

# VDL Build

Ubuntu20

1.llvm和clang6

<https://askubuntu.com/questions/1058534/installing-clang-6-0-on-ubuntu-18-04-lts-bionic>

```
1 wget -O - https://apt.llvm.org/llvm-snapshot.gpg.key | sudo apt-key add -
2 sudo apt-add-repository "deb http://apt.llvm.org/bionic/ llvm-toolchain-bionic"
3 sudo apt update && sudo apt install clang-6.0
```

2.修改文件夹结构000123456->000/123/456

3.编译

```
1 #安装libclang
2 apt-get install libclang-6.0-dev
3 ll /usr/lib/llvm-6.0/include/clang-c/
4
5 clang++-6.0 get-llvmwithline.cpp -o get-llvmwithline -lclang -I /usr/lib/llvm-6.0/include/clang-c/
6 clang++-6.0 ngetapi.cpp -o ngetapi -lclang -I /usr/lib/llvm-6.0/include/clang-c/
7 clang++-6.0 ngetarr.cpp -o ngetarr -lclang -I /usr/lib/llvm-6.0/include/clang-c/
8 clang++-6.0 ngetbds.cpp -o ngetbds -lclang -I /usr/lib/llvm-6.0/include/clang-c/
9 clang++-6.0 ngetpoint.cpp -o ngetpoint -lclang -I /usr/lib/llvm-6.0/include/clang-c/
10 clang++-6.0 ngetval.cpp -o ngetval -lclang -I /usr/lib/llvm-6.0/include/clang-c/
11 clang++-6.0 nslicerline.cpp -o nslicerline -lclang -I /usr/lib/llvm-6.0/include/clang-c/
12 clang++-6.0 nslicerlinemuti.cpp -o nslicerlinemuti -lclang -I /usr/lib/llvm-6.0/include/clang-c/
13 clang++-6.0 ngetval.cpp -o ngetval -lclang -I /usr/lib/llvm-6.0/include/clang-c/
```

4../get-ll

```
1 # .../tools/getll-/下
2 cp -r /usr/local/bin/llvm-slicer .
3 然后在执行./getll ...
```

opt command

opt-6.0 ---> opt

```

1 base          2 our           3 RTX A5000      4 VDL          5 VDL          + 
root@222.187.226.110:37783

training...
epoch: 0
epoch: 1
epoch: 2
epoch: 3
epoch: 4
epoch: 5
epoch: 6
epoch: 7
epoch: 8
epoch: 9
epoch: 10
epoch: 11
epoch: 12
epoch: 13
epoch: 14
epoch: 15
epoch: 16
evaluating...
(
[("/*", "0.9994860291481018"), ("*", "0.9993043541908264), ("=", "0.9992624792861938), (',', "0.9992735981941223), (')', "0.9992415308952332), ('store', "0.9992345571517944), (['', "0.9991776347160339), ('variable_0', "0.999126672744751), ('align', "0.9991281060021362), ('%", "0.9990886370742798)
];
func _;
[("/*", "0.9987302422523409), ("*", "0.9987197518348694), ("*", "0.9986340999693271), ('void', "0.998637423324585), ('ldbg', "0.9986270666122437), ('18', "0.998505175113678), ('i32*', "0.9984583854675293), ('4', "0.9983958005985151), ('%11', "0.998385678009033), ('align', "0.998368684771423)]
func _ ;

```

## 5.搭建cuda-9.0和cuDNN7.3.0

<https://github.com/akirademoss/cuda-9.0-installation-on-ubuntu-18.04>

## 6.python bg\_th

修改了traing.py line2195

h5py

```

2023-08-21 12:44:18 ./89j21d: 1 tensorflow/stream_executor/cuda/cuda_diagnostics.cc102j no NVIDIA GPU device is present: /dev/nvidia0 does not exist
WARNING:tensorflow:From /root/autodl-tmp/houyz/vulDeeLocator/src/keras/backend/tensorflow_backend.py:173: The name tf.global_variables is deprecated. Please use tf.compat.v1.global_variables instead.
WARNING:tensorflow:From /root/autodl-tmp/houyz/vulDeeLocator/src/keras/backend/tensorflow_backend.py:182: The name tf.is_variable_initialized is deprecated. Please use tf.compat.v1.is_variable_initialized instead.
WARNING:tensorflow:From /root/autodl-tmp/houyz/vulDeeLocator/src/keras/backend/tensorflow_backend.py:189: The name tf.variables_initializer is deprecated. Please use tf.compat.v1.variables_initializer instead.
886/983 [=====>.....] - ETA: 25:26 - loss: 0.3113 - TP_count: 6.1874 - FP_count: 2.2878 - FN_count: 6.7077 - precision: 0.5450 - recall: 0.4721 - fbeta_score: 0.4791

983/983 [=====>.....] - 15455s 16s/step - loss: 0.2961 - TP_count: 6.5819 - FP_count: 2.1586 - FN_count: 6.3225 - precision: 0.5841 - recall: 0.5031 - fbeta_score: 0.5144
Epoch 2/4
50/50 [=====>.....] - ETA: 1:45:56 - loss: 0.1314 - TP_count: 10.0253 - FP_count: 1.1922 - FN_count: 1.9893 - precision: 0.9122 - recall: 0.8426 - fbeta_score: 0.8611Killed
① (VLD-DL) root@autodl-container-b3da1186fa-1ccb8c60:~/autodl-tmp/houyz/vulDeeLocator/src#
② (VLD-DL) root@autodl-container-b3da1186fa-1ccb8c60:~/autodl-tmp/houyz/vulDeeLocator/src#
③ (VLD-DL) root@autodl-container-b3da1186fa-1ccb8c60:~/autodl-tmp/houyz/vulDeeLocator/src#
④ (VLD-DL) root@autodl-container-b3da1186fa-1ccb8c60:~/autodl-tmp/houyz/vulDeeLocator/src#
⑤ (VLD-DL) root@autodl-container-b3da1186fa-1ccb8c60:~/autodl-tmp/houyz/vulDeeLocator/src#
```

