

```
ssh://lzhpc@211.80.196.245:22/home/lzhpc/anaconda3/envs/tenchaofen3/bin/python
3.6 -u /home/lzhpc/.pycharm_helpers/pydev/pydevconsole.py --mode=server
import sys; print('Python %s on %s' % (sys.version, sys.platform))
sys.path.extend(['/tmp/pycharm_project_507', '/tmp/pycharm_project_507'])
PyDev console: starting.
```

```
Python 3.6.2 |Continuum Analytics, Inc.| (default, Jul 20 2017, 13:51:32)
[GCC 4.4.7 20120313 (Red Hat 4.4.7-1)] on linux
runfile('/tmp/pycharm_project_507/eval_refinedet.py',
wdir='/tmp/pycharm_project_507')
```

4

4

0

Finished loading model!

```
/pytorch/torch/csrc/autograd/python_function.cpp:638: UserWarning: Legacy
autograd function with non-static forward method is deprecated and will be removed
in 1.3. Please use new-style autograd function with static forward method. (Example:
https://pytorch.org/docs/stable/autograd.html#torch.autograd.Function)
```

im\_detect: 1/32 2.396s

```
/pytorch/torch/csrc/autograd/python_function.cpp:638: UserWarning: Legacy
autograd function with non-static forward method is deprecated and will be removed
in 1.3. Please use new-style autograd function with static forward method. (Example:
https://pytorch.org/docs/stable/autograd.html#torch.autograd.Function)
```

im\_detect: 2/32 0.025s

```
/pytorch/torch/csrc/autograd/python_function.cpp:638: UserWarning: Legacy
autograd function with non-static forward method is deprecated and will be removed
in 1.3. Please use new-style autograd function with static forward method. (Example:
https://pytorch.org/docs/stable/autograd.html#torch.autograd.Function)
```

im\_detect: 3/32 0.022s

```
/pytorch/torch/csrc/autograd/python_function.cpp:638: UserWarning: Legacy
autograd function with non-static forward method is deprecated and will be removed
in 1.3. Please use new-style autograd function with static forward method. (Example:
https://pytorch.org/docs/stable/autograd.html#torch.autograd.Function)
```

im\_detect: 4/32 0.032s

```
/pytorch/torch/csrc/autograd/python_function.cpp:638: UserWarning: Legacy
autograd function with non-static forward method is deprecated and will be removed
in 1.3. Please use new-style autograd function with static forward method. (Example:
https://pytorch.org/docs/stable/autograd.html#torch.autograd.Function)
```

im\_detect: 5/32 0.022s

```
/pytorch/torch/csrc/autograd/python_function.cpp:638: UserWarning: Legacy
autograd function with non-static forward method is deprecated and will be removed
in 1.3. Please use new-style autograd function with static forward method. (Example:
https://pytorch.org/docs/stable/autograd.html#torch.autograd.Function)
```

im\_detect: 6/32 0.023s

/pytorch/torch/csrc/autograd/python\_function.cpp:638: UserWarning: Legacy autograd function with non-static forward method is deprecated and will be removed in 1.3. Please use new-style autograd function with static forward method. (Example: <https://pytorch.org/docs/stable/autograd.html#torch.autograd.Function>)

im\_detect: 7/32 0.022s

/pytorch/torch/csrc/autograd/python\_function.cpp:638: UserWarning: Legacy autograd function with non-static forward method is deprecated and will be removed in 1.3. Please use new-style autograd function with static forward method. (Example: <https://pytorch.org/docs/stable/autograd.html#torch.autograd.Function>)

im\_detect: 8/32 0.022s

/pytorch/torch/csrc/autograd/python\_function.cpp:638: UserWarning: Legacy autograd function with non-static forward method is deprecated and will be removed in 1.3. Please use new-style autograd function with static forward method. (Example: <https://pytorch.org/docs/stable/autograd.html#torch.autograd.Function>)

im\_detect: 9/32 0.022s

/pytorch/torch/csrc/autograd/python\_function.cpp:638: UserWarning: Legacy autograd function with non-static forward method is deprecated and will be removed in 1.3. Please use new-style autograd function with static forward method. (Example: <https://pytorch.org/docs/stable/autograd.html#torch.autograd.Function>)

im\_detect: 10/32 0.022s

/pytorch/torch/csrc/autograd/python\_function.cpp:638: UserWarning: Legacy autograd function with non-static forward method is deprecated and will be removed in 1.3. Please use new-style autograd function with static forward method. (Example: <https://pytorch.org/docs/stable/autograd.html#torch.autograd.Function>)

im\_detect: 11/32 0.022s

/pytorch/torch/csrc/autograd/python\_function.cpp:638: UserWarning: Legacy autograd function with non-static forward method is deprecated and will be removed in 1.3. Please use new-style autograd function with static forward method. (Example: <https://pytorch.org/docs/stable/autograd.html#torch.autograd.Function>)

im\_detect: 12/32 0.022s

/pytorch/torch/csrc/autograd/python\_function.cpp:638: UserWarning: Legacy autograd function with non-static forward method is deprecated and will be removed in 1.3. Please use new-style autograd function with static forward method. (Example: <https://pytorch.org/docs/stable/autograd.html#torch.autograd.Function>)

im\_detect: 13/32 0.024s

/pytorch/torch/csrc/autograd/python\_function.cpp:638: UserWarning: Legacy autograd function with non-static forward method is deprecated and will be removed in 1.3. Please use new-style autograd function with static forward method. (Example: <https://pytorch.org/docs/stable/autograd.html#torch.autograd.Function>)

