

Long-Tailed Anomaly Detection with Learnable Class Names

Supplementary Materials

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A. Additional training details

A.1. Baselines

We re-train all baselines on the proposed long-tailed configurations, using the github links of [Cut & Paste](#), [MKD](#), [DRAEM](#), [RegAD](#), [UniAD](#) and [AnomalyGPT](#). By default, the training pipeline in the github link is followed. Both UniAD and LTAD use the architecture of EfficientNetB7 for fair comparison. For RegAD, please refer to Sec.6 for the training details. For AnomalyGPT, it trains the model on additional data. For example, when the downstream dataset is MVTec, additional VisA dataset is used for training. For fair comparison, we re-train AnomalyGPT on the proposed long-tailed configurations **without** using additional dataset.

A.2. LTAD and its variants

All LTAD and its variants are trained with batch size of 8. The foundational model of ALIGN is used in LTAD, where the architecture of EfficientNetB7 is the image encoder of ALIGN. The details of LTAD variants are elaborated below.

ExpID 6.5: In this experiment, we assume that the dataset class names is available. Note that such assumption is only for validating whether the dataset class name is helpful for AD/AS performance. The class name in the dataset is assigned to s_c and s_c is not further optimized in this experiment.

ExpID 6.6: Similar to ExpID 6.5, we assume the dataset class names is available and such assumption is only for validating whether the dataset class name is helpful for AD/AS performance. Unlike ExpID 6.5, after the class name in the dataset is assigned to s_c , s_c is optimized using the loss of (6) in this experiment.

ExpID 6.7: In this experiment, we randomly initialize the pseudo class name s_c and s_c is optimized using the loss of (6).

ExpID 8.1: In this experiment, we shuffles the pseudo class names across classes. This is done by, for example, assigning s_1 to class 2, s_2 to class 5 (i.e. assign the pseudo class name of class i , to class j , where $i \neq j$). We show that shuffling the pseudo class names across classes hurts the performance significantly.

ExpID 8.2: To evaluate the importance of using prior knowledge of the ALIGN text encoder, we remove the text encoder

of ALIGN and learn a binary classifier of weight vectors $t_{n,c}$, $t_{a,c}$ per image class c . In this experiment, the weight vectors of the binary classifier are randomly initialized and optimized with the loss of (8).

B. Numerical result

While we compute average performance across majority (High), minority (Low), and all (All) classes in all experiments, we omit some of the High and Low values in main paper, for brevity. The complete result for anomaly detection and anomaly segmentation on MVTec, VisA and DAGM can be find in Tab. C1- C8, Tab. C9- C20 and Tab. C21- C40, respectively.

C. Additional visualizations

In addition to the visualization shown in Sec. 6.1, we further provide more visualizations in Fig. C1. LTAD has more precise localization and generalizes to different object classes.

