Cannot load RSCNN: No module named 'pointnet2\_ops'

Cannot load PCT: No module named 'pointnet2\_ops'

Cannot load PointMLP: No module named 'pointnet2\_ops'

Cannot load PointNet2: No module named 'pointnet2\_ops'

out-of-distribution eval - Modelnet -> SONN ..

Arguments: Namespace(local\_rank=None, use\_sync\_bn=False, use\_amp=False, script\_mode='eval', config='cfgs/dgcnn-cla.yaml', seed=1, epochs=250, batch\_size=1, num\_workers=4, resume=None, apply\_fix\_cellphone=True, data\_root='./3D\_OS\_release\_data', checkpoints\_dir='outputs', exp\_name='DGCNN\_CE\_SR2', eval\_step=1, save\_step=10, ckpt\_path='outputs/DGCNN\_CE\_SR2/models/model\_last.pth', src='SR2', sonn\_split='main\_split', sonn\_h5\_name='objectdataset.h5', augm\_set='rw', grad\_norm\_clip=-1, num\_points=1024, num\_points\_test=2048, wandb\_name=None, wandb\_group='md-2-sonn-augmCorr', wandb\_proj='AML\_DAAI\_proj23\_24\_test', loss='CE', cs=False, cs\_gan\_lr=0.0002, cs\_beta=0.1, save\_feats=None, corruption=None, tar1='none', tar2='none')

ModelNet40\_OOD - Reading data from h5py file: ./3D\_OS\_release\_data/modelnet40\_normal\_resampled/ood\_sets\_cache/SR2\_train.h5

ModelNet40\_OOD - split: train, categories: {'bed': 0, 'toilet': 1, 'desk': 2, 'monitor': 3, 'table': 2}

SR2 train data len: 1916

ModelNet40\_OOD - Reading data from h5py file: ./3D\_OS\_release\_data/modelnet40\_normal\_resampled/ood\_sets\_cache/SR2\_test.h5

ModelNet40\_OOD - split: test, categories: {'bed': 0, 'toilet': 1, 'desk': 2, 'monitor': 3, 'table': 2}

/usr/local/lib/python3.10/dist-packages/torch/utils/data/dataloader.py:557: UserWarning: This DataLoader will create 4 worker processes in total. Our suggested max number of worker in current system is 2, which is smaller than what this DataLoader is going to create. Please be aware that excessive worker creation might get DataLoader running slow or even freeze, lower the worker number to avoid potential slowness/freeze if necessary.

warnings.warn(\_create\_warning\_msg(

Src is SR2

ScanObject - num\_points: 2048, sonn\_split: main\_split, h5\_suffix: objectdataset.h5, split: all, class\_choice: {10: 0, 14: 1, 5: 2, 6: 3, 9: 2}, num samples: 788

ScanObject - num\_points: 2048, sonn\_split: main\_split, h5\_suffix: objectdataset.h5, split: all, class\_choice: {4: 0, 8: 1, 7: 2, 12: 3, 13: 4}, num samples: 1255

ScanObject - num\_points: 2048, sonn\_split: main\_split, h5\_suffix: objectdataset.h5, split: all, class\_choice: {0: 404, 1: 404, 2: 404, 3: 404, 11: 404}, num samples: 847

dgcnn k: 20

dgcnn emb\_dims: 1024

Clf - feature encoder: DGCNN

Clf Head - num classes: 4, input dim: 2048, act: leakyrelu, dropout: 0.5

Model params count: 1.8001 M

Load weights: <All keys matched successfully>

100% 788/788 [00:16<00:00, 49.04it/s]

100% 1255/1255 [00:25<00:00, 49.63it/s]

100% 847/847 [00:17<00:00, 48.89it/s]

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Computing OOD metrics with MSP normality score...

AUROC - Src label: 1, Tar label: 0

Src Test - Clf Acc: 0.7258883248730964, Clf Bal Acc: 0.644543330296598

SRC->TAR1: AUROC: 0.5750, FPR95: 0.9044, AUPR\_IN: 0.4461, AUPR\_OUT: 0.6803

SRC->TAR2: AUROC: 0.6285, FPR95: 0.9055, AUPR\_IN: 0.6200, AUPR\_OUT: 0.6168

SRC->TAR1+TAR2: AUROC: 0.5966, FPR95: 0.9049, AUPR\_IN: 0.3525, AUPR\_OUT: 0.7877

to spreadsheet: 0.575,0.9043824701195219,0.4461357704259533,0.6802733425611533,0.6284924696899777,0.9055489964580874,0.6200252042123009,0.6167550925181666,0.5965547677580453,0.9048525214081827,0.352459024144904,0.787650421134913

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Computing OOD metrics with MLS normality score...