im\_detect: 14/32 0.022s

/pytorch/torch/csrc/autograd/python\_function.cpp:638: UserWarning: Legacy autograd function with non-static forward method is deprecated and will be removed in 1.3. Please use new-style autograd function with static forward method. (Example: <https://pytorch.org/docs/stable/autograd.html#torch.autograd.Function>)

im\_detect: 15/32 0.018s

/pytorch/torch/csrc/autograd/python\_function.cpp:638: UserWarning: Legacy autograd function with non-static forward method is deprecated and will be removed in 1.3. Please use new-style autograd function with static forward method. (Example: <https://pytorch.org/docs/stable/autograd.html#torch.autograd.Function>)

im\_detect: 16/32 0.021s

/pytorch/torch/csrc/autograd/python\_function.cpp:638: UserWarning: Legacy autograd function with non-static forward method is deprecated and will be removed in 1.3. Please use new-style autograd function with static forward method. (Example: <https://pytorch.org/docs/stable/autograd.html#torch.autograd.Function>)

im\_detect: 17/32 0.017s

/pytorch/torch/csrc/autograd/python\_function.cpp:638: UserWarning: Legacy autograd function with non-static forward method is deprecated and will be removed in 1.3. Please use new-style autograd function with static forward method. (Example: <https://pytorch.org/docs/stable/autograd.html#torch.autograd.Function>)

im\_detect: 18/32 0.017s

/pytorch/torch/csrc/autograd/python\_function.cpp:638: UserWarning: Legacy autograd function with non-static forward method is deprecated and will be removed in 1.3. Please use new-style autograd function with static forward method. (Example: <https://pytorch.org/docs/stable/autograd.html#torch.autograd.Function>)

im\_detect: 19/32 0.017s

/pytorch/torch/csrc/autograd/python\_function.cpp:638: UserWarning: Legacy autograd function with non-static forward method is deprecated and will be removed in 1.3. Please use new-style autograd function with static forward method. (Example: <https://pytorch.org/docs/stable/autograd.html#torch.autograd.Function>)

im\_detect: 20/32 0.017s

/pytorch/torch/csrc/autograd/python\_function.cpp:638: UserWarning: Legacy autograd function with non-static forward method is deprecated and will be removed in 1.3. Please use new-style autograd function with static forward method. (Example: <https://pytorch.org/docs/stable/autograd.html#torch.autograd.Function>)

im\_detect: 21/32 0.017s

/pytorch/torch/csrc/autograd/python\_function.cpp:638: UserWarning: Legacy autograd function with non-static forward method is deprecated and will be removed in 1.3. Please use new-style autograd function with static forward method. (Example: <https://pytorch.org/docs/stable/autograd.html#torch.autograd.Function>)

im\_detect: 22/32 0.017s

/pytorch/torch/csrc/autograd/python\_function.cpp:638: UserWarning: Legacy autograd function with non-static forward method is deprecated and will be removed in 1.3. Please use new-style autograd function with static forward method. (Example: <https://pytorch.org/docs/stable/autograd.html#torch.autograd.Function>)

im\_detect: 23/32 0.017s

/pytorch/torch/csrc/autograd/python\_function.cpp:638: UserWarning: Legacy autograd function with non-static forward method is deprecated and will be removed

in 1.3. Please use new-style autograd function with static forward method. (Example: <https://pytorch.org/docs/stable/autograd.html#torch.autograd.Function>)

im\_detect: 24/32 0.017s

/pytorch/torch/csrc/autograd/python\_function.cpp:638: UserWarning: Legacy autograd function with non-static forward method is deprecated and will be removed in 1.3. Please use new-style autograd function with static forward method. (Example: <https://pytorch.org/docs/stable/autograd.html#torch.autograd.Function>)

im\_detect: 25/32 0.017s

/pytorch/torch/csrc/autograd/python\_function.cpp:638: UserWarning: Legacy autograd function with non-static forward method is deprecated and will be removed in 1.3. Please use new-style autograd function with static forward method. (Example: <https://pytorch.org/docs/stable/autograd.html#torch.autograd.Function>)

im\_detect: 26/32 0.017s

/pytorch/torch/csrc/autograd/python\_function.cpp:638: UserWarning: Legacy autograd function with non-static forward method is deprecated and will be removed in 1.3. Please use new-style autograd function with static forward method. (Example: <https://pytorch.org/docs/stable/autograd.html#torch.autograd.Function>)

im\_detect: 27/32 0.017s

/pytorch/torch/csrc/autograd/python\_function.cpp:638: UserWarning: Legacy autograd function with non-static forward method is deprecated and will be removed in 1.3. Please use new-style autograd function with static forward method. (Example: <https://pytorch.org/docs/stable/autograd.html#torch.autograd.Function>)

im\_detect: 28/32 0.017s

/pytorch/torch/csrc/autograd/python\_function.cpp:638: UserWarning: Legacy autograd function with non-static forward method is deprecated and will be removed in 1.3. Please use new-style autograd function with static forward method. (Example: <https://pytorch.org/docs/stable/autograd.html#torch.autograd.Function>)

im\_detect: 29/32 0.018s

/pytorch/torch/csrc/autograd/python\_function.cpp:638: UserWarning: Legacy autograd function with non-static forward method is deprecated and will be removed in 1.3. Please use new-style autograd function with static forward method. (Example: <https://pytorch.org/docs/stable/autograd.html#torch.autograd.Function>)

im\_detect: 30/32 0.021s

/pytorch/torch/csrc/autograd/python\_function.cpp:638: UserWarning: Legacy autograd function with non-static forward method is deprecated and will be removed in 1.3. Please use new-style autograd function with static forward method. (Example: <https://pytorch.org/docs/stable/autograd.html#torch.autograd.Function>)