CUDA\_VISIBLE\_DEVICES=0 python bgru\_threshold.py

原项目默认的llvm-slicer需要改一下

```

Total params: 6,390,785
Trainable params: 6,390,785
Non-trainable params: 0

Loading data...
train_0_0818.pkl
train_1_0818.pkl
train_2_0818.pkl
train_3_0818.pkl
train_4_0818.pkl
train_5_0818.pkl
371
Train...
Epoch 1/4
2023-08-29 23:55:36.551292: I tensorflow/core/platform/cpu_feature_guard.cc:141] Your CPU supports instructions that this TensorFlow binary was not compiled to use: SSE4.1 SSE4.2 AVX AVX2 AVX512F FMA
2023-08-29 23:55:36.815409: I tensorflow/stream_executor/cuda/cuda_gpu_executor.cc:964] successful NUMA node read from SysFS had negative value (-1), but there must be at least one NUMA node, so returning NUMA node zero
2023-08-29 23:55:36.817742: I tensorflow/core/common_runtime/gpu/gpu_device.cc:1432] Found device 0 with properties:
name: Tesla T4 major: 7 minor: 5 memoryClockRate(GHz): 1.59
pciBusID: 0000:00:06.0
totalMemory: 15.74GiB freeMemory: 15.64GiB
2023-08-29 23:55:36.818157: I tensorflow/core/common_runtime/gpu/gpu_device.cc:1511] Adding visible gpu devices: 0
2023-08-29 23:55:39.650305: I tensorflow/core/common_runtime/gpu/gpu_device.cc:982] Device interconnect StreamExecutor with strength 1 edge matrix:
2023-08-29 23:55:39.650367: I tensorflow/core/common_runtime/gpu/gpu_device.cc:988] 0
2023-08-29 23:55:39.652679: I tensorflow/core/common_runtime/gpu/gpu_device.cc:1115] Created TensorFlow device (/job:localhost/replica:0/task:0/device:GPU:0 with 15136 MB memory) -> physical GPU (device: 0, name: Tesla T4, pci bus id: 0000:00:06.0, compute capability: 7.5)
1/5 [=====>.....] - ETA: 55s - loss: 0.9184 - TP_count: 2,0000 - FP_count: 62,0000 - FN_count: 0.0000e+00 - precision: 0.0312 - recall: 1.0000 - fbeta_score: 0.0000e+00
2/5 [=====>.....] - ETA: 27s - loss: 0.5287 - TP_count: 1,0000 - FP_count: 31,0000 - FN_count: 0.0000e+00 - precision: 0.0156 - recall: 0.5000 - fbeta_score: 0.0000e+00
3/5 [=====>.....] - ETA: 15s - loss: 0.3553 - TP_count: 0.6667 - FP_count: 20,6667 - FN_count: 0.0000e+00 - precision: 0.0104 - recall: 0.3333 - fbeta_score: 0.0000e+00
4/5 [=====>.....] - ETA: 8s - loss: 0.3637 - TP_count: 0.5000 - FP_count: 15,5000 - FN_count: 0.5000 - precision: 0.0078 - recall: 0.2500 - fbeta_score: 0.0000e+00
5/5 [=====>.....] - 30s 6s/step - loss: 0.2911 - TP_count: 0.4000 - FP_count: 12,4000 - FN_count: 0.4000 - precision: 0.0062 - recall: 0.2000 - fbeta_score: 0.00121
Epoch 2/4
1/5 [=====>.....] - ETA: 15s - loss: 0.3018 - TP_count: 0.0000e+00 - FP_count: 0.0000e+00 - FN_count: 2,0000 - precision: 0.0000e+00 - recall: 0.0000e+00
2/5 [=====>.....] - ETA: 12s - loss: 0.1513 - TP_count: 0.0000e+00 - FP_count: 0.0000e+00 - FN_count: 1,0000 - precision: 0.0000e+00 - recall: 0.0000e+00
3/5 [=====>.....] - ETA: 8s - loss: 0.1012 - TP_count: 0.0000e+00 - FP_count: 0.0000e+00 - FN_count: 0.6667 - precision: 0.0000e+00 - recall: 0.0000e+00
4/5 [=====>.....] - ETA: 4s - loss: 0.1297 - TP_count: 0.0000e+00 - FP_count: 0.0000e+00 - FN_count: 1,0000 - precision: 0.0000e+00 - recall: 0.0000e+00
5/5 [=====>.....] - 20s 4s/step - loss: 0.1047 - TP_count: 0.0000e+00 - FP_count: 0.0000e+00 - FN_count: 0.8000 - precision: 0.0000e+00 - recall: 0.0000e+00 - fbeta_score: 0.0000e+00
00 - fbeta_score: 0.0000e+00
Epoch 3/4
1/5 [=====>.....] - ETA: 16s - loss: 0.1265 - TP_count: 0.0000e+00 - FP_count: 0.0000e+00 - FN_count: 2,0000 - precision: 0.0000e+00 - recall: 0.0000e+00
2/5 [=====>.....] - ETA: 11s - loss: 0.0795 - TP_count: 0.0000e+00 - FP_count: 0.0000e+00 - FN_count: 1,0000 - precision: 0.0000e+00 - recall: 0.0000e+00
3/5 [=====>.....] - ETA: 7s - loss: 0.0804 - TP_count: 0.0000e+00 - FP_count: 0.0000e+00 - FN_count: 0.6667 - precision: 0.0000e+00 - recall: 0.0000e+00
4/5 [=====>.....] - ETA: 3s - loss: 0.0978 - TP_count: 0.0000e+00 - FP_count: 0.0000e+00 - FN_count: 1,0000 - precision: 0.0000e+00 - recall: 0.0000e+00 - 00 - fbeta_score: 0.0000e+00
00 - fbeta_score: 0.0000e+00
Epoch 4/4
1/5 [=====>.....] - ETA: 13s - loss: 0.1265 - TP_count: 0.0000e+00 - FP_count: 0.0000e+00 - FN_count: 2,0000 - precision: 0.0000e+00 - recall: 0.0000e+00
2/5 [=====>.....] - ETA: 11s - loss: 0.0795 - TP_count: 0.0000e+00 - FP_count: 0.0000e+00 - FN_count: 1,0000 - precision: 0.0000e+00 - recall: 0.0000e+00
3/5 [=====>.....] - ETA: 7s - loss: 0.0804 - TP_count: 0.0000e+00 - FP_count: 0.0000e+00 - FN_count: 0.6667 - precision: 0.0000e+00 - recall: 0.0000e+00
4/5 [=====>.....] - ETA: 3s - loss: 0.0978 - TP_count: 0.0000e+00 - FP_count: 0.0000e+00 - FN_count: 1,0000 - precision: 0.0000e+00 - recall: 0.0000e+00 - 00 - fbeta_score: 0.0000e+00
00 - fbeta_score: 0.0000e+00
Test...
test_0_0124.pkl
test_1_0124.pkl
test_2_0124.pkl
test_3_0124.pkl
test_4_0124.pkl
test_5_0124.pkl
138 138
1 / 25.594901084899902
Traceback (most recent call last):
  File "bgru_threshold.py", line 437, in <module>
    main(traindataSetPath, testdataSetPath, weightPath, resultPath, batchSize, maxLen, vectorDim, dropout=dropout)
  File "bgru_threshold.py", line 314, in main
    FNR = FN / (TP + FN)
ZeroDivisionError: division by zero
(VDL_DL) root@autodl-container-97da119dfa-32b42ea3:~/autodl-tmp/houyz/VulDeeLocator/src# 