AUROC - Src label: 1, Tar label: 0

Src Test - Clf Acc: 0.7258883248730964, Clf Bal Acc: 0.644543330296598

SRC->TAR1: AUROC: 0.6318, FPR95: 0.8566, AUPR\_IN: 0.4871, AUPR\_OUT: 0.7301

SRC->TAR2: AUROC: 0.5982, FPR95: 0.8949, AUPR\_IN: 0.5785, AUPR\_OUT: 0.6055

SRC->TAR1+TAR2: AUROC: 0.6183, FPR95: 0.8720, AUPR\_IN: 0.3612, AUPR\_OUT: 0.8070

to spreadsheet: 0.6318492527352518,0.8565737051792829,0.4871365810709436,0.7301086620978969,0.5981742069651623,0.8949232585596222,0.5784822321721297,0.6054902185583476,0.6182799074606249,0.8720266412940058,0.36118012764515484,0.8070118187402908

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Computing OOD metrics with entropy normality score...

AUROC - Src label: 1, Tar label: 0

Src Test - Clf Acc: 0.7258883248730964, Clf Bal Acc: 0.644543330296598

SRC->TAR1: AUROC: 0.5836, FPR95: 0.8661, AUPR\_IN: 0.4494, AUPR\_OUT: 0.6970

SRC->TAR2: AUROC: 0.6302, FPR95: 0.8855, AUPR\_IN: 0.6201, AUPR\_OUT: 0.6239

SRC->TAR1+TAR2: AUROC: 0.6024, FPR95: 0.8739, AUPR\_IN: 0.3543, AUPR\_OUT: 0.7968

to spreadsheet: 0.5836016340728456,0.8661354581673307,0.44938098328112996,0.6970250314543691,0.6301548013592315,0.885478158205431,0.6200897649322329,0.6239075197952371,0.6023602128985206,0.8739295908658421,0.3542532445673702,0.7968357006450546

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Computing OOD metrics with distance from train features...

0% 0/1916 [00:00<?, ?it/s]/usr/local/lib/python3.10/dist-packages/torch/utils/data/dataloader.py:557: UserWarning: This DataLoader will create 4 worker processes in total. Our suggested max number of worker in current system is 2, which is smaller than what this DataLoader is going to create. Please be aware that excessive worker creation might get DataLoader running slow or even freeze, lower the worker number to avoid potential slowness/freeze if necessary.

warnings.warn(\_create\_warning\_msg(

100% 1916/1916 [00:13<00:00, 145.43it/s]

100% 788/788 [00:16<00:00, 47.72it/s]

100% 1255/1255 [00:26<00:00, 47.53it/s]

100% 847/847 [00:17<00:00, 48.12it/s]

Euclidean distances in a non-normalized space:

AUROC - Src label: 1, Tar label: 0

Src Test - Clf Acc: 0.7220812182741116, Clf Bal Acc: 0.6526865797415589

SRC->TAR1: AUROC: 0.5922, FPR95: 0.9498, AUPR\_IN: 0.5021, AUPR\_OUT: 0.6587

SRC->TAR2: AUROC: 0.6117, FPR95: 0.9315, AUPR\_IN: 0.6028, AUPR\_OUT: 0.5973

SRC->TAR1+TAR2: AUROC: 0.6001, FPR95: 0.9424, AUPR\_IN: 0.3846, AUPR\_OUT: 0.7729

to spreadsheet: 0.5922381539830526,0.949800796812749,0.5021156294012898,0.658731282500471,0.6117125836784352,0.9315230224321134,0.6028371433054502,0.5972847209513303,0.6000853670905639,0.9424357754519506,0.38458308458542206,0.7729296081056792

Euclidean distances with prototypes:

AUROC - Src label: 1, Tar label: 0

Src Test - Clf Acc: 0.1713197969543147, Clf Bal Acc: 0.25

SRC->TAR1: AUROC: 0.5872, FPR95: 0.9155, AUPR\_IN: 0.4847, AUPR\_OUT: 0.6710

SRC->TAR2: AUROC: 0.5441, FPR95: 0.9516, AUPR\_IN: 0.5582, AUPR\_OUT: 0.5287

SRC->TAR1+TAR2: AUROC: 0.5698, FPR95: 0.9301, AUPR\_IN: 0.3567, AUPR\_OUT: 0.7586

to spreadsheet: 0.5872004368313548,0.9155378486055777,0.4847207754062009,0.6709870498266524,0.5440596551579477,0.9515938606847698,0.5582235698202421,0.528692675467924,0.5698168773273702,0.9300666032350142,0.3567172739425767,0.7585689429979143