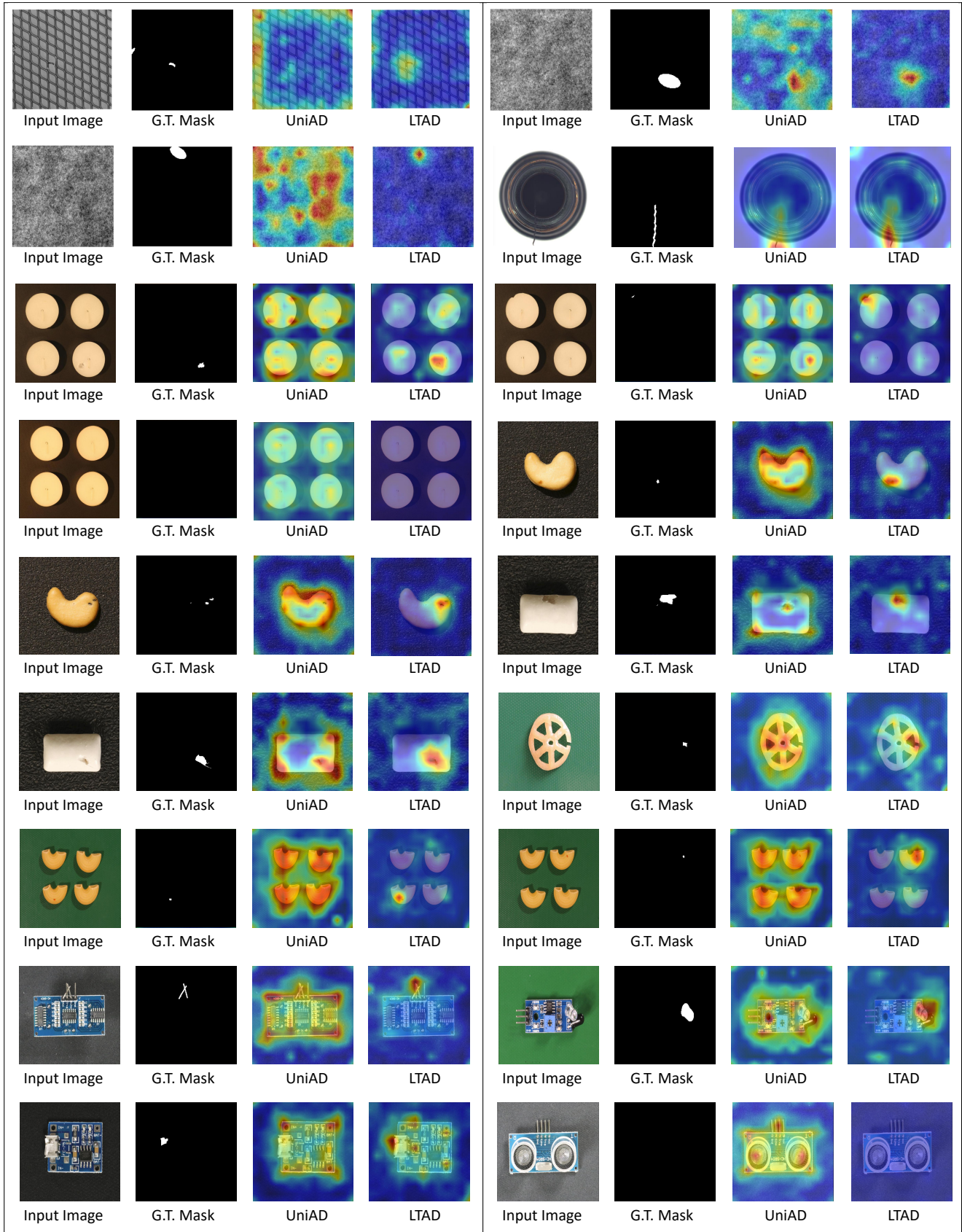


Figure C1. Qualitative comparison between UniAD and LTAD. The images without defects (*i.e.*, normal image) have a black ground truth mask.

Method	All	HighShot	LowShot	PCB3	PCB2	PCB1	PCB4	macaroni1	macaroni2	candle	cashew	fryum	capsules	chewinggum	pipe fryum
AnomalyGPT	69.78	71.19	68.38	66.79	75.2	74.3	73.57	81.94	55.34	44.74	82.28	74.26	56.81	77.68	74.49
RegAD	71.65	67.02	76.28	57.60	65.20	72.95	81.89	67.74	56.76	72.69	72.51	73.50	56.74	89.39	92.86
UniAD	77.64	84.51	70.78	81.51	86.73	89.78	97.83	83.51	67.72	64.57	55.58	73.7	56.2	91.3	83.36
Ours w/o PTA	<u>83.79</u>	89.39	78.18	87.48	86.41	91.52	97.86	89.7	83.42	78.92	74.46	75.3	57.27	93.46	89.72
Ours	84.03	<u>87.34</u>	80.72	85.00	82.47	90.49	96.12	88.64	81.33	81.65	84.5	71.84	61.10	95.4	89.82