```

```

.▲.779
时间  name: Tesla T4 major: 7 minor: 5 memoryClockRate(GHz): 1.59
时间  pciBusID: 0000:00:06.0
时间  totalMemory: 15.74GiB freeMemory: 15.64GiB
2023-08-31 11:34:55.627731: I tensorflow/core/common_runtime/gpu/gpu_device.cc:1511] Adding visible gpu devices: 0
2023-08-31 11:34:55.919856: I tensorflow/core/common_runtime/gpu/gpu_device.cc:982] Device interconnect StreamExecutor with strength 1 edge matrix:
2023-08-31 11:34:55.919944: I tensorflow/core/common_runtime/gpu/gpu_device.cc:988] 0
2023-08-31 11:34:55.919944: I tensorflow/core/common_runtime/gpu/gpu_device.cc:1115] Created TensorFlow device (/job:localhost/replica:0/task:0/device:GPU:0 with 15136 MB memory) -> physical GPU (device: 0, name: Tesla T4, pci bus id: 0000:00:06.0, compute capability: 7.5)
11/11 [=====>.....] - 44s 4s/step - loss: 0.1891 - TP_count: 0.0000 - FP_count: 2,8182 - FN_count: 0.2272 - precision: 0.0028 - recall: 0.0909 - fbeta_score: 0.0055
Epoch 2/4
1/11 [=====>.....] - ETA: 37s - loss: 0.5037 - TP_count: 0.0000e+00 - FP_count: 0.0000e+00 - FN_count: 1,0000 - precision: 0.0000e+00 - recall: 0.0000e+00 - fbeta_score: 0.0000e+00
2/11 [=====>.....] - ETA: 34s - loss: 0.5037 - TP_count: 0.0000e+00 - FP_count: 0.0000e+00 - FN_count: 1,0000 - precision: 0.0000e+00 - recall: 0.0000e+00 - fbeta_score: 0.0000e+00
3/11 [=====>.....] - ETA: 31s - loss: 0.5037 - TP_count: 0.0000e+00 - FP_count: 0.0000e+00 - FN_count: 1,0000 - precision: 0.0000e+00 - recall: 0.0000e+00 - fbeta_score: 0.0000e+00
4/11 [=====>.....] - ETA: 28s - loss: 0.5037 - TP_count: 0.0000e+00 - FP_count: 0.0000e+00 - FN_count: 1,0000 - precision: 0.0000e+00 - recall: 0.0000e+00 - fbeta_score: 0.0000e+00
5/11 [=====>.....] - ETA: 25s - loss: 0.5037 - TP_count: 0.0000e+00 - FP_count: 0.0000e+00 - FN_count: 1,0000 - precision: 0.0000e+00 - recall: 0.0000e+00 - fbeta_score: 0.0000e+00
6/11 [=====>.....] - ETA: 22s - loss: 0.5037 - TP_count: 0.0000e+00 - FP_count: 0.0000e+00 - FN_count: 1,0000 - precision: 0.0000e+00 - recall: 0.0000e+00 - fbeta_score: 0.0000e+00
7/11 [=====>.....] - ETA: 19s - loss: 0.1679 - TP_count: 0.0000e+00 - FP_count: 0.0000e+00 - FN_count: 0.5000 - precision: 0.0000e+00 - recall: 0.0000e+00 - fbeta_score: 0.0000e+00
8/11 [=====>.....] - ETA: 16s - loss: 0.2318 - TP_count: 0.0000e+00 - FP_count: 0.0000e+00 - FN_count: 0.5000 - precision: 0.0000e+00 - recall: 0.0000e+00 - fbeta_score: 0.0000e+00
