In the name of GOD the companionate the merciful

**ALAD + dxxzz**

Arrhythmia

seeds : [29 9 7 0 8 24 4 3 18 1]

|  |  |  |  |
| --- | --- | --- | --- |
|  | Precision | Recall | F1 score |
| L1 | 0.34410.0537 | 0.36560.0571 | 0.35450.0554 |
| L2 | 0.33520.0503 | 0.35620.0535 | 0.34540.0519 |
| Logits (Dxx) | 0.49350.130807 | 0.60930.1445 | 0.51870.1047 |
| Features\_xx | 0.34700.0781 | 0.36870.0830 | 0.35750.0805 |
| All\_Logits (Dxx + Dzz + Dxxzz) | 0.53230.0426 | 0.56560.0452 | 0.54840.0439 |
| Features\_xxzz | 0.35580.0527 | 0.37810.0559 | 0.36660.0543 |
| Alpha\_beta | 0.51760.0420 | 0.55000.0446 | 0.53330.0433 |

KDD99

|  |  |  |  |
| --- | --- | --- | --- |
|  | Precision | Recall | F1 score |
| L1 |  |  |  |
| L2 |  |  |  |
| Logits (Dxx) |  |  |  |
| Features\_xx |  |  |  |
| All\_Logits (Dxx + Dzz + Dxxzz) |  |  |  |
| Features\_xxzz |  |  |  |
| Alpha\_beta |  |  |  |

SVHN

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Avg\_AUROC |
| L1 |  |  |  |  |  |  |  |  |  |  |  |
| L2 |  |  |  |  |  |  |  |  |  |  |  |
| Logits (Dxx) |  |  |  |  |  |  |  |  |  |  |  |
| Features\_xx |  |  |  |  |  |  |  |  |  |  |  |
| All\_Logits (Dxx + Dzz + Dxxzz) |  |  |  |  |  |  |  |  |  |  |  |
| Features\_xxzz |  |  |  |  |  |  |  |  |  |  |  |
| Alpha\_beta |  |  |  |  |  |  |  |  |  |  |  |

Cifar10

Seed 0 : 9 , 0 ,3

Seed 1 : 7,5,8

Seed 2 : 0, 9, 2

Seed 3 : 0,7,2

Seeds for 4: [4 5 2]

Seeds for 5: [4 6 1]

Seeds for 6: [1 7 2]

Seeds for 7: [5 2 7]

Seeds for 8: [5 6 14]

Seeds for 9 : [ 5 0 14]

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Avg\_AUROC |
| L1 | 0.0242 |  |  |  | 0.7368  0.0033 | 0.5287  0.0110 | 0.7182  0.0227 | 0.5293  0.0266 | 0.6880  0.0278 | 0.4772  0.0466 |  |
| L2 |  | 0.0121 |  |  | 0.7420  0.0033 | 0.5290  0.0123 | 0.7278  0.0240 | 0.5210  0.0260 | 0.6940  0.0307 | 0.4517  0.0348 |  |
| Logits (Dxx) |  |  |  |  | 0.6599  0.0519 | 0.4905  0.0187 | 0.5089  0.0706 | 0.4636  0.0101 | 0.6488  0.0063 | 0.4669  0.0234 |  |
| Features\_xx |  |  |  |  | 0.7363  0.0015 | 0.5116  0.0154 | 0.7069  0.0294 | 0.4477  0.0111 | 0.7223  0.0214 | 0.3824  0.0102 |  |
| All\_Logits (Dxx + Dzz + Dxxzz) |  |  |  |  | 0.5340  0.0224 | 0.4953  0.0176 | 0.5051  0.0120 | 0.4903  0.0052 | 0.5167  0.0151 | 0.4862  0.0029 |  |
| Features\_xxzz |  |  |  |  | 0.7196  0.0079 | 0.5387  0.0174 | 0.7163  0.0087 | 0.5175  0.0197 | 0.7106  0.0187 | 0.4696  0.0165 |  |
| Alpha\_beta |  |  |  |  | 0.7330  0.0007 | 0.5117  0.0162 | 0.7003  0.0340 | 0.4498  0.0126 | 0.71927  0.0239 | 0.3831  0.0093 |  |

**Simple ALAD**

Arrhythmia

|  |  |  |  |
| --- | --- | --- | --- |
|  | Precision | Recall | F1 score |
| L1 |  |  |  |
| L2 |  |  |  |
| Logits (Dxx) |  |  |  |
| Features\_xx |  |  |  |
| All\_Logits (Dxx + Dzz + Dxxzz) |  |  |  |
| Features\_xxzz |  |  |  |
| Alpha\_beta |  |  |  |

KDD99

|  |  |  |  |
| --- | --- | --- | --- |
|  | Precision | Recall | F1 score |
| L1 |  |  |  |
| L2 |  |  |  |
| Logits (Dxx) |  |  |  |
| Features\_xx |  |  |  |
| All\_Logits (Dxx + Dzz + Dxxzz) |  |  |  |
| Features\_xxzz |  |  |  |
| Alpha\_beta |  |  |  |

SVHN

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Avg\_AUROC |
| L1 |  |  |  |  |  |  |  |  |  |  |  |
| L2 |  |  |  |  |  |  |  |  |  |  |  |
| Logits (Dxx) |  |  |  |  |  |  |  |  |  |  |  |
| Features\_xx |  |  |  |  |  |  |  |  |  |  |  |
| All\_Logits (Dxx + Dzz + Dxxzz) |  |  |  |  |  |  |  |  |  |  |  |
| Features\_xxzz |  |  |  |  |  |  |  |  |  |  |  |
| Alpha\_beta |  |  |  |  |  |  |  |  |  |  |  |