Table C17. VisA-LT (imbalance factor=200 ; step decrease) Image AUROC

Method	All	HighShot	LowShot	PCB3	PCB2	PCB1	PCB4	macaroni1	macaroni2	candle	cashew	fryum	capsules	chewinggum	pipe fryum
AnomalyGPT	81.97	78.69	85.25	80.22	85.88	77.08	81.05	74.01	73.9	80.96	91.6	90.77	61.16	93.04	93.99
RegAD	94.52	93.73	<u>95.32</u>	94.80	93.28	97.06	90.95	94.87	91.44	95.24	98.00	95.30	87.24	97.00	99.14
UniAD	95.66	97.45	93.87	97.41	96.87	99.15	97.53	98.38	95.4	95.37	95.29	93.63	82.25	98.1	98.61
Ours w/o PTA	<u>95.89</u>	<u>97.59</u>	94.18	97.88	96.46	98.95	96.38	98.52	97.39	95.31	98.53	94.70	78.98	98.72	98.89
Ours	96.27	97.63	94.92	97.78	96.36	98.89	96.90	98.45	97.39	95.87	98.65	95.23	81.87	98.82	99.06

Table C18. VisA-LT (imbalance factor=200 ; step decrease) Pixel AUROC

Method	All	HighShot	LowShot	PCB3	PCB2	PCB1	PCB4	macaroni1	macaroni2	candle	cashew	fryum	capsules	chewinggum	pipe fryum
AnomalyGPT	62.88	70.15	55.61	63.36	74.22	74.4	75.84	79.34	53.74	41.4	71.25	66.18	49.11	41.74	63.95
UniAD	71.84	81.84	61.85	78.79	84.72	88.8	97.44	79.46	61.83	61.82	68.54	55.96	51.3	68.28	65.22
Ours w/o PTA	<u>82.42</u>	<u>89.55</u>	<u>75.28</u>	88.75	86.42	90.95	97.70	89.8	83.7	79.44	61.16	70.74	65.53	90.34	84.46
Ours	83.33	88.40	78.26	85.68	85.19	89.95	96.68	87.91	85.00	78.59	76.56	69.86	68.30	94.34	81.88

Table C19. VisA-LT (imbalance factor=500 ; step decrease) Image AUROC

Method	All	HighShot	LowShot	PCB3	PCB2	PCB1	PCB4	macaroni1	macaroni2	candle	cashew	fryum	capsules	chewinggum	pipe fryum
AnomalyGPT	81.48	78.88	84.09	79.88	84.91	78.51	79.59	75.69	74.69	78.52	92.32	90.94	59.75	89.52	93.49
UniAD	95.06	97.21	92.91	97.15	96.79	99.16	97.35	97.98	94.87	93.25	91.47	90.63	90.63	96.35	95.16
Ours w/o PTA	<u>95.50</u>	<u>97.61</u>	<u>93.40</u>	97.93	96.50	98.91	96.44	98.57	97.29	95.41	96.77	94.33	77.72	98.32	97.87
Ours	96.41	97.69	95.12	97.91	96.48	98.95	96.63	98.69	97.50	95.81	97.90	95.10	84.46	98.52	98.93

Table C20. VisA-LT (imbalance factor=500 ; step decrease) Pixel AUROC

Method	All	HighShot	LowShot	Class10	Class7	Class9	Class8	Class2	Class3	Class5	Class1	Class4	Class6
AnomalyGPT	84.86	84.68	85.04	82.55	100.0	87.28	70.07	83.52	93.61	96.88	83.91	53.0	97.79
RegAD	84.86	86.88	82.84	94.45	91.34	99.23	50.94	98.44	97.95	72.07	48.76	99.75	95.66
UniAD	84.51	87.34	81.69	99.25	95.29	91.61	52.97	97.61	79.73	77.55	51.19	100	99.99
Ours w/o PTA	<u>92.97</u>	<u>93.17</u>	<u>92.77</u>	99.50	99.58	99.35	67.44	99.96	96.14	96.17	72.40	100	99.14
Ours	94.82	93.39	96.25	97.71	99.53	99.91	69.81	100	99.69	97.68	84.08	100	99.82

