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CaffeOnACL / acl_openailab /

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History

xhbdahai

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Latest commit 8de24c5 on 11 Jul

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Makefile.config.acl

1. Refine Makefile

3 months ago

README.md

Fix openailab logo link

3 months ago

Reversion.md

1. Refine Makefile

3 months ago

Userguide.md

update performence summary pic

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README.md



OPEN AI LAB

开放智能实验室

1. Release Notes

license BSD

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

2. Preparation

2.1 General dependencies installation

```
sudo apt-get -y update
sodo 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 "oaid" in your home directory by the following commands.

```
cd ~
mkdir oaid
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

3.1 Build ACL :

```
cd ~/oaid/ComputeLibrary
scons Werror=1 -j8 debug=0 asserts=1 neon=1 opencv=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=~/.oid/caffeOnACL/distribute/lib:~/.oid/ComputeLibrary/build
```

Reference Caffenet

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