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|                                     |                                |              |
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| <a href="#">Makefile.config.acl</a> | 1. Refine Makefile             | 2 months ago |
| <a href="#">README.md</a>           | Fix openailab logo link        | 2 months ago |
| <a href="#">Reversion.md</a>        | 1. Refine Makefile             | 2 months ago |
| <a href="#">Userguide.md</a>        | update performance summary pic | 2 months ago |

**README.md**

**OPEN AI LAB**  
**开放智能实验室**

# 1. Release Notes

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license **BSD**

Please refer to [CaffeOnACL Release NOTE](#) for details

## 2. Preparation

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### 2.1 General dependencies installation

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```
sudo apt-get -y update
sudo apt-get -y upgrade
sudo apt-get install -y build-essential pkg-config automake autoconf protobuf-compiler cmake cmake-gui
sudo apt-get install -y libprotobuf-dev libleveldb-dev libsnappy-dev libhdf5-serial-dev
sudo apt-get install -y libatlas-base-dev libgflags-dev libgoogle-glog-dev liblmdb-dev libopenblas-dev
sudo apt-get install -y libopencv-dev python-dev
sudo apt-get install -y python-numpy python-scipy python-yaml python-six python-pip
sudo apt-get install -y scons git
sudo apt-get install -y --no-install-recommends libboost-all-dev
pip install --upgrade pip
```

### 2.2 Download source code

---

Recommend creating a new directory in your work directory to execute the following steps. For example, you can create a directory named "oid" in your home directory by the following commands.

```
cd ~
mkdir oid
```

```
cd oaid
```

### Download "ACL" (arm\_compute : v17.05):

```
git clone https://github.com/ARM-software/ComputeLibrary.git
```

### Download "CaffeOnACL" :

```
git clone https://github.com/OAID/caffeOnACL.git
```

### Download "Googletest" :

```
git clone https://github.com/google/googletest.git
```

## 3. Build CaffeOnACL

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### 3.1 Build ACL :

---

```
cd ~/oaid/ComputeLibrary  
scons Werror=1 -j8 debug=0 asserts=1 neon=1 opencl=1 embed_kernels=1 os=linux arch=arm64-v8a
```

### 3.2 Build Caffe :

---

```
export ACL_ROOT=~/.oaid/ComputeLibrary
cd ~/.oaid/caffeOnACL
cp acl_openailab/Makefile.config.acl Makefile.config
make all distribute
```

## 3.3 Build Unit tests

---

### Build the gtest libraries

```
cd ~/.oaid/googletest
cmake CMakeLists.txt
make
sudo make install
```

### Build Caffe Unit tests

```
export CAFE_ROOT=~/.oaid/caffeOnACL
cd ~/.oaid/caffeOnACL/unit_tests
make clean
make
```

## 3.3 Run tests

---

If the output message of the following two tests is same as the examples, it means the porting is success.

```
export LD_LIBRARY_PATH=~/.oaid/caffeOnACL/distribute/lib:~/.oaid/ComputeLibrary/build
```

### Reference Caffenet

```
cd ~/oaid/caffeOnACL/data/ilsvrc12
sudo chmod +x get_ilsvrc_aux.sh
./get_ilsvrc_aux.sh
cd ../../
./scripts/download_model_binary.py ./models/bvlc_reference_caffenet
./distribute/bin/classification.bin models/bvlc_reference_caffenet/deploy.prototxt
models/bvlc_reference_caffenet/bvlc_reference_caffenet.caffemodel
data/ilsvrc12/imagenet_mean.binaryproto data/ilsvrc12/synset_words.txt examples/images/cat.jpg
output message --
----- Prediction for examples/images/cat.jpg -----
0.3094 - "n02124075 Egyptian cat"
0.1761 - "n02123159 tiger cat"
0.1221 - "n02123045 tabby, tabby cat"
0.1132 - "n02119022 red fox, Vulpes vulpes"
0.0421 - "n02085620 Chihuahua"
```

## Unit test

```
cd ~/oaid/caffeOnACL/unit_tests
./test_caffe_main
output message:
[=====] 29 tests from 6 test cases ran. (1236 ms total) [ PASSED ] 29 tests.
```