Cosine similarities on the hypersphere:

AUROC - Src label: 1, Tar label: 0

Src Test - Clf Acc: 0.7246192893401016, Clf Bal Acc: 0.664782681471807

SRC->TAR1: AUROC: 0.6406, FPR95: 0.9060, AUPR\_IN: 0.5510, AUPR\_OUT: 0.7071

SRC->TAR2: AUROC: 0.6572, FPR95: 0.8914, AUPR\_IN: 0.6588, AUPR\_OUT: 0.6361

SRC->TAR1+TAR2: AUROC: 0.6473, FPR95: 0.9001, AUPR\_IN: 0.4420, AUPR\_OUT: 0.8055

to spreadsheet: 0.6405873966064676,0.9059760956175299,0.5509605719840704,0.7070971268274056,0.657158139507009,0.8913813459268005,0.6588351487332951,0.6361349036676935,0.6472645703632509,0.9000951474785919,0.44203241471756005,0.805498472497417

Cosine similarities with prototypes:

AUROC - Src label: 1, Tar label: 0

Src Test - Clf Acc: 0.1713197969543147, Clf Bal Acc: 0.25

SRC->TAR1: AUROC: 0.5957, FPR95: 0.9139, AUPR\_IN: 0.4851, AUPR\_OUT: 0.6816

SRC->TAR2: AUROC: 0.6417, FPR95: 0.9150, AUPR\_IN: 0.6497, AUPR\_OUT: 0.6125

SRC->TAR1+TAR2: AUROC: 0.6143, FPR95: 0.9144, AUPR\_IN: 0.3917, AUPR\_OUT: 0.7878

to spreadsheet: 0.5957237041680992,0.9139442231075697,0.48513022063713335,0.6816139902829358,0.6417499205916373,0.9149940968122786,0.6496534614813039,0.6124830717543207,0.6142699483692108,0.9143672692673644,0.3917054377150474,0.787785511139441

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Computing OOD metrics with ODIN normality score...

0% 0/788 [00:00<?, ?it/s]/usr/local/lib/python3.10/dist-packages/torch/utils/data/dataloader.py:557: UserWarning: This DataLoader will create 4 worker processes in total. Our suggested max number of worker in current system is 2, which is smaller than what this DataLoader is going to create. Please be aware that excessive worker creation might get DataLoader running slow or even freeze, lower the worker number to avoid potential slowness/freeze if necessary.

warnings.warn(\_create\_warning\_msg(

100% 788/788 [00:44<00:00, 17.53it/s]

100% 1255/1255 [01:10<00:00, 17.75it/s]

100% 847/847 [00:47<00:00, 17.72it/s]

AUROC - Src label: 1, Tar label: 0

SRC->TAR1: AUROC: 0.6328, FPR95: 0.8542, AUPR\_IN: 0.4886, AUPR\_OUT: 0.7305

SRC->TAR2: AUROC: 0.6010, FPR95: 0.8937, AUPR\_IN: 0.5816, AUPR\_OUT: 0.6078

SRC->TAR1+TAR2: AUROC: 0.6200, FPR95: 0.8701, AUPR\_IN: 0.3633, AUPR\_OUT: 0.8078

to spreadsheet: 0.6327719578538638,0.8541832669322709,0.48861092762685265,0.7305335018586929,0.6010239183981685,0.8937426210153483,0.5816156207349418,0.6077836728921432,0.6199790989485479,0.8701236917221694,0.3632863414848958,0.8077968905141488

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Computing OOD metrics with Energy normality score...

