

Search Evaluate Images

Reassess The Model

Number of metrics: 11 | Number of models: 15

Models Performance Matrix

	PR-AUC	Best F-1	VUS	MutualInformation	CDI	MAE	MSE	SMAPE	MAPE	LIKELIHOOD	CENTRALITY_4	SYNTHETIC_F1_spikes	SYNTHETIC_PR-AUC_spikes	SYNTHETIC_VUS_spikes
DGHL_1	0.083332	0.285711	0.871173	0.015897	41.622968	0.141923	0.035022	0.204823	0.274465	0.295416	58676.00	0.819667	0.862883	0.922849
DGHL_2	0.099999	0.333329	0.948338	0.015897	27.799395	0.094916	0.018122	0.142621	0.192729	0.306681	67676.50	0.796743	0.818925	0.920834
DGHL_3	0.124998	0.399995	0.842764	0.015897	41.686415	0.131046	0.034047	0.187081	0.275935	0.308348	53861.75	0.838603	0.856981	0.924345
DGHL_4	0.099999	0.333329	0.932455	0.015897	21.865000	0.076953	0.011385	0.117228	0.145031	0.300645	74312.25	0.707736	0.755283	0.894525
LOF_1	0.001501	0.005988	0.648489	0.015897	192.757239	0.121795	0.034632	0.135285	0.158110	0.287873	0.00	0.771116	0.876204	0.908041
LOF_2	0.001501	0.005988	0.648489	0.015897	192.757239	0.121795	0.034632	0.135285	0.158110	0.287873	0.00	0.771116	0.876204	0.908041
LOF_3	0.001501	0.005988	0.648489	0.015897	192.757239	0.121795	0.034632	0.135285	0.158110	0.287873	0.00	0.771116	0.876204	0.908041
LOF_4	0.001501	0.005988	0.648489	0.015897	192.757239	0.121795	0.034632	0.135285	0.158110	0.287873	0.00	0.771116	0.876204	0.908041
LSTMVAE_1	0.000000	0.999985	0.831442	0.015897	46.108335	0.135815	0.037950	0.199796	0.284851	0.307979	29067.00	0.856215	0.887959	0.935935
LSTMVAE_2	0.099999	0.333329	0.806012	0.015897	43.767851	0.142950	0.037145	0.209848	0.278394	0.302890	32385.50	0.854364	0.891854	0.928058
LSTMVAE_3	0.124998	0.399995	0.821023	0.015897	44.985778	0.141158	0.039739	0.210302	0.284264	0.305547	28454.25	0.854859	0.885372	0.935105
LSTMVAE_4	0.124998	0.399995	0.822541	0.015897	52.728274	0.138304	0.040983	0.205857	0.290538	0.307526	33491.50	0.856698	0.881141	0.936207
RM_1	0.099999	0.333329	0.840920	0.015897	54.957521	0.111020	0.022747	0.166309	0.221123	0.299808	49096.75	0.769721	0.820366	0.909880
RM_2	0.000000	0.999985	0.883799	0.015897	43.169629	0.124711	0.029024	0.179920	0.256458	0.305429	32991.25	0.811087	0.852414	0.915907
RM_3	0.249996	0.666658	0.873146	0.015897	40.950820	0.117460	0.027956	0.169239	0.245439	0.309500	33850.00	0.806333	0.851207	0.902645

Models Rank Matrix (f1)

	rank
DGHL_1	0.999985
DGHL_2	0.999985
DGHL_3	0.666658
DGHL_4	0.399995
LOF_1	0.399995
LOF_2	0.399995
LOF_3	0.333329
LOF_4	0.333329
LSTMVAE_1	0.333329
LSTMVAE_2	0.333329
LSTMVAE_3	0.285711
LSTMVAE_4	0.005988
RM_1	0.005988
RM_2	0.005988
RM_3	0.005988

average rank values

	rank
DGHL_1	5
DGHL_2	1
DGHL_3	14
DGHL_4	12
LOF_1	4
LOF_2	2
LOF_3	13
LOF_4	15
LSTMVAE_1	10
LSTMVAE_2	3
LSTMVAE_3	6
LSTMVAE_4	7
RM_1	11
RM_2	8
RM_3	9