im\_detect: 31/32 0.017s

/pytorch/torch/csrc/autograd/python\_function.cpp:638: UserWarning: Legacy autograd function with non-static forward method is deprecated and will be removed in 1.3. Please use new-style autograd function with static forward method. (Example: <https://pytorch.org/docs/stable/autograd.html#torch.autograd.Function>)

im\_detect: 32/32 0.017s

detecting 32 images needs 1.7266s

Evaluating detections  
Writing bn VOC results file  
Writing he VOC results file  
Writing nm VOC results file  
Writing tb VOC results file  
Writing tk VOC results file  
Writing kn VOC results file  
VOC07 metric? Yes  
recall: 0.8333333333333334  
precision: 0.5555555555555556  
0.8333333333333334 0.5555555555555556  
AP for bn = 0.7121  
recall: 0.8333333333333334  
precision: 0.8333333333333334  
0.8333333333333334 0.8333333333333334  
AP for he = 0.7879  
recall: 0.8571428571428571  
precision: 0.6666666666666666  
0.8571428571428571 0.6666666666666666  
AP for nm = 0.7197  
recall: 1.0  
precision: 0.75  
1.0 0.75  
AP for tb = 1.0000  
recall: 1.0  
precision: 0.7777777777777778  
1.0 0.7777777777777778  
AP for tk = 1.0000  
recall: 1.0  
precision: 0.8333333333333334  
1.0 0.8333333333333334  
AP for kn = 1.0000  
Mean AP = 0.8699  
Mean Recall=0.9206  
Mean Precision=0.7361  
F1-score=0.8181

~~~~~

Results:

0.712  
0.788  
0.720  
1.000  
1.000  
1.000

0.870

~~~~~

/pytorch/torch/csrc/autograd/python\_function.cpp:638: UserWarning: Legacy autograd function with non-static forward method is deprecated and will be removed in 1.3. Please use new-style autograd function with static forward method. (Example: <https://pytorch.org/docs/stable/autograd.html#torch.autograd.Function>)

RefineDet\_novel\_cam(

43.17 M, 99.998% Params, 41.717 GMac, 100.000% MACs,

(vgg): ModuleList(

20.484 M, 47.448% Params, 31.965 GMac, 76.623% MACs,

(0): Conv2d(0.002 M, 0.004% Params, 0.184 GMac, 0.440% MACs, 3, 64,

kernel\_size=(3, 3), stride=(1, 1), padding=(1, 1))

(1): ReLU(0.0 M, 0.000% Params, 0.007 GMac, 0.016% MACs, inplace=True)

(2): Conv2d(0.037 M, 0.086% Params, 3.781 GMac, 9.065% MACs, 64, 64,

kernel\_size=(3, 3), stride=(1, 1), padding=(1, 1))

(3): ReLU(0.0 M, 0.000% Params, 0.007 GMac, 0.016% MACs, inplace=True)

(4): MaxPool2d(0.0 M, 0.000% Params, 0.007 GMac, 0.016% MACs,

kernel\_size=2, stride=2, padding=0, dilation=1, ceil\_mode=False)

(5): Conv2d(0.074 M, 0.171% Params, 1.891 GMac, 4.532% MACs, 64, 128,

kernel\_size=(3, 3), stride=(1, 1), padding=(1, 1))

(6): ReLU(0.0 M, 0.000% Params, 0.003 GMac, 0.008% MACs, inplace=True)

(7): Conv2d(0.148 M, 0.342% Params, 3.778 GMac, 9.057% MACs, 128, 128,

kernel\_size=(3, 3), stride=(1, 1), padding=(1, 1))

(8): ReLU(0.0 M, 0.000% Params, 0.003 GMac, 0.008% MACs, inplace=True)

(9): MaxPool2d(0.0 M, 0.000% Params, 0.003 GMac, 0.008% MACs,

kernel\_size=2, stride=2, padding=0, dilation=1, ceil\_mode=False)

(10): Conv2d(0.295 M, 0.684% Params, 1.889 GMac, 4.528% MACs, 128, 256,

kernel\_size=(3, 3), stride=(1, 1), padding=(1, 1))

(11): ReLU(0.0 M, 0.000% Params, 0.002 GMac, 0.004% MACs, inplace=True)

(12): Conv2d(0.59 M, 1.367% Params, 3.777 GMac, 9.053% MACs, 256, 256,

kernel\_size=(3, 3), stride=(1, 1), padding=(1, 1))

(13): ReLU(0.0 M, 0.000% Params, 0.002 GMac, 0.004% MACs, inplace=True)

(14): Conv2d(0.59 M, 1.367% Params, 3.777 GMac, 9.053% MACs, 256, 256,

kernel\_size=(3, 3), stride=(1, 1), padding=(1, 1))

(15): ReLU(0.0 M, 0.000% Params, 0.002 GMac, 0.004% MACs, inplace=True)

(16): MaxPool2d(0.0 M, 0.000% Params, 0.002 GMac, 0.004% MACs,

kernel\_size=2, stride=2, padding=0, dilation=1, ceil\_mode=True)

(17): Conv2d(1.18 M, 2.734% Params, 1.888 GMac, 4.526% MACs, 256, 512,

kernel\_size=(3, 3), stride=(1, 1), padding=(1, 1))

(18): ReLU(0.0 M, 0.000% Params, 0.001 GMac, 0.002% MACs, inplace=True)

(19): Conv2d(2.36 M, 5.466% Params, 3.776 GMac, 9.051% MACs, 512, 512,

kernel\_size=(3, 3), stride=(1, 1), padding=(1, 1))

(20): ReLU(0.0 M, 0.000% Params, 0.001 GMac, 0.002% MACs, inplace=True)