9/11 [=====>.....] - ETA: 13s - loss: 0.2239 - TP_count: 0.0000e+00 - FP_count: 0.0000e+00 - FN_count: 0.4444 - precision: 0.0000e+00 - recall: 0.0000e+00 - fbeta_score: 0.0000e+00
11/11 [=====>.....] - 42s 4s/step - loss: 0.1832 - TP_count: 0.0000e+00 - FP_count: 0.0000e+00 - FN_count: 0.3636 - precision: 0.0000e+00 - recall: 0.0000e+00 - fbeta_score: 0.0000e+00
e+00
Epoch 3/4
1/11 [=====>.....] - ETA: 36s - loss: 0.5037 - TP_count: 0.0000e+00 - FP_count: 0.0000e+00 - FN_count: 1,0000 - precision: 0.0000e+00 - recall: 0.0000e+00 - fbeta_score: 0.0000e+00
2/11 [=====>.....] - ETA: 33s - loss: 0.5037 - TP_count: 0.0000e+00 - FP_count: 0.0000e+00 - FN_count: 1,0000 - precision: 0.0000e+00 - recall: 0.0000e+00 - fbeta_score: 0.0000e+00
3/11 [=====>.....] - ETA: 30s - loss: 0.5037 - TP_count: 0.0000e+00 - FP_count: 0.0000e+00 - FN_count: 1,0000 - precision: 0.0000e+00 - recall: 0.0000e+00 - fbeta_score: 0.0000e+00
4/11 [=====>.....] - ETA: 26s - loss: 0.5037 - TP_count: 0.0000e+00 - FP_count: 0.0000e+00 - FN_count: 1,0000 - precision: 0.0000e+00 - recall: 0.0000e+00 - fbeta_score: 0.0000e+00
5/11 [=====>.....] - ETA: 23s - loss: 0.5037 - TP_count: 0.0000e+00 - FP_count: 0.0000e+00 - FN_count: 1,0000 - precision: 0.0000e+00 - recall: 0.0000e+00 - fbeta_score: 0.0000e+00
6/11 [=====>.....] - ETA: 20s - loss: 0.5037 - TP_count: 0.0000e+00 - FP_count: 0.0000e+00 - FN_count: 1,0000 - precision: 0.0000e+00 - recall: 0.0000e+00 - fbeta_score: 0.0000e+00
7/11 [=====>.....] - ETA: 17s - loss: 0.2318 - TP_count: 0.0000e+00 - FP_count: 0.0000e+00 - FN_count: 0.5000 - precision: 0.0000e+00 - recall: 0.0000e+00 - fbeta_score: 0.0000e+00
8/11 [=====>.....] - ETA: 14s - loss: 0.2318 - TP_count: 0.0000e+00 - FP_count: 0.0000e+00 - FN_count: 0.5000 - precision: 0.0000e+00 - recall: 0.0000e+00 - fbeta_score: 0.0000e+00
9/11 [=====>.....] - ETA: 11s - loss: 0.2239 - TP_count: 0.0000e+00 - FP_count: 0.0000e+00 - FN_count: 0.4444 - precision: 0.0000e+00 - recall: 0.0000e+00 - fbeta_score: 0.0000e+00
11/11 [=====>.....] - 42s 4s/step - loss: 0.1832 - TP_count: 0.0000e+00 - FP_count: 0.0000e+00 - FN_count: 0.3636 - precision: 0.0000e+00 - recall: 0.0000e+00 - fbeta_score: 0.0000e+00
e+00
Epoch 4/4
1/11 [=====>.....] - ETA: 37s - loss: 0.5037 - TP_count: 0.0000e+00 - FP_count: 0.0000e+00 - FN_count: 1,0000 - precision: 0.0000e+00 - recall: 0.0000e+00 - fbeta_score: 0.0000e+00
2/11 [=====>.....] - ETA: 34s - loss: 0.5037 - TP_count: 0.0000e+00 - FP_count: 0.0000e+00 - FN_count: 1,0000 - precision: 0.0000e+00 - recall: 0.0000e+00 - fbeta_score: 0.0000e+00