Table C21. DAGM-LT (imbalance factor=50 ; exp decrease) Image AUROC

Method	All	HighShot	LowShot	Class10	Class7	Class9	Class8	Class2	Class3	Class5	Class1	Class4	Class6
AnomalyGPT	77.37	78.89	75.84	73.04	86.3	88.76	66.11	80.26	78.17	78.85	79.04	54.37	88.79
RegAD	90.29	91.91	88.66	98.74	88.41	99.95	73.28	99.17	93.69	85.23	72.23	99.73	92.44
UniAD	90.70	89.75	91.64	99.76	93.54	99.29	56.45	99.74	90.87	89.53	79.49	98.91	99.44
Ours w/o PTA	<u>97.01</u>	<u>97.30</u>	<u>96.72</u>	99.36	98.29	99.77	89.38	99.74	98.66	98.66	91.96	99.52	94.94
Ours	97.4	97.11	97.68	99.09	97.49	99.93	89.18	99.87	98.94	98.79	93.90	99.49	97.27

Table C22. DAGM-LT (imbalance factor=50 ; exp decrease) Pixel AUROC

Method	All	HighShot	LowShot	Class10	Class7	Class9	Class8	Class2	Class3	Class5	Class1	Class4	Class6
AnomalyGPT	85.31	86.05	84.58	86.56	100.0	89.76	71.9	82.03	94.29	95.42	84.22	52.27	96.69
RegAD	84.86	86.88	82.84	94.45	91.34	99.23	50.94	98.44	97.95	72.07	48.76	99.75	95.66
UniAD	84.34	87.66	81.02	99.15	96.01	92.45	53.31	97.40	79.79	74.26	51.15	99.91	99.99
Ours w/o PTA	<u>93.35</u>	<u>92.94</u>	<u>93.76</u>	97.76	98.58	99.80	68.55	99.99	99.68	97.15	72.25	100	99.72
Ours	94.40	93.24	95.56	97.78	99.60	99.89	68.92	100	99.66	97.35	81.01	100	99.78

Table C23. DAGM-LT (imbalance factor=100 ; exp decrease) Image AUROC

Method	All	HighShot	LowShot	Class10	Class7	Class9	Class8	Class2	Class3	Class5	Class1	Class4	Class6
AnomalyGPT	77.20	79.19	75.21	74.34	86.14	89.99	66.26	79.22	77.37	77.79	80.49	54.93	85.45
RegAD	90.28	91.91	88.66	98.74	88.40	99.95	73.28	99.17	93.69	85.23	72.23	99.73	92.44
UniAD	90.13	89.66	90.60	99.75	93.54	99.33	55.96	99.76	90.13	87.54	78.19	97.74	99.42
Ours w/o PTA	<u>96.93</u>	<u>96.82</u>	<u>97.04</u>	99.04	96.87	99.89	88.47	99.83	98.76	98.52	92.59	99.53	95.78
Ours	97.30	97.01	97.58	99.09	97.42	99.93	88.74	99.87	98.95	98.62	93.76	99.59	96.98

Table C24. DAGM-LT (imbalance factor=100 ; exp decrease) Pixel AUROC

Method	All	HighShot	LowShot	Class10	Class7	Class9	Class8	Class2	Class3	Class5	Class1	Class4	Class6
AnomalyGPT	83.29	83.45	83.13	84.31	100.0	87.16	66.8	79.0	89.9	95.65	80.03	52.49	97.56
RegAD	84.86	86.88	82.84	94.45	91.34	99.23	50.94	98.44	97.95	72.07	48.76	99.75	95.66
UniAD	83.56	87.09	80.02	99.40	95.42	89.82	53.32	97.53	79.13	72.48	50.52	97.98	99.99
Ours w/o PTA	<u>92.83</u>	93.33	<u>92.34</u>	99.49	99.24	99.21	68.69	100	98.78	96.45	67.25	100	99.21
Ours	94.29	<u>93.08</u>	95.51	97.78	99.62	99.80	68.21	100	99.51	97.34	80.90	100	99.82