(21): Conv2d(2.36 M, 5.466% Params, 3.776 GMac, 9.051% MACs, 512, 512,  
 kernel\_size=(3, 3), stride=(1, 1), padding=(1, 1))  
 (22): ReLU(0.0 M, 0.000% Params, 0.001 GMac, 0.002% MACs, inplace=True)  
 (23): MaxPool2d(0.0 M, 0.000% Params, 0.001 GMac, 0.002% MACs,  
 kernel\_size=2, stride=2, padding=0, dilation=1, ceil\_mode=False)  
 (24): Conv2d(2.36 M, 5.466% Params, 0.944 GMac, 2.263% MACs, 512, 512,  
 kernel\_size=(3, 3), stride=(1, 1), padding=(1, 1))  
 (25): ReLU(0.0 M, 0.000% Params, 0.0 GMac, 0.000% MACs, inplace=True)  
 (26): Conv2d(2.36 M, 5.466% Params, 0.944 GMac, 2.263% MACs, 512, 512,  
 kernel\_size=(3, 3), stride=(1, 1), padding=(1, 1))  
 (27): ReLU(0.0 M, 0.000% Params, 0.0 GMac, 0.000% MACs, inplace=True)  
 (28): Conv2d(2.36 M, 5.466% Params, 0.944 GMac, 2.263% MACs, 512, 512,  
 kernel\_size=(3, 3), stride=(1, 1), padding=(1, 1))  
 (29): ReLU(0.0 M, 0.000% Params, 0.0 GMac, 0.000% MACs, inplace=True)  
 (30): MaxPool2d(0.0 M, 0.000% Params, 0.0 GMac, 0.000% MACs,  
 kernel\_size=2, stride=2, padding=0, dilation=1, ceil\_mode=False)  
 (31): Conv2d(4.72 M, 10.932% Params, 0.472 GMac, 1.131% MACs, 512,  
 1024, kernel\_size=(3, 3), stride=(1, 1), padding=(3, 3), dilation=(3, 3))  
 (32): ReLU(0.0 M, 0.000% Params, 0.0 GMac, 0.000% MACs, inplace=True)  
 (33): Conv2d(1.05 M, 2.431% Params, 0.105 GMac, 0.252% MACs, 1024,  
 1024, kernel\_size=(1, 1), stride=(1, 1))  
 (34): ReLU(0.0 M, 0.000% Params, 0.0 GMac, 0.000% MACs, inplace=True)  
 )  
 (conv4\_3\_L2Norm): L2Norm(0.0 M, 0.000% Params, 0.0 GMac, 0.000% MACs, )  
 (conv5\_3\_L2Norm): L2Norm(0.0 M, 0.000% Params, 0.0 GMac, 0.000% MACs, )  
 (extras): ModuleList(  
 1.443 M, 3.342% Params, 0.056 GMac, 0.134% MACs,  
 (0): Conv2d(0.262 M, 0.608% Params, 0.026 GMac, 0.063% MACs, 1024, 256,  
 kernel\_size=(1, 1), stride=(1, 1))  
 (1): Conv2d(1.18 M, 2.734% Params, 0.03 GMac, 0.071% MACs, 256, 512,  
 kernel\_size=(3, 3), stride=(2, 2), padding=(1, 1))  
 )  
 (arm\_loc): ModuleList(  
 0.277 M, 0.641% Params, 0.123 GMac, 0.295% MACs,  
 (0): Conv2d(0.055 M, 0.128% Params, 0.088 GMac, 0.212% MACs, 512, 12,  
 kernel\_size=(3, 3), stride=(1, 1), padding=(1, 1))  
 (1): Conv2d(0.055 M, 0.128% Params, 0.022 GMac, 0.053% MACs, 512, 12,  
 kernel\_size=(3, 3), stride=(1, 1), padding=(1, 1))  
 (2): Conv2d(0.111 M, 0.256% Params, 0.011 GMac, 0.027% MACs, 1024, 12,  
 kernel\_size=(3, 3), stride=(1, 1), padding=(1, 1))  
 (3): Conv2d(0.055 M, 0.128% Params, 0.001 GMac, 0.003% MACs, 512, 12,  
 kernel\_size=(3, 3), stride=(1, 1), padding=(1, 1))  
 )  
 (arm\_conf): ModuleList(