Cifar10

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Avg\_AUROC |
| L1 |  |  |  |  |  |  |  |  |  |  |  |
| L2 |  |  |  |  |  |  |  |  |  |  |  |
| Logits (Dxx) |  |  |  |  |  |  |  |  |  |  |  |
| Features\_xx |  |  |  |  |  |  |  |  |  |  |  |
| All\_Logits (Dxx + Dzz + Dxxzz) |  |  |  |  |  |  |  |  |  |  |  |
| Features\_xxzz |  |  |  |  |  |  |  |  |  |  |  |
| Alpha\_beta |  |  |  |  |  |  |  |  |  |  |  |

**ALAD + Dxxzz – Dzz (ALICE + Dxxzz)**

Arrhythmia

|  |  |  |  |
| --- | --- | --- | --- |
|  | Precision | Recall | F1 score |
| L1 |  |  |  |
| L2 |  |  |  |
| Logits (Dxx) |  |  |  |
| Features\_xx |  |  |  |
| All\_Logits (Dxx + Dzz + Dxxzz) |  |  |  |
| Features\_xxzz |  |  |  |
| Alpha\_beta |  |  |  |

KDD99

|  |  |  |  |
| --- | --- | --- | --- |
|  | Precision | Recall | F1 score |
| L1 |  |  |  |
| L2 |  |  |  |
| Logits (Dxx) |  |  |  |
| Features\_xx |  |  |  |
| All\_Logits (Dxx + Dzz + Dxxzz) |  |  |  |
| Features\_xxzz |  |  |  |
| Alpha\_beta |  |  |  |

SVHN

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Avg\_AUROC |
| L1 |  |  |  |  |  |  |  |  |  |  |  |
| L2 |  |  |  |  |  |  |  |  |  |  |  |
| Logits (Dxx) |  |  |  |  |  |  |  |  |  |  |  |
| Features\_xx |  |  |  |  |  |  |  |  |  |  |  |
| All\_Logits (Dxx + Dzz + Dxxzz) |  |  |  |  |  |  |  |  |  |  |  |
| Features\_xxzz |  |  |  |  |  |  |  |  |  |  |  |
| Alpha\_beta |  |  |  |  |  |  |  |  |  |  |  |

Cifar10

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Avg\_AUROC |
| L1 |  |  |  |  |  |  |  |  |  |  |  |
| L2 |  |  |  |  |  |  |  |  |  |  |  |
| Logits (Dxx) |  |  |  |  |  |  |  |  |  |  |  |
| Features\_xx |  |  |  |  |  |  |  |  |  |  |  |
| All\_Logits (Dxx + Dzz + Dxxzz) |  |  |  |  |  |  |  |  |  |  |  |
| Features\_xxzz |  |  |  |  |  |  |  |  |  |  |  |
| Alpha\_beta |  |  |  |  |  |  |  |  |  |  |  |

**ALAD + Dxxzz – Dxx – Dzz (ALI + Dxxzz)**

Arrhythmia

|  |  |  |  |
| --- | --- | --- | --- |
|  | Precision | Recall | F1 score |
| L1 |  |  |  |
| L2 |  |  |  |
| Logits (Dxx) |  |  |  |
| Features\_xx |  |  |  |
| All\_Logits (Dxx + Dzz + Dxxzz) |  |  |  |
| Features\_xxzz |  |  |  |
| Alpha\_beta |  |  |  |

KDD99

|  |  |  |  |
| --- | --- | --- | --- |
|  | Precision | Recall | F1 score |
| L1 |  |  |  |
| L2 |  |  |  |
| Logits (Dxx) |  |  |  |
| Features\_xx |  |  |  |
| All\_Logits (Dxx + Dzz + Dxxzz) |  |  |  |
| Features\_xxzz |  |  |  |
| Alpha\_beta |  |  |  |

SVHN

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Avg\_AUROC |
| L1 |  |  |  |  |  |  |  |  |  |  |  |
| L2 |  |  |  |  |  |  |  |  |  |  |  |
| Logits (Dxx) |  |  |  |  |  |  |  |  |  |  |  |
| Features\_xx |  |  |  |  |  |  |  |  |  |  |  |
| All\_Logits (Dxx + Dzz + Dxxzz) |  |  |  |  |  |  |  |  |  |  |  |
| Features\_xxzz |  |  |  |  |  |  |  |  |  |  |  |
| Alpha\_beta |  |  |  |  |  |  |  |  |  |  |  |

Cifar10

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Avg\_AUROC |
| L1 |  |  |  |  |  |  |  |  |  |  |  |
| L2 |  |  |  |  |  |  |  |  |  |  |  |
| Logits (Dxx) |  |  |  |  |  |  |  |  |  |  |  |
| Features\_xx |  |  |  |  |  |  |  |  |  |  |  |
| All\_Logits (Dxx + Dzz + Dxxzz) |  |  |  |  |  |  |  |  |  |  |  |
| Features\_xxzz |  |  |  |  |  |  |  |  |  |  |  |
| Alpha\_beta |  |  |  |  |  |  |  |  |  |  |  |