Table C25. DAGM-LT (imbalance factor=200 ; exp decrease) Image AUROC

Method	All	HighShot	LowShot	Class10	Class7	Class9	Class8	Class2	Class3	Class5	Class1	Class4	Class6
AnomalyGPT	77.16	79.58	74.73	74.85	85.83	89.38	65.89	81.93	73.3	77.54	81.12	56.02	85.69
RegAD	90.29	91.91	88.66	98.74	88.40	99.95	73.28	99.17	93.69	85.23	72.23	99.73	92.44
UniAD	89.73	89.57	89.88	99.77	93.28	99.22	55.84	99.76	90.30	86.78	76.53	96.44	99.39
Ours w/o PTA	<u>96.16</u>	97.15	<u>95.18</u>	99.34	97.83	99.87	88.86	99.83	98.08	97.91	89.89	99.25	90.75
Ours	97.19	<u>96.98</u>	97.39	99.02	97.38	99.92	88.72	99.86	98.88	98.50	93.26	99.52	96.80

Table C26. DAGM-LT (imbalance factor=200 ; exp decrease) Pixel AUROC

Method	All	HighShot	LowShot	Class10	Class7	Class9	Class8	Class2	Class3	Class5	Class1	Class4	Class6
AnomalyGPT	83.47	84.38	82.55	86.38	99.99	91.88	64.78	78.88	90.31	95.06	79.88	52.72	94.78
RegAD	84.86	86.88	82.84	94.45	91.34	99.23	50.94	98.44	97.95	72.07	48.76	99.75	95.66
UniAD	81.35	88.75	73.96	99.89	98.39	96.60	51.31	97.56	85.24	75.57	53.49	55.64	99.84
Ours w/o PTA	<u>92.08</u>	93.55	<u>90.6</u>	99.56	99.37	99.13	69.71	100	98.41	94.91	60.47	100	99.21
Ours	93.54	<u>93.23</u>	93.85	97.76	99.77	99.79	68.81	100	99.36	97.04	73.00	100	99.83

Table C27. DAGM-LT (imbalance factor=500 ; exp decrease) Image AUROC

Method	All	HighShot	LowShot	Class10	Class7	Class9	Class8	Class2	Class3	Class5	Class1	Class4	Class6
AnomalyGPT	76.87	78.93	74.81	76.11	85.42	90.89	62.51	79.73	72.28	77.29	82.21	57.35	84.93
RegAD	90.29	91.91	88.66	98.74	88.40	99.95	73.28	99.17	93.69	85.23	72.23	99.73	92.44
UniAD	88.63	89.44	87.82	99.77	93.10	99.22	55.37	99.73	89.05	84.62	75.15	90.93	99.33
Ours w/o PTA	<u>95.99</u>	97	<u>94.99</u>	99.40	97.75	99.86	88.16	99.83	98.09	97.62	88.45	99.05	91.72
Ours	97.01	<u>96.94</u>	97.07	99.02	97.33	99.92	88.57	99.87	98.74	98.43	92.23	99.31	96.63