```

共找到 220 个CVE字符串。

共找到 1570 个CVE字符串。

共找到 409 个 CVE 字符串。

共找到 1309 个CVE字符串。

```
ktop\HouDeveloper\wu\VulDeeLocator-master  
D\AD_slices.txt  
D_slices.txt 中共找到 29678 个CVE字符串。  
E\AE_slices.txt  
E_slices.txt 中共找到 22095 个CVE字符串。  
C\FC_slices.txt  
C_slices.txt 中共找到 31523 个CVE字符串。  
D\PD_slices.txt  
D_slices.txt 中共找到 39728 个CVE字符串。
```

```
ngsniffer_3_2245:pin,2256:pin,2262:pin,2263:pin,2277:pin,2284:pin,2285:pin,2286:pin,2287:pin,2391:pin #SnifferDecompress#.final.11  
2794564  
总共有几个CVE行 3508 keys: 2880  
任务完成
```

```

mning NUMA node zero
2023-09-05 14:48:37.524327: I tensorflow/core/common_runtime/gpu/gpu_device.cc:1432] Found device 0 with properties:
name: Tesla T4 major: 7 minor: 5 memoryClockRate(GHz): 1.59
pciBusID: 0000:00:09:0
totalMemory: 15.74GB freeMemory: 15.64GB
2023-09-05 14:48:37.524592: I tensorflow/core/common_runtime/gpu/gpu_device.cc:1511] Adding visible gpu devices: 0
2023-09-05 14:48:37.828018: I tensorflow/core/common_runtime/gpu/gpu_device.cc:982] Device interconnect StreamExecutor with strength 1 edge matrix:
2023-09-05 14:48:37.828063: I tensorflow/core/common_runtime/gpu/gpu_device.cc:988] 0
2023-09-05 14:48:37.828075: I tensorflow/core/common_runtime/gpu/gpu_device.cc:1001] N
2023-09-05 14:48:37.829582: I tensorflow/core/common_runtime/gpu/gpu_device.cc:1115] Created TensorFlow device (/job:localhost/replica:0/task:0/device:GPU:0 with 15136 MB memory) -> physical GPU (dev
ice: 0, name: Tesla T4, pci bus id: 0000:00:09:0, compute capability: 7.5)
1/54 [---->] ETA: 8.25 - loss: 1.1589 - TP_count: 0.000e+00 - FP_count: 64.0000 - FN_count: 0.000e+00 - precisi
2/54 [>] ETA: 5.45 - loss: 0.8115 - TP_count: 0.000e+00 - FP_count: 32.0000 - FN_count: 3.5000 - precision: 0.000e+00 - recall: 0.000e+00 - fbeta_score: 0.000e+00
3/54 [>] ETA: 4.50 - loss: 0.6032 - TP_count: 0.000e+00 - FP_count: 21.3333 - FN_count: 3.0000 - precision: 0.000e+00 - recall: 0.000e+00 - fbeta_score: 0.000e+00
4/54 [=]> ETA: 4.27 - loss: 0.6574 - TP_count: 0.000e+00 - FP_count: 15.0000 - FN_count: 5.2500 - precision: 0.000e+00 - recall: 0.000e+00 - fbeta_score: 0.000e+00 - rec
5/54 [=]> ETA: 4.10 - loss: 0.6691 - TP_count: 0.000e+00 - FP_count: 12.9000 - FN_count: 6.2000 - precision: 0.000e+00 - recall: 0.000e+00 - fbeta_score: 0.000e+00 - rec
6/54 [=]> ETA: 3.57 - loss: 0.6031 - TP_count: 0.000e+00 - FP_count: 10.6667 - FN_count: 5.1067 - precision: 0.000e+00 - recall: 0.000e+00 - fbeta_score: 0.000e+00 - rec
7/54 [=]> ETA: 4.18 - loss: 0.5921 - TP_count: 0.000e+00 - FP_count: 9.1429 - FN_count: 5.8571 - precision: 0.000e+00 - recall: 0.000e+00 - fbeta_score: 0.000e+00 - rec
8/54 [=]> ETA: 230s 45/step - loss: 0.3682 - TP_count: 0.000e+00 - FP_count: 1.1852 - FN_count: 4.1667 - precision: 0.000e+00 - recall: 0.000e+00 - fbeta_score: 0.000e+00
Epoch 2/4
1/54 [---->] ETA: 3.46 - loss: 0.0769 - TP_count: 0.000e+00 - FP_count: 0.000e+00 - FN_count: 0.000e+00 - precision: 0.000e+00 - recall: 0.000e+00 - fbeta_score: 0.000e+00
2/54 [>] ETA: 3.30 - loss: 0.2129 - TP_count: 0.000e+00 - FP_count: 0.000e+00 - FN_count: 3.5000 - precision: 0.000e+00 - recall: 0.000e+00 - fbeta_score: 0.000e+00
3/54 [>] ETA: 3.20 - loss: 0.1917 - TP_count: 0.000e+00 - FP_count: 0.000e+00 - FN_count: 3.0000 - precision: 0.000e+00 - recall: 0.000e+00 - fbeta_score: 0.000e+00
4/54 [=]> ETA: 3.19 - loss: 0.2875 - TP_count: 0.000e+00 - FP_count: 0.000e+00 - FN_count: 5.2500 - precision: 0.000e+00 - recall: 0.000e+00 - fbeta_score: 0.000e+00
5/54 [=]> ETA: 3.13 - loss: 0.3411 - TP_count: 0.000e+00 - FP_count: 0.000e+00 - FN_count: 6.2000 - precision: 0.000e+00 - recall: 0.000e+00 - fbeta_score: 0.000e+00