0.138 M, 0.320% Params, 0.062 GMac, 0.147% MACs,  
 (0): Conv2d(0.028 M, 0.064% Params, 0.044 GMac, 0.106% MACs, 512, 6,  
 kernel\_size=(3, 3), stride=(1, 1), padding=(1, 1))  
 (1): Conv2d(0.028 M, 0.064% Params, 0.011 GMac, 0.027% MACs, 512, 6,  
 kernel\_size=(3, 3), stride=(1, 1), padding=(1, 1))  
 (2): Conv2d(0.055 M, 0.128% Params, 0.006 GMac, 0.013% MACs, 1024, 6,  
 kernel\_size=(3, 3), stride=(1, 1), padding=(1, 1))  
 (3): Conv2d(0.028 M, 0.064% Params, 0.001 GMac, 0.002% MACs, 512, 6,  
 kernel\_size=(3, 3), stride=(1, 1), padding=(1, 1))  
 )  
 (odm\_loc): ModuleList(  
 0.111 M, 0.256% Params, 0.059 GMac, 0.141% MACs,  
 (0): Conv2d(0.028 M, 0.064% Params, 0.044 GMac, 0.106% MACs, 256, 12,  
 kernel\_size=(3, 3), stride=(1, 1), padding=(1, 1))  
 (1): Conv2d(0.028 M, 0.064% Params, 0.011 GMac, 0.027% MACs, 256, 12,  
 kernel\_size=(3, 3), stride=(1, 1), padding=(1, 1))  
 (2): Conv2d(0.028 M, 0.064% Params, 0.003 GMac, 0.007% MACs, 256, 12,  
 kernel\_size=(3, 3), stride=(1, 1), padding=(1, 1))  
 (3): Conv2d(0.028 M, 0.064% Params, 0.001 GMac, 0.002% MACs, 256, 12,  
 kernel\_size=(3, 3), stride=(1, 1), padding=(1, 1))  
 )  
 (odm\_conf): ModuleList(  
 0.194 M, 0.448% Params, 0.103 GMac, 0.247% MACs,  
 (0): Conv2d(0.048 M, 0.112% Params, 0.077 GMac, 0.186% MACs, 256, 21,  
 kernel\_size=(3, 3), stride=(1, 1), padding=(1, 1))  
 (1): Conv2d(0.048 M, 0.112% Params, 0.019 GMac, 0.046% MACs, 256, 21,  
 kernel\_size=(3, 3), stride=(1, 1), padding=(1, 1))  
 (2): Conv2d(0.048 M, 0.112% Params, 0.005 GMac, 0.012% MACs, 256, 21,  
 kernel\_size=(3, 3), stride=(1, 1), padding=(1, 1))  
 (3): Conv2d(0.048 M, 0.112% Params, 0.001 GMac, 0.003% MACs, 256, 21,  
 kernel\_size=(3, 3), stride=(1, 1), padding=(1, 1))  
 )  
 (tcb0): ModuleList(  
 8.26 M, 19.132% Params, 3.88 GMac, 9.300% MACs,  
 (0): Conv2d(1.18 M, 2.733% Params, 1.888 GMac, 4.525% MACs, 512, 256,  
 kernel\_size=(3, 3), stride=(1, 1), padding=(1, 1))  
 (1): ReLU(0.0 M, 0.000% Params, 0.0 GMac, 0.001% MACs, inplace=True)  
 (2): Conv2d(0.59 M, 1.367% Params, 0.944 GMac, 2.263% MACs, 256, 256,  
 kernel\_size=(3, 3), stride=(1, 1), padding=(1, 1))  
 (3): Conv2d(1.18 M, 2.733% Params, 0.472 GMac, 1.131% MACs, 512, 256,  
 kernel\_size=(3, 3), stride=(1, 1), padding=(1, 1))  
 (4): ReLU(0.0 M, 0.000% Params, 0.0 GMac, 0.000% MACs, inplace=True)  
 (5): Conv2d(0.59 M, 1.367% Params, 0.236 GMac, 0.566% MACs, 256, 256,  
 kernel\_size=(3, 3), stride=(1, 1), padding=(1, 1))



```

(6): Conv2d(2.36 M, 5.466% Params, 0.236 GMac, 0.566% MACs, 1024, 256,
kernel_size=(3, 3), stride=(1, 1), padding=(1, 1))
(7): ReLU(0.0 M, 0.000% Params, 0.0 GMac, 0.000% MACs, inplace=True)
(8): Conv2d(0.59 M, 1.367% Params, 0.059 GMac, 0.141% MACs, 256, 256,
kernel_size=(3, 3), stride=(1, 1), padding=(1, 1))
(9): Conv2d(1.18 M, 2.733% Params, 0.029 GMac, 0.071% MACs, 512, 256,
kernel_size=(3, 3), stride=(1, 1), padding=(1, 1))
(10): ReLU(0.0 M, 0.000% Params, 0.0 GMac, 0.000% MACs, inplace=True)
(11): Conv2d(0.59 M, 1.367% Params, 0.015 GMac, 0.035% MACs, 256, 256,
kernel_size=(3, 3), stride=(1, 1), padding=(1, 1))
)
(tcbl): ModuleList(
  0.787 M, 1.823% Params, 0.138 GMac, 0.331% MACs,
  (0): ConvTranspose2d(0.262 M, 0.608% Params, 0.105 GMac, 0.252% MACs,
256, 256, kernel_size=(2, 2), stride=(2, 2))
  (1): ConvTranspose2d(0.262 M, 0.608% Params, 0.026 GMac, 0.063% MACs,
256, 256, kernel_size=(2, 2), stride=(2, 2))
  (2): ConvTranspose2d(0.262 M, 0.608% Params, 0.007 GMac, 0.016% MACs,
256, 256, kernel_size=(2, 2), stride=(2, 2))
)
(tcbl2): ModuleList(
  2.36 M, 5.467% Params, 1.255 GMac, 3.008% MACs,
  (0): ReLU(0.0 M, 0.000% Params, 0.0 GMac, 0.001% MACs, inplace=True)
  (1): Conv2d(0.59 M, 1.367% Params, 0.944 GMac, 2.263% MACs, 256, 256,
kernel_size=(3, 3), stride=(1, 1), padding=(1, 1))
  (2): ReLU(0.0 M, 0.000% Params, 0.0 GMac, 0.001% MACs, inplace=True)
  (3): ReLU(0.0 M, 0.000% Params, 0.0 GMac, 0.000% MACs, inplace=True)
  (4): Conv2d(0.59 M, 1.367% Params, 0.236 GMac, 0.566% MACs, 256, 256,
kernel_size=(3, 3), stride=(1, 1), padding=(1, 1))
  (5): ReLU(0.0 M, 0.000% Params, 0.0 GMac, 0.000% MACs, inplace=True)
  (6): ReLU(0.0 M, 0.000% Params, 0.0 GMac, 0.000% MACs, inplace=True)
  (7): Conv2d(0.59 M, 1.367% Params, 0.059 GMac, 0.141% MACs, 256, 256,
kernel_size=(3, 3), stride=(1, 1), padding=(1, 1))
  (8): ReLU(0.0 M, 0.000% Params, 0.0 GMac, 0.000% MACs, inplace=True)
  (9): ReLU(0.0 M, 0.000% Params, 0.0 GMac, 0.000% MACs, inplace=True)
  (10): Conv2d(0.59 M, 1.367% Params, 0.015 GMac, 0.035% MACs, 256, 256,
kernel_size=(3, 3), stride=(1, 1), padding=(1, 1))
  (11): ReLU(0.0 M, 0.000% Params, 0.0 GMac, 0.000% MACs, inplace=True)
)
(tcbl0): ModuleList(
  4.721 M, 10.935% Params, 2.508 GMac, 6.013% MACs,
  (0): Conv2d(0.59 M, 1.367% Params, 0.944 GMac, 2.263% MACs, 256, 256,
kernel_size=(3, 3), stride=(1, 1), padding=(1, 1))
  (1): ReLU(0.0 M, 0.000% Params, 0.0 GMac, 0.001% MACs, inplace=True)