Table C28. DAGM-LT (imbalance factor=500 ; exp decrease) Pixel AUROC

Method	All	HighShot	LowShot	Class6	Class4	Class1	Class5	Class3	Class2	Class8	Class9	Class7	Class10
AnomalyGPT	84.65	86.58	82.72	99.11	67.43	74.65	97.48	94.21	88.79	63.56	92.07	99.96	69.2
RegAD	84.85	82.83	86.88	95.66	99.75	48.76	72.07	97.95	98.44	50.94	99.23	91.34	94.45
UniAD	82.48	85.78	79.17	99.93	100	63.41	79.04	86.52	97.00	51.42	98.31	71.48	77.67
Ours w/o PTA	<u>92.62</u>	<u>95.19</u>	<u>90.05</u>	99.85	100	80.02	96.88	99.22	99.99	68.40	99.09	90.46	92.31
Ours	94.09	96.85	91.34	99.76	100	88.00	97.19	99.29	100	67.80	99.75	95.03	94.12

Table C29. DAGM-LT (imbalance factor=200 ; reverse exp decrease) Image AUROC

Method	All	HighShot	LowShot	Class6	Class4	Class1	Class5	Class3	Class2	Class8	Class9	Class7	Class10
AnomalyGPT	78.41	76.49	80.43	94.92	57.21	69.48	81.27	79.1	89.15	65.79	95.83	83.85	67.53
RegAD	90.28	88.66	91.91	92.44	99.73	72.23	85.23	93.69	99.17	73.28	99.95	88.40	98.74
UniAD	89.98	92.69	87.27	99.49	99.86	84.59	90.23	89.30	99.65	53.89	99.55	85.42	97.87
Ours w/o PTA	<u>96.22</u>	<u>97.24</u>	<u>95.20</u>	96.65	99.52	93.38	98.30	98.38	99.80	85.42	99.78	93.15	97.87
Ours	96.68	97.63	95.72	97.16	99.43	94.76	98.30	98.52	99.87	85.23	99.92	95.11	98.49

Table C30. DAGM-LT (imbalance factor=200 ; reverse exp decrease) Pixel AUROC

Method	All	HighShot	LowShot	Class10	Class7	Class9	Class8	Class2	Class3	Class5	Class1	Class4	Class6
AnomalyGPT	87.27	88.29	86.24	89.51	100.0	88.81	70.88	92.25	95.97	96.69	83.77	57.59	97.2
RegAD	84.85	86.88	82.83	94.45	91.34	99.23	50.94	98.44	97.95	72.07	48.76	99.75	95.66
UniAD	82.37	87.11	77.63	99.06	95.02	92.84	51.38	97.26	67.98	70.70	50.01	99.48	99.99
Ours w/o PTA	<u>92.6</u>	93.29	<u>91.91</u>	99.26	99.62	99.83	67.74	99.98	96.73	95.94	67.66	100	99.24
Ours	94.03	<u>93.2</u>	94.85	97.67	99.57	99.85	68.92	99.99	99.38	97.17	77.95	100	99.77

Table C31. DAGM-LT (imbalance factor=50 ; step decrease) Image AUROC

Method	All	HighShot	LowShot	Class6	Class4	Class1	Class5	Class3	Class2	Class8	Class9	Class7	Class10
AnomalyGPT	78.28	79.78	76.77	75.75	86.67	89.54	66.73	80.23	79.02	79.42	81.74	55.34	88.31
RegAD	90.28	91.90	88.66	98.74	88.40	99.95	73.28	99.17	93.69	85.23	72.23	99.73	92.44
UniAD	89.52	89.87	89.16	99.71	93.11	99.36	57.49	99.71	86.33	84.15	78.58	97.41	99.37
Ours w/o PTA	<u>96.93</u>	<u>97.49</u>	<u>96.37</u>	99.35	98.45	99.87	90.00	99.79	98.32	98.37	90.58	99.51	95.09
Ours	97.20	97.00	97.39	99.06	97.30	99.92	88.85	99.86	98.92	98.59	93.21	99.48	96.76

