Table 1. More comparison results on two benchmarks demonstrate the SOTA performance of GDformer.

Dataset	NIPS_TS_GECCO[1]			ASD[2]		
Metric	P	R	F1	P	R	F1
AnomalyTrans	28.42	45.48	34.98	73.7	99.74	84.76
DCdetector	32.23	45.21	37.63	91.83	99.81	95.66
GDformer	63.10	55.80	**59.20**	97.18	99.85	**98.50**

Table 2. Comparison results on additional metrics (affiliation precision/recall[3] and VUS[4]).

Dataset	Method	Aff-P[3]	Aff-R[3]	R_AUC_ROC[4]	R_AUC_PR[4]	VUS_ROC[4]	VUS_PR[4]
MSL	AnomalyTrans	84.51	98.82	90.17	87.96	88.57	86.54
	DCdetector	83.49	98.45	89.98	87.87	88.2	86.31
	GDformer	**88.24**	**99.14**	**90.89**	**89.33**	**90.22**	**88.78**
SMAP	AnomalyTrans	80.66	97.7	85.76	85.76	85.8	85.8
	DCdetector	82.68	99.51	95.87	93.99	94.78	93.03
	GDformer	**84.00**	**99.73**	**96.81**	**94.51**	**96.23**	**94.01**
SWaT	AnomalyTrans	78.56	90.27	84.42	79.91	84.37	79.87
	DCdetector	89.32	99.85	96.61	94.03	96.81	94.21
	GDformer	**93.97**	**99.92**	**98.37**	**96.96**	**98.09**	**96.72**
PSM	AnomalyTrans	**75.16**	75.21	89.38	92.2	87.81	91.07
	DCdetector	63.49	80.93	86.66	89.36	82.38	86.14
	GDformer	69.86	**84.79**	**92.90**	**94.17**	**89.81**	**91.95**

Table 3. Error bars.

Method	MSL	SMAP	SWaT	PSM
AnomalyTrans	93.83±0.32	95.75±0.07	93.14±1.07	97.46±0.1
DCdetector	94.7±0.76	95.94±0.39	96.4±0.06	97.42±0.45
GDformer	95.7±0.14	96.47±0.04	97.69±0.31	98.43±0.44

Table 4. Comparison with SOTA baselines.

Dataset	MSL			SMAP			SWaT			PSM			AVG
Metric	P	R	F1	P	R	F1	P	R	F1	P	R	F1	F1
GDformer	**93.70**	**98.07**	**95.83**	**95.55**	97.52	96.52	96.28	99.82	**98.02**	**97.97**	**99.52**	**98.74**	**97.28**
MEMTO[5]	92.07	96.76	94.36	93.76	99.63	96.61	94.18	97.54	95.83	97.46	99.23	98.34	96.28
DiffAD[6]	92.97	95.44	94.19	96.52	97.38	**96.95**	**98.44**	96.9	97.66	97.00	98.92	97.95	96.69
EH-GAM-EGAN[7]	89.49	94.29	91.83	8.34	**1.00**	9.10	4.51	**1.00**	8.63	94.66	98.45	96.51	51.52

Table 5. Ablation study on SMD dataset.

Variants	A.1	A.2	A.3	A.4	A.5	GDformer	B.1	B.2	C.1	C.2
P	83.86	83.34	81.53	83.07	83.9	86.33	84.47	84.32	81.58	85.54
R	82.52	88.31	77.56	88.01	93.26	94.89	86.82	83.43	70.07	89.7
F1	83.18	85.75	79.5	85.47	88.34	**90.41**	85.63	83.88	75.39	87.57

Reference:

[1] DCdetector: Dual Attention Contrastive Representation Learning for Time Series Anomaly Detection

[2] Multivariate Time Series Anomaly Detection and Interpretation using Hierarchical Inter-Metric and Temporal Embedding

[3] Local Evaluation of Time Series Anomaly Detection Algorithms

[4] Volume under the surface: a new accuracy evaluation measure for time-series anomaly detection

[5] Memto: Memory-guided transformer for multivariate time series anomaly detection, 2023

[6] Imputation-based Time-Series Anomaly Detection with Conditional Weight-Incremental Diffusion Models, 2023

[7] Graph-enhanced anomaly detection framework in multivariate time series using Graph Attention and Enhanced Generative Adversarial Networks, 2025