6/54 [=]> ETA: 3.07 - loss: 0.2943 - TP_count: 0.000e+00 - FP_count: 0.000e+00 - FN_count: 5.1067 - precision: 0.000e+00 - recall: 0.000e+00 - fbeta_score: 0.000e+00
7/54 [=]> ETA: 3.03 - loss: 0.3290 - TP_count: 0.000e+00 - FP_count: 0.000e+00 - FN_count: 5.8571 - precision: 0.000e+00 - recall: 0.000e+00 - fbeta_score: 0.000e+00
8/54 [=]> ETA: 2.58 - loss: 0.2967 - TP_count: 0.000e+00 - FP_count: 0.000e+00 - FN_count: 5.1250 - precision: 0.000e+00 - recall: 0.000e+00 - fbeta_score: 0.000e+00
9/54 [=]> ETA: 2.56 - loss: 0.2720 - TP_count: 0.000e+00 - FP_count: 0.000e+00 - FN_count: 4.5556 - precision: 0.000e+00 - recall: 0.000e+00 - fbeta_score: 0.000e+00
10/54 [=]> ETA: 2.51 - loss: 0.2648 - TP_count: 0.000e+00 - FP_count: 0.000e+00 - FN_count: 4.4000 - precision: 0.000e+00 - recall: 0.000e+00 - fbeta_score: 0.000e+00
11/54 [=]> ETA: 2.49 - loss: 0.2505 - TP_count: 0.000e+00 - FP_count: 0.000e+00 - FN_count: 4.0509 - precision: 0.000e+00 - recall: 0.000e+00 - fbeta_score: 0.000e+00
12/54 [=]> ETA: 2.45 - loss: 0.2621 - TP_count: 0.000e+00 - FP_count: 0.000e+00 - FN_count: 4.3333 - precision: 0.000e+00 - recall: 0.000e+00 - fbeta_score: 0.000e+00
13/54 [=]> ETA: 2.43 - loss: 0.2626 - TP_count: 0.000e+00 - FP_count: 0.000e+00 - FN_count: 4.3333 - precision: 0.000e+00 - recall: 0.000e+00 - fbeta_score: 0.000e+00
14/54 [=]> ETA: 2.39 - loss: 0.2695 - TP_count: 0.000e+00 - FP_count: 0.000e+00 - FN_count: 4.3333 - precision: 0.000e+00 - recall: 0.000e+00 - fbeta_score: 0.000e+00
15/54 [=]> ETA: 2.31 - loss: 0.2605 - TP_count: 0.000e+00 - FP_count: 0.000e+00 - FN_count: 4.0667 - precision: 0.000e+00 - recall: 0.000e+00 - fbeta_score: 0.000e+00
16/54 [=]> ETA: 2.27 - loss: 0.2463 - TP_count: 0.000e+00 - FP_count: 0.000e+00 - FN_count: 4.0000 - precision: 0.000e+00 - recall: 0.000e+00 - fbeta_score: 0.000e+00
17/54 [=]> ETA: 2.23 - loss: 0.2360 - TP_count: 0.000e+00 - FP_count: 0.000e+00 - FN_count: 3.7647 - precision: 0.000e+00 - recall: 0.000e+00 - fbeta_score: 0.000e+00
18/54 [=]> ETA: 2.19 - loss: 0.2258 - TP_count: 0.000e+00 - FP_count: 0.000e+00 - FN_count: 3.5556 - precision: 0.000e+00 - recall: 0.000e+00 - fbeta_score: 0.000e+00
19/54 [=]> ETA: 2.15 - loss: 0.2722 - TP_count: 0.000e+00 - FP_count: 0.000e+00 - FN_count: 4.4737 - precision: 0.000e+00 - recall: 0.000e+00 - fbeta_score: 0.000e+00
20/54 [=]> ETA: 2.11 - loss: 0.2612 - TP_count: 0.000e+00 - FP_count: 0.000e+00 - FN_count: 4.2500 - precision: 0.000e+00 - recall: 0.000e+00 - fbeta_score: 0.000e+00
21/54 [=]> ETA: 2.07 - loss: 0.2657 - TP_count: 0.000e+00 - FP_count: 0.000e+00 - FN_count: 4.3810 - precision: 0.000e+00 - recall: 0.000e+00 - fbeta_score: 0.000e+00
22/54 [=]> ETA: 2.03 - loss: 0.2575 - TP_count: 0.000e+00 - FP_count: 0.000e+00 - FN_count: 4.1818 - precision: 0.000e+00 - recall: 0.000e+00 - fbeta_score: 0.000e+00
23/54 [=]> ETA: 1.59 - loss: 0.2498 - TP_count: 0.000e+00 - FP_count: 0.000e+00 - FN_count: 4.0000 - precision: 0.000e+00 - recall: 0.000e+00 - fbeta_score: 0.000e+00
24/54 [=]> ETA: 1.58 - loss: 0.2430 - TP_count: 0.000e+00 - FP_count: 0.000e+00 - FN_count: 3.8333 - precision: 0.000e+00 - recall: 0.000e+00 - fbeta_score: 0.000e+00
25/54 [=]> ETA: 1.52 - loss: 0.2371 - TP_count: 0.000e+00 - FP_count: 0.000e+00 - FN_count: 3.6800 - precision: 0.000e+00 - recall: 0.000e+00 - fbeta_score: 0.000e+00

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17/54 [=====>.....] - ETA: 2.29 - loss: 0.2280 - TP_count: 0.0000e+00 - FP_count: 0.0000e+00 - FN_count: 3.7647 - precision: 0.0000e+00 - recall: 0.0000e+00 - fbeta_score: 0.0000e+00