Table C32. DAGM-LT (imbalance factor=50 ; step decrease) Pixel AUROC

Method	All	HighShot	LowShot	Class10	Class7	Class9	Class8	Class2	Class3	Class5	Class1	Class4	Class6
AnomalyGPT	86.48	88.35	84.60	90.24	100.0	87.79	70.42	93.31	95.21	96.41	81.82	51.01	98.56
RegAD	84.86	86.88	82.84	94.45	91.34	99.23	50.94	98.44	97.95	72.07	48.76	99.75	95.66
UniAD	81.11	87.19	75.03	99.12	95.23	91.99	52.38	97.23	67.80	69.05	50.48	87.83	99.99
Ours w/o PTA	<u>91.94</u>	93.26	<u>90.62</u>	99.37	99.59	99.77	67.58	99.98	97.55	94.95	61.21	99.98	99.41
Ours	93.97	<u>93.13</u>	94.81	97.85	99.31	99.87	68.62	99.98	99.28	96.95	78.01	100	99.82

Table C33. DAGM-LT (imbalance factor=100 ; step decrease) Image AUROC

Method	All	HighShot	LowShot	Class6	Class4	Class1	Class5	Class3	Class2	Class8	Class9	Class7	Class10
AnomalyGPT	78.76	80.23	77.29	77.01	86.46	89.08	67.51	81.07	79.4	80.0	83.19	55.72	88.14
RegAD	90.28	91.91	88.66	98.74	88.40	99.95	73.28	99.17	93.69	85.23	72.23	99.73	92.45
UniAD	89.11	90.08	88.15	99.71	93.50	99.25	58.29	99.68	84.99	83.20	78.56	94.66	99.34
Ours w/o PTA	<u>96.38</u>	97.47	<u>95.29</u>	99.36	98.36	99.84	90.00	99.78	97.66	97.49	88.61	99.22	93.49
Ours	97.07	<u>96.94</u>	97.20	99.11	97.16	99.92	88.63	99.86	98.51	98.52	92.69	99.44	96.83

Table C34. DAGM-LT (imbalance factor=100 ; step decrease) Pixel AUROC

Method	All	HighShot	LowShot	Class10	Class7	Class9	Class8	Class2	Class3	Class5	Class1	Class4	Class6
AnomalyGPT	84.73	87.34	82.12	89.58	100.0	86.36	70.28	90.49	95.43	96.29	79.86	41.35	97.66
RegAD	84.86	86.88	82.84	94.45	91.34	99.23	50.94	98.44	97.95	72.07	48.76	99.75	95.66
UniAD	80.33	88.85	71.81	99.80	98.48	97.68	50.38	97.92	81.13	72.95	51.43	53.55	99.97
Ours w/o PTA	<u>91.78</u>	<u>93.27</u>	<u>90.28</u>	99.17	98.60	99.92	68.66	100	97.92	93.29	60.82	100	99.39
Ours	93.79	93.69	93.90	98.74	99.52	99.91	70.26	100	99.02	95.46	75.41	100	99.59

Table C35. DAGM-LT (imbalance factor=200 ; step decrease) Image AUROC

Method	All	HighShot	LowShot	Class6	Class4	Class1	Class5	Class3	Class2	Class8	Class9	Class7	Class10
AnomalyGPT	78.29	79.40	77.19	75.97	86.68	89.22	65.88	79.26	80.28	79.87	82.95	55.26	87.57
RegAD	90.29	91.91	88.66	98.74	88.4	99.95	73.28	99.17	93.69	85.23	72.23	99.73	92.44
UniAD	89.07	90.61	87.40	99.72	94.02	99.43	60.11	99.77	85.71	83.04	78.28	90.59	99.40
Ours w/o PTA	<u>96.04</u>	<u>97.19</u>	<u>94.89</u>	99.28	97.57	99.91	89.31	99.86	97.51	97.13	88.26	99.08	92.45
Ours	96.84	97.33	96.35	99.24	97.63	99.93	89.98	99.89	98.12	97.40	91.74	99.17	95.33