0% 0/788 [00:00<?, ?it/s]/usr/local/lib/python3.10/dist-packages/torch/utils/data/dataloader.py:557: UserWarning: This DataLoader will create 4 worker processes in total. Our suggested max number of worker in current system is 2, which is smaller than what this DataLoader is going to create. Please be aware that excessive worker creation might get DataLoader running slow or even freeze, lower the worker number to avoid potential slowness/freeze if necessary.

warnings.warn(\_create\_warning\_msg(

100% 788/788 [00:18<00:00, 43.58it/s]

100% 1255/1255 [00:28<00:00, 43.99it/s]

100% 847/847 [00:19<00:00, 43.84it/s]

AUROC - Src label: 1, Tar label: 0

SRC->TAR1: AUROC: 0.6348, FPR95: 0.8653, AUPR\_IN: 0.4886, AUPR\_OUT: 0.7334

SRC->TAR2: AUROC: 0.5961, FPR95: 0.8996, AUPR\_IN: 0.5768, AUPR\_OUT: 0.6029

SRC->TAR1+TAR2: AUROC: 0.6192, FPR95: 0.8792, AUPR\_IN: 0.3613, AUPR\_OUT: 0.8079

to spreadsheet: 0.6347614617671447,0.8653386454183267,0.4886292868994061,0.7333564659011566,0.5961035964496971,0.8996458087367178,0.5768201797659834,0.6029085504028502,0.6191842914893719,0.879162702188392,0.36126527546778425,0.8079403009267084

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Computing OOD metrics with GradNorm normality score...

0% 0/788 [00:00<?, ?it/s]/usr/local/lib/python3.10/dist-packages/torch/utils/data/dataloader.py:557: UserWarning: This DataLoader will create 4 worker processes in total. Our suggested max number of worker in current system is 2, which is smaller than what this DataLoader is going to create. Please be aware that excessive worker creation might get DataLoader running slow or even freeze, lower the worker number to avoid potential slowness/freeze if necessary.

warnings.warn(\_create\_warning\_msg(

100% 788/788 [00:27<00:00, 28.32it/s]

100% 1255/1255 [00:44<00:00, 28.51it/s]

100% 847/847 [00:29<00:00, 28.51it/s]

AUROC - Src label: 1, Tar label: 0

SRC->TAR1: AUROC: 0.6089, FPR95: 0.8558, AUPR\_IN: 0.4735, AUPR\_OUT: 0.7168

SRC->TAR2: AUROC: 0.5527, FPR95: 0.9032, AUPR\_IN: 0.5372, AUPR\_OUT: 0.5719

SRC->TAR1+TAR2: AUROC: 0.5863, FPR95: 0.8749, AUPR\_IN: 0.3386, AUPR\_OUT: 0.7919

to spreadsheet: 0.6089418973850791,0.8557768924302789,0.47348019293126564,0.7168068543765357,0.5526582323998106,0.9031877213695395,0.5372384040858975,0.5718556987969694,0.5862624186778848,0.8748810656517603,0.3386187702999403,0.7918801892832898

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Building React validation loader...

ModelNet40\_OOD - Reading data from h5py file: ./3D\_OS\_release\_data/modelnet40\_normal\_resampled/ood\_sets\_cache/SR2\_test.h5

ModelNet40\_OOD - split: test, categories: {'bed': 0, 'toilet': 1, 'desk': 2, 'monitor': 3, 'table': 2}

React Val - SR2 data len: 486

/usr/local/lib/python3.10/dist-packages/torch/utils/data/dataloader.py:557: UserWarning: This DataLoader will create 4 worker processes in total. Our suggested max number of worker in current system is 2, which is smaller than what this DataLoader is going to create. Please be aware that excessive worker creation might get DataLoader running slow or even freeze, lower the worker number to avoid potential slowness/freeze if necessary.

warnings.warn(\_create\_warning\_msg(

100% 486/486 [00:04<00:00, 114.99it/s]

t = 2.7227

Computing OOD metrics with React (+Energy) normality score, ID-dependent threshold (=2.7227)...

React - using SR2 test to compute threshold

100% 788/788 [00:17<00:00, 44.00it/s]

100% 1255/1255 [00:28<00:00, 43.82it/s]

100% 847/847 [00:19<00:00, 43.88it/s]

AUROC - Src label: 1, Tar label: 0

SRC->TAR1: AUROC: 0.6419, FPR95: 0.8653, AUPR\_IN: 0.5029, AUPR\_OUT: 0.7356

SRC->TAR2: AUROC: 0.5991, FPR95: 0.8996, AUPR\_IN: 0.5882, AUPR\_OUT: 0.6039

SRC->TAR1+TAR2: AUROC: 0.6246, FPR95: 0.8792, AUPR\_IN: 0.3755, AUPR\_OUT: 0.8093

to spreadsheet: 0.641915080793577,0.8653386454183267,0.5028913690141318,0.735604025718648,0.5990521937683913,0.8996458087367178,0.5881533499525645,0.6038655498213013,0.6246434988191087,0.879162702188392,0.37553234432080673,0.8093249141621718

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