
Scanning dependencies of target test_model_bin
[100%] Building CXX object lite/api/CMakeFiles/test_model_bin.dir/tools/model_test.cc.o
[100%] Building CXX object lite/api/CMakeFiles/paddle_full_api_shared.dir/cxx_api_impl.cc.o
[100%] Building CXX object lite/api/tools/benchmark/CMakeFiles/benchmark_bin.dir/profile/cpu_usage_info.cc.o
[100%] Building CXX object lite/api/tools/benchmark/CMakeFiles/benchmark_bin.dir/profile/memory_info.cc.o
[100%] Building CXX object lite/api/tools/benchmark/CMakeFiles/benchmark_bin.dir/profile/resource_usage_monitor.cc.o
[100%] Building CXX object lite/api/tools/benchmark/CMakeFiles/benchmark_bin.dir/utils/flags.cc.o
[100%] Building CXX object lite/api/tools/benchmark/CMakeFiles/benchmark_bin.dir/__opt_base.cc.o
[100%] Linking CXX executable test_model_bin
[100%] Linking CXX shared library libpaddle_full_api_shared.so
Strip debug symbols done on final executable file.
[100%] Built target test_model_bin
[100%] Built target paddle_full_api_shared
[100%] Linking CXX executable benchmark_bin
Strip debug symbols done on final executable file.
[100%] Built target benchmark_bin
Scanning dependencies of target publish_inference_cxx_lib
[100%] Built target publish_inference_cxx_lib
Scanning dependencies of target publish_inference
[100%] Built target publish_inference
[root@awcloud nna]#
```

- 1 cd /opt/nna
- 2 sudo ./build.demo.sh
- 3

```
root@awcloud:/opt/nna
File Edit View Search Terminal Help
Manually-specified variables were not used by the project:

LITE_WITE_PROFILE

-- Build files have been written to: /opt/nna/ssd_detection_demo/ssd_detection_src/build
Scanning dependencies of target ssd_detection
[ 50%] Building CXX object CMakeFiles/ssd_detection.dir/ssd_detection.cc.o
/opt/nna/ssd_detection_demo/ssd_detection_src/ssd_detection.cc: In function 'void RunModel(std::map<std::
::__cxx11::basic_string<char>, std::::__cxx11::basic_string<char> >, std::::__cxx11::string, int, std::vect
or<double, std::allocator<double> >*>*)':
/opt/nna/ssd_detection_demo/ssd_detection_src/ssd_detection.cc:409:77: warning: narrowing conversion of
'img_data.ImageBlob::im_shape_.std::vector<Tp, _Alloc>::operator[]<float, std::allocator<float> >(0u)
' from '__gnu_cxx::__alloc_traits<std::allocator<float> >::value_type {aka float}' to 'long long int' i
nside { } [-Wnarrowing]
    input_tensor1->Resize({1, 3, img_data.im_shape_[0], img_data.im_shape_[1]});
                                                                    ^
/opt/nna/ssd_detection_demo/ssd_detection_src/ssd_detection.cc:409:77: warning: narrowing conversion of
'img_data.ImageBlob::im_shape_.std::vector<Tp, _Alloc>::operator[]<float, std::allocator<float> >(0u)
' from '__gnu_cxx::__alloc_traits<std::allocator<float> >::value_type {aka float}' to 'long long int' i
nside { } [-Wnarrowing]
/opt/nna/ssd_detection_demo/ssd_detection_src/ssd_detection.cc:409:77: warning: narrowing conversion of
'img_data.ImageBlob::im_shape_.std::vector<Tp, _Alloc>::operator[]<float, std::allocator<float> >(1u)
' from '__gnu_cxx::__alloc_traits<std::allocator<float> >::value_type {aka float}' to 'long long int' i
nside { } [-Wnarrowing]
/opt/nna/ssd_detection_demo/ssd_detection_src/ssd_detection.cc:409:77: warning: narrowing conversion of
'img_data.ImageBlob::im_shape_.std::vector<Tp, _Alloc>::operator[]<float, std::allocator<float> >(1u)
' from '__gnu_cxx::__alloc_traits<std::allocator<float> >::value_type {aka float}' to 'long long int' i
nside { } [-Wnarrowing]
[100%] Linking CXX executable ssd_detection
[100%] Built target ssd_detection
[root@awcloud nna]#
```

上传并验证

请参照《Paddle海云捷迅加速器版框架Demo 8bit量化验证指导书》