Table C36. DAGM-LT (imbalance factor=200 ; step decrease) Pixel AUROC

Method	All	HighShot	LowShot	Class10	Class7	Class9	Class8	Class2	Class3	Class5	Class1	Class4	Class6
AnomalyGPT	85.08	88.73	81.43	91.35	100.0	89.07	71.74	91.48	93.3	96.99	77.94	41.77	97.14
RegAD	84.86	86.88	82.84	94.45	91.34	99.23	50.94	98.44	97.95	72.07	48.76	99.75	95.66
UniAD	80.04	88.88	71.18	99.77	98.62	97.19	50.88	97.98	76.32	74.09	51.57	53.98	99.98
Ours w/o PTA	<u>91.82</u>	<u>93.83</u>	<u>89.8</u>	99.54	99.59	99.89	70.15	100	95.91	95.44	58.35	99.97	99.33
Ours	92.78	93.96	91.59	99.36	99.84	99.88	70.77	99.97	96.85	95.99	65.57	100	99.52

Table C37. DAGM-LT (imbalance factor=500 ; step decrease) Image AUROC

Method	All	HighShot	LowShot	Class6	Class4	Class1	Class5	Class3	Class2	Class8	Class9	Class7	Class10
AnomalyGPT	78.75	79.93	77.57	77.9	86.27	89.89	65.79	79.78	78.81	80.68	84.82	56.79	86.73
RegAD	90.29	91.91	88.66	98.74	88.4	99.95	73.28	99.17	93.69	85.23	72.23	99.73	92.44
UniAD	88.53	90.43	86.62	99.73	94.39	99.42	58.89	99.75	85.70	83.61	79.19	85.25	99.39
Ours w/o PTA	<u>95.64</u>	<u>97.51</u>	<u>93.76</u>	99.49	98.31	99.90	90.02	99.84	96.27	97.43	83.76	98.85	92.48
Ours	96.65	97.67	95.64	99.45	98.44	99.92	90.66	99.87	97.07	97.88	88.97	98.89	95.39

Table C38. DAGM-LT (imbalance factor=500 ; step decrease) Pixel AUROC

Method	All	HighShot	LowShot	Class10	Class7	Class9	Class8	Class2	Class3	Class5	Class1	Class4	Class6
AnomalyGPT	83.64	88.06	79.21	98.71	66.42	80.31	98.41	96.47	70.21	64.49	91.11	100.0	70.22
RegAD	84.86	82.84	86.88	95.66	99.75	48.76	72.07	97.95	98.44	50.94	99.23	91.34	94.45
UniAD	83.57	88.89	78.25	99.98	99.99	72.96	81.28	90.28	95.34	50.64	98.05	65.58	81.67
Ours w/o PTA	<u>92.35</u>	<u>96.03</u>	<u>88.67</u>	99.85	100	83.72	96.91	99.68	99.77	63.16	97.96	88.87	93.59
Ours	93.89	97.4	90.39	99.79	100	90.40	97.14	99.67	99.86	64.86	99.00	93.73	94.48

Table C39. DAGM-LT (imbalance factor=200 ; reverse step decrease) Image AUROC

Method	All	HighShot	LowShot	Class6	Class4	Class1	Class5	Class3	Class2	Class8	Class9	Class7	Class10
AnomalyGPT	77.11	75.54	78.68	91.83	54.33	67.86	81.32	82.37	79.32	69.19	97.15	85.78	61.97
RegAD	90.28	88.67	91.91	92.44	99.73	72.23	85.24	93.69	99.17	73.28	99.95	88.41	98.74
UniAD	90.79	94.62	86.96	99.47	99.82	87.93	93.47	92.41	99.28	54.11	99.48	83.94	98.00
Ours w/o PTA	<u>95.89</u>	<u>97.52</u>	<u>94.26</u>	96.42	99.49	94.31	98.52	98.87	99.70	82.78	99.66	91.47	97.72
Ours	96.66	97.93	95.40	97.22	99.49	95.31	98.57	99.04	99.79	84.36	99.89	94.52	98.45

Table C40. DAGM-LT (imbalance factor=200 ; reverse step decrease) Pixel AUROC