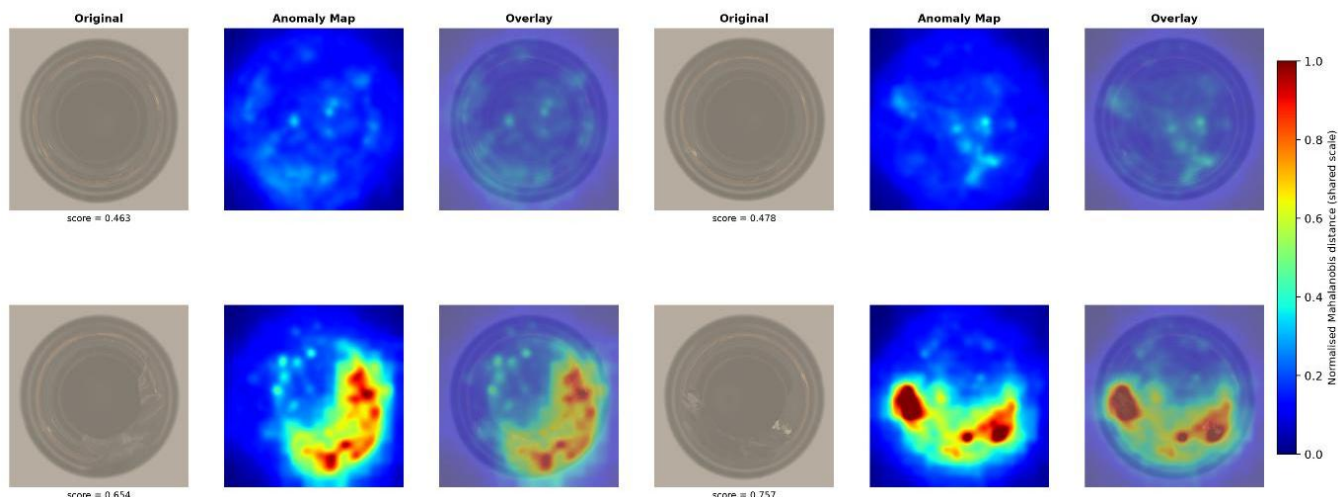
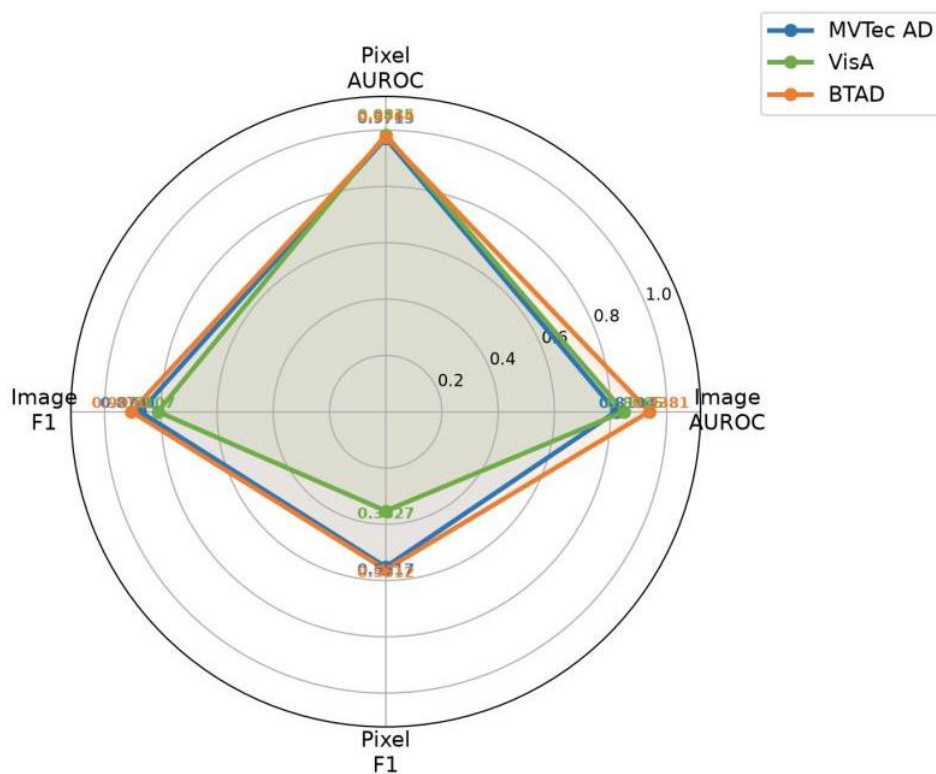


Supplementary Material



Supplementary Figure S1. Anomaly localisation heatmap overlays for the MVTec AD bottle category. Top row: defect-free samples with diffuse, low-magnitude score distributions. Bottom row: defective samples with concentrated high-score regions that visually coincide with surface damage. Each sample is shown as original image, anomaly map, and heatmap overlay.



Supplementary Figure S2. Multi-metric radar chart for PaDiM (ResNet-18) across the evaluated MVTec AD and VisA subsets and the full BTAD benchmark. Each radial axis represents one evaluation metric; the outer boundary denotes 1.0.

Supplementary Table S1. Cross-dataset summary of PaDiM (ResNet-18) evaluation metrics. N = number of categories evaluated per dataset; MVTec AD and VisA values are three-category subset means, whereas BTAD covers all three benchmark categories.

Dataset	N cats	Img AUROC	Img F1	Pix AUROC	Pix F1
MVTec AD	3	0.8194	0.8741	0.9713	0.5517
VisA	3	0.8465	0.8107	0.9835	0.3527
BTAD	3	0.9381	0.9050	0.9764	0.5612

Supplementary Table S2. Decision behaviour per category at the test-set F1-optimal threshold, with mean IoU across correctly detected anomalous images.

Category (dataset)	Normal images	False positives	Anomalous images	False negatives	Accuracy	Mean IoU
Bottle (MVTec AD)	20	1	63	0	0.988	0.488
Cable (MVTec AD)	58	16	92	11	0.820	0.320
Hazelnut (MVTec AD)	40	23	70	6	0.736	0.293
Candle (VisA)	100	32	100	19	0.745	0.091
02 (BTAD)	30	30	200	0	0.870	0.163