```

(2): Conv2d(0.59 M, 1.367% Params, 0.944 GMac, 2.263% MACs, 256, 256, kernel\_size=(3, 3), stride=(1, 1), padding=(1, 1))  
 (3): Conv2d(0.59 M, 1.367% Params, 0.236 GMac, 0.566% MACs, 256, 256, kernel\_size=(3, 3), stride=(1, 1), padding=(1, 1))  
 (4): ReLU(0.0 M, 0.000% Params, 0.0 GMac, 0.000% MACs, inplace=True)  
 (5): Conv2d(0.59 M, 1.367% Params, 0.236 GMac, 0.566% MACs, 256, 256, kernel\_size=(3, 3), stride=(1, 1), padding=(1, 1))  
 (6): Conv2d(0.59 M, 1.367% Params, 0.059 GMac, 0.141% MACs, 256, 256, kernel\_size=(3, 3), stride=(1, 1), padding=(1, 1))  
 (7): ReLU(0.0 M, 0.000% Params, 0.0 GMac, 0.000% MACs, inplace=True)  
 (8): Conv2d(0.59 M, 1.367% Params, 0.059 GMac, 0.141% MACs, 256, 256, kernel\_size=(3, 3), stride=(1, 1), padding=(1, 1))  
 (9): Conv2d(0.59 M, 1.367% Params, 0.015 GMac, 0.035% MACs, 256, 256, kernel\_size=(3, 3), stride=(1, 1), padding=(1, 1))  
 (10): ReLU(0.0 M, 0.000% Params, 0.0 GMac, 0.000% MACs, inplace=True)  
 (11): Conv2d(0.59 M, 1.367% Params, 0.015 GMac, 0.035% MACs, 256, 256, kernel\_size=(3, 3), stride=(1, 1), padding=(1, 1))  
 )  
 (tcb\_1): ModuleList(  
   1.77 M, 4.101% Params, 0.31 GMac, 0.743% MACs,  
   (0): Conv2d(0.59 M, 1.367% Params, 0.236 GMac, 0.566% MACs, 256, 256, kernel\_size=(3, 3), stride=(2, 2), padding=(1, 1))  
   (1): Conv2d(0.59 M, 1.367% Params, 0.059 GMac, 0.141% MACs, 256, 256, kernel\_size=(3, 3), stride=(2, 2), padding=(1, 1))  
   (2): Conv2d(0.59 M, 1.367% Params, 0.015 GMac, 0.035% MACs, 256, 256, kernel\_size=(3, 3), stride=(2, 2), padding=(1, 1))  
 )  
 (tcb\_2): ModuleList(  
   2.36 M, 5.467% Params, 1.255 GMac, 3.008% MACs,  
   (0): ReLU(0.0 M, 0.000% Params, 0.0 GMac, 0.001% MACs, inplace=True)  
   (1): Conv2d(0.59 M, 1.367% Params, 0.944 GMac, 2.263% MACs, 256, 256, kernel\_size=(3, 3), stride=(1, 1), padding=(1, 1))  
   (2): ReLU(0.0 M, 0.000% Params, 0.0 GMac, 0.001% MACs, inplace=True)  
   (3): ReLU(0.0 M, 0.000% Params, 0.0 GMac, 0.000% MACs, inplace=True)  
   (4): Conv2d(0.59 M, 1.367% Params, 0.236 GMac, 0.566% MACs, 256, 256, kernel\_size=(3, 3), stride=(1, 1), padding=(1, 1))  
   (5): ReLU(0.0 M, 0.000% Params, 0.0 GMac, 0.000% MACs, inplace=True)  
   (6): ReLU(0.0 M, 0.000% Params, 0.0 GMac, 0.000% MACs, inplace=True)  
   (7): Conv2d(0.59 M, 1.367% Params, 0.059 GMac, 0.141% MACs, 256, 256, kernel\_size=(3, 3), stride=(1, 1), padding=(1, 1))  
   (8): ReLU(0.0 M, 0.000% Params, 0.0 GMac, 0.000% MACs, inplace=True)  
   (9): ReLU(0.0 M, 0.000% Params, 0.0 GMac, 0.000% MACs, inplace=True)  
   (10): Conv2d(0.59 M, 1.367% Params, 0.015 GMac, 0.035% MACs, 256, 256, kernel\_size=(3, 3), stride=(1, 1), padding=(1, 1))

```

(11): ReLU(0.0 M, 0.000% Params, 0.0 GMac, 0.000% MACs, inplace=True)
)
(list_cam): ModuleList(
  0.266 M, 0.616% Params, 0.004 GMac, 0.009% MACs,
  (0): CAM(
    0.033 M, 0.077% Params, 0.002 GMac, 0.004% MACs,
    (avg_pool): AdaptiveAvgPool2d(0.0 M, 0.000% Params, 0.001 GMac,
0.002% MACs, output_size=1)
    (max_pool): AdaptiveMaxPool2d(0.0 M, 0.000% Params, 0.001 GMac,
0.002% MACs, output_size=1)
    (fc1): Conv2d(0.016 M, 0.038% Params, 0.0 GMac, 0.000% MACs, 512, 32,
kernel_size=(1, 1), stride=(1, 1))
    (relu): ReLU(0.0 M, 0.000% Params, 0.0 GMac, 0.000% MACs,
inplace=True)
    (fc2): Conv2d(0.017 M, 0.039% Params, 0.0 GMac, 0.000% MACs, 32, 512,
kernel_size=(1, 1), stride=(1, 1))
    (sigmoid_channel): Sigmoid(0.0 M, 0.000% Params, 0.0 GMac, 0.000%
MACs, )
    (conv_after_concat): Conv2d(0.0 M, 0.000% Params, 0.0 GMac, 0.000%
MACs, 2, 1, kernel_size=(3, 3), stride=(1, 1), padding=(1, 1))
    (sigmoid_spatial): Sigmoid(0.0 M, 0.000% Params, 0.0 GMac, 0.000%
MACs, )
  )
  (1): CAM(
    0.033 M, 0.077% Params, 0.0 GMac, 0.001% MACs,
    (avg_pool): AdaptiveAvgPool2d(0.0 M, 0.000% Params, 0.0 GMac, 0.000%
MACs, output_size=1)
    (max_pool): AdaptiveMaxPool2d(0.0 M, 0.000% Params, 0.0 GMac, 0.000%
MACs, output_size=1)
    (fc1): Conv2d(0.016 M, 0.038% Params, 0.0 GMac, 0.000% MACs, 512, 32,
kernel_size=(1, 1), stride=(1, 1))
    (relu): ReLU(0.0 M, 0.000% Params, 0.0 GMac, 0.000% MACs,
inplace=True)
    (fc2): Conv2d(0.017 M, 0.039% Params, 0.0 GMac, 0.000% MACs, 32, 512,
kernel_size=(1, 1), stride=(1, 1))
    (sigmoid_channel): Sigmoid(0.0 M, 0.000% Params, 0.0 GMac, 0.000%
MACs, )
    (conv_after_concat): Conv2d(0.0 M, 0.000% Params, 0.0 GMac, 0.000%
MACs, 2, 1, kernel_size=(3, 3), stride=(1, 1), padding=(1, 1))
    (sigmoid_spatial): Sigmoid(0.0 M, 0.000% Params, 0.0 GMac, 0.000%
MACs, )
  )
  (2): CAM(
    0.132 M, 0.306% Params, 0.0 GMac, 0.001% MACs,