18/54 [=====>.....] - ETA: 2.25 - loss: 0.2181 - TP_count: 0.0000e+00 - FP_count: 0.0000e+00 - FN_count: 3.5556 - precision: 0.0000e+00 - recall: 0.0000e+00 - fbeta_score: 0.0000e+00
19/54 [=====>.....] - ETA: 2.22 - loss: 0.2625 - TP_count: 0.0000e+00 - FP_count: 0.0000e+00 - FN_count: 4.4737 - precision: 0.0000e+00 - recall: 0.0000e+00 - fbeta_score: 0.0000e+00
20/54 [=====>.....] - ETA: 2.19 - loss: 0.2516 - TP_count: 0.0000e+00 - FP_count: 0.0000e+00 - FN_count: 4.2500 - precision: 0.0000e+00 - recall: 0.0000e+00 - fbeta_score: 0.0000e+00
21/54 [=====>.....] - ETA: 2.15 - loss: 0.2575 - TP_count: 0.0000e+00 - FP_count: 0.0000e+00 - FN_count: 4.3810 - precision: 0.0000e+00 - recall: 0.0000e+00 - fbeta_score: 0.0000e+00
22/54 [=====>.....] - ETA: 2.10 - loss: 0.2479 - TP_count: 0.0000e+00 - FP_count: 0.0000e+00 - FN_count: 4.1818 - precision: 0.0000e+00 - recall: 0.0000e+00 - fbeta_score: 0.0000e+00
23/54 [=====>.....] - ETA: 2.06 - loss: 0.2395 - TP_count: 0.0000e+00 - FP_count: 0.0000e+00 - FN_count: 4.0000 - precision: 0.0000e+00 - recall: 0.0000e+00 - fbeta_score: 0.0000e+00
24/54 [=====>.....] - ETA: 2.02 - loss: 0.2317 - TP_count: 0.0000e+00 - FP_count: 0.0000e+00 - FN_count: 3.8333 - precision: 0.0000e+00 - recall: 0.0000e+00 - fbeta_score: 0.0000e+00
25/54 [=====>.....] - ETA: 1.98 - loss: 0.2248 - TP_count: 0.0000e+00 - FP_count: 0.0000e+00 - FN_count: 3.6800 - precision: 0.0000e+00 - recall: 0.0000e+00 - fbeta_score: 0.0000e+00
26/54 [=====>.....] - ETA: 1.94 - loss: 0.2185 - TP_count: 0.0000e+00 - FP_count: 0.0000e+00 - FN_count: 3.5355 - precision: 0.0000e+00 - recall: 0.0000e+00 - fbeta_score: 0.0000e+00
27/54 [=====>.....] - ETA: 1.49 - loss: 0.2120 - TP_count: 0.0000e+00 - FP_count: 0.0000e+00 - FN_count: 4.4074 - precision: 0.0000e+00 - recall: 0.0000e+00 - fbeta_score: 0.0000e+00
28/54 [=====>.....] - ETA: 1.45 - loss: 0.2080 - TP_count: 0.0000e+00 - FP_count: 0.0000e+00 - FN_count: 3.8257 - precision: 0.0000e+00 - recall: 0.0000e+00 - fbeta_score: 0.0000e+00
29/54 [=====>.....] - ETA: 1.41 - loss: 0.2007 - TP_count: 0.0000e+00 - FP_count: 0.0000e+00 - FN_count: 3.1724 - precision: 0.0000e+00 - recall: 0.0000e+00 - fbeta_score: 0.0000e+00
30/54 [=====>.....] - ETA: 1.37 - loss: 0.2011 - TP_count: 0.0000e+00 - FP_count: 0.0000e+00 - FN_count: 3.1667 - precision: 0.0000e+00 - recall: 0.0000e+00 - fbeta_score: 0.0000e+00
31/54 [=====>.....] - ETA: 1.33 - loss: 0.1958 - TP_count: 0.0000e+00 - FP_count: 0.0000e+00 - FN_count: 3.0645 - precision: 0.0000e+00 - recall: 0.0000e+00 - fbeta_score: 0.0000e+00
32/54 [=====>.....] - ETA: 1.29 - loss: 0.2172 - TP_count: 0.0000e+00 - FP_count: 0.0000e+00 - FN_count: 3.5040 - precision: 0.0000e+00 - recall: 0.0000e+00 - fbeta_score: 0.0000e+00
33/54 [=====>.....] - ETA: 1.25 - loss: 0.2117 - TP_count: 0.0000e+00 - FP_count: 0.0000e+00 - FN_count: 3.3939 - precision: 0.0000e+00 - recall: 0.0000e+00 - fbeta_score: 0.0000e+00
34/54 [=====>.....] - ETA: 1.21 - loss: 0.2065 - TP_count: 0.0000e+00 - FP_count: 0.0000e+00 - FN_count: 3.2941 - precision: 0.0000e+00 - recall: 0.0000e+00 - fbeta_score: 0.0000e+00
35/54 [=====>.....] - ETA: 1.17 - loss: 0.2014 - TP_count: 0.0000e+00 - FP_count: 0.0000e+00 - FN_count: 3.2000 - precision: 0.0000e+00 - recall: 0.0000e+00 - fbeta_score: 0.0000e+00
36/54 [=====>.....] - ETA: 1.13 - loss: 0.1966 - TP_count: 0.0000e+00 - FP_count: 0.0000e+00 - FN_count: 3.1111 - precision: 0.0000e+00 - recall: 0.0000e+00 - fbeta_score: 0.0000e+00
37/54 [=====>.....] - ETA: 1.09 - loss: 0.1921 - TP_count: 0.0000e+00 - FP_count: 0.0000e+00 - FN_count: 3.0270 - precision: 0.0000e+00 - recall: 0.0000e+00 - fbeta_score: 0.0000e+00