```

(avg\_pool): AdaptiveAvgPool2d(0.0 M, 0.000% Params, 0.0 GMac, 0.000% MACs, output\_size=1)  
 (max\_pool): AdaptiveMaxPool2d(0.0 M, 0.000% Params, 0.0 GMac, 0.000% MACs, output\_size=1)  
 (fc1): Conv2d(0.066 M, 0.152% Params, 0.0 GMac, 0.000% MACs, 1024, 64, kernel\_size=(1, 1), stride=(1, 1))  
 (relu): ReLU(0.0 M, 0.000% Params, 0.0 GMac, 0.000% MACs, inplace=True)  
 (fc2): Conv2d(0.067 M, 0.154% Params, 0.0 GMac, 0.000% MACs, 64, 1024, kernel\_size=(1, 1), stride=(1, 1))  
 (sigmoid\_channel): Sigmoid(0.0 M, 0.000% Params, 0.0 GMac, 0.000% MACs, )  
 (conv\_after\_concat): Conv2d(0.0 M, 0.000% Params, 0.0 GMac, 0.000% MACs, 2, 1, kernel\_size=(3, 3), stride=(1, 1), padding=(1, 1))  
 (sigmoid\_spatial): Sigmoid(0.0 M, 0.000% Params, 0.0 GMac, 0.000% MACs, )  
 )  
 (3): CAM(  
 0.033 M, 0.077% Params, 0.0 GMac, 0.000% MACs,  
 (avg\_pool): AdaptiveAvgPool2d(0.0 M, 0.000% Params, 0.0 GMac, 0.000% MACs, output\_size=1)  
 (max\_pool): AdaptiveMaxPool2d(0.0 M, 0.000% Params, 0.0 GMac, 0.000% MACs, output\_size=1)  
 (fc1): Conv2d(0.016 M, 0.038% Params, 0.0 GMac, 0.000% MACs, 512, 32, kernel\_size=(1, 1), stride=(1, 1))  
 (relu): ReLU(0.0 M, 0.000% Params, 0.0 GMac, 0.000% MACs, inplace=True)  
 (fc2): Conv2d(0.017 M, 0.039% Params, 0.0 GMac, 0.000% MACs, 32, 512, kernel\_size=(1, 1), stride=(1, 1))  
 (sigmoid\_channel): Sigmoid(0.0 M, 0.000% Params, 0.0 GMac, 0.000% MACs, )  
 (conv\_after\_concat): Conv2d(0.0 M, 0.000% Params, 0.0 GMac, 0.000% MACs, 2, 1, kernel\_size=(3, 3), stride=(1, 1), padding=(1, 1))  
 (sigmoid\_spatial): Sigmoid(0.0 M, 0.000% Params, 0.0 GMac, 0.000% MACs, )  
 )  
 (4): CAM(  
 0.008 M, 0.020% Params, 0.0 GMac, 0.000% MACs,  
 (avg\_pool): AdaptiveAvgPool2d(0.0 M, 0.000% Params, 0.0 GMac, 0.000% MACs, output\_size=1)  
 (max\_pool): AdaptiveMaxPool2d(0.0 M, 0.000% Params, 0.0 GMac, 0.000% MACs, output\_size=1)  
 (fc1): Conv2d(0.004 M, 0.010% Params, 0.0 GMac, 0.000% MACs, 256, 16, kernel\_size=(1, 1), stride=(1, 1))

```

        (relu): ReLU(0.0 M, 0.000% Params, 0.0 GMac, 0.000% MACs,
inplace=True)
        (fc2): Conv2d(0.004 M, 0.010% Params, 0.0 GMac, 0.000% MACs, 16, 256,
kernel_size=(1, 1), stride=(1, 1))
        (sigmoid_channel): Sigmoid(0.0 M, 0.000% Params, 0.0 GMac, 0.000%
MACs, )
        (conv_after_concat): Conv2d(0.0 M, 0.000% Params, 0.0 GMac, 0.000%
MACs, 2, 1, kernel_size=(3, 3), stride=(1, 1), padding=(1, 1))
        (sigmoid_spatial): Sigmoid(0.0 M, 0.000% Params, 0.0 GMac, 0.000%
MACs, )
    )
    (5): CAM(
        0.008 M, 0.020% Params, 0.0 GMac, 0.000% MACs,
        (avg_pool): AdaptiveAvgPool2d(0.0 M, 0.000% Params, 0.0 GMac, 0.000%
MACs, output_size=1)
        (max_pool): AdaptiveMaxPool2d(0.0 M, 0.000% Params, 0.0 GMac, 0.000%
MACs, output_size=1)
        (fc1): Conv2d(0.004 M, 0.010% Params, 0.0 GMac, 0.000% MACs, 256, 16,
kernel_size=(1, 1), stride=(1, 1))
        (relu): ReLU(0.0 M, 0.000% Params, 0.0 GMac, 0.000% MACs,
inplace=True)
        (fc2): Conv2d(0.004 M, 0.010% Params, 0.0 GMac, 0.000% MACs, 16, 256,
kernel_size=(1, 1), stride=(1, 1))
        (sigmoid_channel): Sigmoid(0.0 M, 0.000% Params, 0.0 GMac, 0.000%
MACs, )
        (conv_after_concat): Conv2d(0.0 M, 0.000% Params, 0.0 GMac, 0.000%
MACs, 2, 1, kernel_size=(3, 3), stride=(1, 1), padding=(1, 1))
        (sigmoid_spatial): Sigmoid(0.0 M, 0.000% Params, 0.0 GMac, 0.000%
MACs, )
    )
    (6): CAM(
        0.008 M, 0.020% Params, 0.0 GMac, 0.001% MACs,
        (avg_pool): AdaptiveAvgPool2d(0.0 M, 0.000% Params, 0.0 GMac, 0.000%
MACs, output_size=1)
        (max_pool): AdaptiveMaxPool2d(0.0 M, 0.000% Params, 0.0 GMac, 0.000%
MACs, output_size=1)
        (fc1): Conv2d(0.004 M, 0.010% Params, 0.0 GMac, 0.000% MACs, 256, 16,
kernel_size=(1, 1), stride=(1, 1))
        (relu): ReLU(0.0 M, 0.000% Params, 0.0 GMac, 0.000% MACs,
inplace=True)
        (fc2): Conv2d(0.004 M, 0.010% Params, 0.0 GMac, 0.000% MACs, 16, 256,
kernel_size=(1, 1), stride=(1, 1))
        (sigmoid_channel): Sigmoid(0.0 M, 0.000% Params, 0.0 GMac, 0.000%
MACs, )

```

```

        (conv_after_concat): Conv2d(0.0 M, 0.000% Params, 0.0 GMac, 0.000%
MACs, 2, 1, kernel_size=(3, 3), stride=(1, 1), padding=(1, 1))
        (sigmoid_spatial): Sigmoid(0.0 M, 0.000% Params, 0.0 GMac, 0.000%
MACs, )
    )
(7): CAM(
    0.008 M, 0.020% Params, 0.001 GMac, 0.002% MACs,
    (avg_pool): AdaptiveAvgPool2d(0.0 M, 0.000% Params, 0.0 GMac, 0.001%
MACs, output_size=1)
    (max_pool): AdaptiveMaxPool2d(0.0 M, 0.000% Params, 0.0 GMac, 0.001%
MACs, output_size=1)
    (fc1): Conv2d(0.004 M, 0.010% Params, 0.0 GMac, 0.000% MACs, 256, 16,
kernel_size=(1, 1), stride=(1, 1))
    (relu): ReLU(0.0 M, 0.000% Params, 0.0 GMac, 0.000% MACs,
inplace=True)
    (fc2): Conv2d(0.004 M, 0.010% Params, 0.0 GMac, 0.000% MACs, 16, 256,
kernel_size=(1, 1), stride=(1, 1))
    (sigmoid_channel): Sigmoid(0.0 M, 0.000% Params, 0.0 GMac, 0.000%
MACs, )
    (conv_after_concat): Conv2d(0.0 M, 0.000% Params, 0.0 GMac, 0.000%
MACs, 2, 1, kernel_size=(3, 3), stride=(1, 1), padding=(1, 1))
    (sigmoid_spatial): Sigmoid(0.0 M, 0.000% Params, 0.0 GMac, 0.000%
MACs, )
)
)
    (softmax): Softmax(0.0 M, 0.000% Params, 0.0 GMac, 0.000% MACs, dim=-1)
)
41.72 GMac
43.17 M
43170948

```

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Results computed with the **\*\*unofficial\*\*** Python eval code.  
Results should be very close to the official MATLAB eval code.

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