38/54 [=====>.....] - ETA: 1.05 - loss: 0.1881 - TP_count: 0.0000e+00 - FP_count: 0.0000e+00 - FN_count: 2.9474 - precision: 0.0000e+00 - recall: 0.0000e+00 - fbeta_score: 0.0000e+00
39/54 [=====>.....] - ETA: 1.01 - loss: 0.1938 - TP_count: 0.0000e+00 - FP_count: 0.0000e+00 - FN_count: 3.0193 - precision: 0.0000e+00 - recall: 0.0000e+00 - fbeta_score: 0.0000e+00
40/54 [=====>.....] - ETA: 57s - loss: 0.2182 - TP_count: 0.0000e+00 - FP_count: 0.0000e+00 - FN_count: 3.4760 - precision: 0.0000e+00 - recall: 0.0000e+00 - fbeta_score: 0.0000e+00
41/54 [=====>.....] - ETA: 52s - loss: 0.2410 - TP_count: 0.0000e+00 - FP_count: 0.0000e+00 - FN_count: 3.9268 - precision: 0.0000e+00 - recall: 0.0000e+00 - fbeta_score: 0.0000e+00
42/54 [=====>.....] - ETA: 48s - loss: 0.2510 - TP_count: 0.0000e+00 - FP_count: 0.0000e+00 - FN_count: 4.0750 - precision: 0.0000e+00 - recall: 0.0000e+00 - fbeta_score: 0.0000e+00
43/54 [=====>.....] - ETA: 44s - loss: 0.2738 - TP_count: 0.0000e+00 - FP_count: 0.0000e+00 - FN_count: 4.5814 - precision: 0.0000e+00 - recall: 0.0000e+00 - fbeta_score: 0.0000e+00
44/54 [=====>.....] - ETA: 40s - loss: 0.2988 - TP_count: 0.0000e+00 - FP_count: 0.0000e+00 - FN_count: 4.4773 - precision: 0.0000e+00 - recall: 0.0000e+00 - fbeta_score: 0.0000e+00
45/54 [=====>.....] - ETA: 36s - loss: 0.2964 - TP_count: 0.0000e+00 - FP_count: 0.0000e+00 - FN_count: 4.3778 - precision: 0.0000e+00 - recall: 0.0000e+00 - fbeta_score: 0.0000e+00
46/54 [=====>.....] - ETA: 32s - loss: 0.2836 - TP_count: 0.0000e+00 - FP_count: 0.0000e+00 - FN_count: 4.2828 - precision: 0.0000e+00 - recall: 0.0000e+00 - fbeta_score: 0.0000e+00
47/54 [=====>.....] - ETA: 28s - loss: 0.2612 - TP_count: 0.0000e+00 - FP_count: 0.0000e+00 - FN_count: 4.1915 - precision: 0.0000e+00 - recall: 0.0000e+00 - fbeta_score: 0.0000e+00
48/54 [=====>.....] - ETA: 24s - loss: 0.2592 - TP_count: 0.0000e+00 - FP_count: 0.0000e+00 - FN_count: 4.1042 - precision: 0.0000e+00 - recall: 0.0000e+00 - fbeta_score: 0.0000e+00
49/54 [=====>.....] - ETA: 20s - loss: 0.2572 - TP_count: 0.0000e+00 - FP_count: 0.0000e+00 - FN_count: 4.2024 - precision: 0.0000e+00 - recall: 0.0000e+00 - fbeta_score: 0.0000e+00
50/54 [=====>.....] - ETA: 16s - loss: 0.2591 - TP_count: 0.0000e+00 - FP_count: 0.0000e+00 - FN_count: 4.1000 - precision: 0.0000e+00 - recall: 0.0000e+00 - fbeta_score: 0.0000e+00
51/54 [=====>.....] - ETA: 12s - loss: 0.2573 - TP_count: 0.0000e+00 - FP_count: 0.0000e+00 - FN_count: 4.0196 - precision: 0.0000e+00 - recall: 0.0000e+00 - fbeta_score: 0.0000e+00
52/54 [=====>.....] - ETA: 8s - loss: 0.2590 - TP_count: 0.0000e+00 - FP_count: 0.0000e+00 - FN_count: 4.0577 - precision: 0.0000e+00 - recall: 0.0000e+00 - fbeta_score: 0.0000e+00
53/54 [=====>.....] - 220s 4s/step - loss: 0.2631 - TP_count: 0.0000e+00 - FP_count: 0.0000e+00 - FN_count: 4.1667 - precision: 0.0000e+00 - recall: 0.0000e+00 - fbeta_score: 0.0000e+00
54/54 [=====>.....] - Test...

```

src > result > `bgru_0.4_k=1.2_nvd`

```

7   test_samples_num: 0
8   train_dataset: ./data_preprocess/data/dl_input_ffn
9   model: model/bgru_0.4_k=1.h5
10  TP:0 FP:0 FN:0 TN:0
11  test_samples_num: 3508
12  train_dataset: ./data_preprocess/data/dl_input_ffn
13  model: model/bgru_0.4_k=1.h5
14  TP:254 FP:3202 FN:0 TN:0
15  FPR: 1.0
16  FNR: 0.0
17  accuracy: 0.07240592930444698
18  precision: 0.07349537037037036
19  recall: 1.0
20  fbeta_score: 0.13692722371967653
21  TP_l:254 FP_l:3202 FN_l:0 TN:0
22  FPR_location: 1.0
23  FNR_location: 0.0
24  accuracy_location: 0.07349537037037036
25  precision_location: 0.07349537037037036
26  recall_location: 1.0
27  fbeta_score_location: 0.13692722371967653
28  -----
29

```