markov_aggregated_rank

	rank
DGHL_1	0.399995
DGHL_2	0.005988
DGHL_3	0.333329
DGHL_4	0.005988
LOF_1	0.005988
LOF_2	0.399995
LOF_3	0.999985
LOF_4	0.285711
LSTMVAE_1	0.999985
LSTMVAE_2	0.005988
LSTMVAE_3	0.399995
LSTMVAE_4	0.333329
RM_1	0.333329
RM_2	0.666658
RM_3	0.333329

copeland_rank

	rank
DGHL_1	0.333329
DGHL_2	0.005988
DGHL_3	0.005988
DGHL_4	0.399995
LOF_1	0.333329
LOF_2	0.399995
LOF_3	0.285711
LOF_4	0.999985
LSTMVAE_1	0.333329
LSTMVAE_2	0.999985
LSTMVAE_3	0.666658
LSTMVAE_4	0.005988
RM_1	0.333329
RM_2	0.005988
RM_3	0.399995

spearman's_footrule

	rank
DGHL_1	0.333329
DGHL_2	0.333329
DGHL_3	0.399995
DGHL_4	0.399995
LOF_1	0.399995
LOF_2	0.285711
LOF_3	0.333329
LOF_4	0.666658
LSTMVAE_1	0.999985
LSTMVAE_2	0.005988
LSTMVAE_3	0.005988
LSTMVAE_4	0.005988
RM_1	0.005988
RM_2	0.999985
RM_3	0.333329

Models Borda Rank from F1 Matrix

	rank
DGHL_1	0.005988
DGHL_2	0.285711
DGHL_3	0.333329

DGHL_4	0.399995
LOF_1	0.005988
LOF_2	0.333329
LOF_3	0.999985
LOF_4	0.666658
LSTMVAE_1	0.005988
LSTMVAE_2	0.399995
LSTMVAE_3	0.333329
LSTMVAE_4	0.005988
RM_1	0.999985
RM_2	0.399995
RM_3	0.333329

Models Trimmed Borda Rank Matrix

	rank
DGHL_1	0.005988
DGHL_2	0.285711
DGHL_3	0.666658
DGHL_4	0.999985
LOF_1	0.399995
LOF_2	0.005988
LOF_3	0.399995
LOF_4	0.399995
LSTMVAE_1	0.005988
LSTMVAE_2	0.333329
LSTMVAE_3	0.333329
LSTMVAE_4	0.005988
RM_1	0.999985
RM_2	0.333329
RM_3	0.333329

Models Partial Borda Rank Matrix

	rank
DGHL_1	0.005988
DGHL_2	0.333329
DGHL_3	0.666658
DGHL_4	0.999985
LOF_1	0.005988
LOF_2	0.285711
LOF_3	0.333329
LOF_4	0.399995
LSTMVAE_1	0.005988
LSTMVAE_2	0.399995
LSTMVAE_3	0.333329
LSTMVAE_4	0.005988
RM_1	0.666658
RM_2	0.399995
RM_3	0.333329

Models Trimmed Partial Borda Rank Matrix

	rank
DGHL_1	0.333329
DGHL_2	0.005988
DGHL_3	0.666658
DGHL_4	0.666658
LOF_1	0.666658
LOF_2	0.333329
LOF_3	0.666658
LOF_4	0.666658

LSTMVAE_1	0.666658
LSTMVAE_2	0.285711
LSTMVAE_3	0.399995
LSTMVAE_4	0.666658
RM_1	0.666658
RM_2	0.666658
RM_3	0.666658

Models Borda Trimmed Rank Matrix

	rank
DGHL_1	0.333329
DGHL_2	0.005988
DGHL_3	0.005988
DGHL_4	0.005988
LOF_1	0.005988
LOF_2	0.333329
LOF_3	0.333329
LOF_4	0.666658
LSTMVAE_1	0.999985
LSTMVAE_2	0.285711
LSTMVAE_3	0.399995
LSTMVAE_4	0.333329
RM_1	0.399995
RM_2	0.999985
RM_3	0.399995

EMPIRICAL INFLUENCE AND ROBUST RANK AGGREGATION

	cluster
0	0
1	0
2	0
3	0
4	0
5	1
6	0
7	0
8	0

Most reliable cluster idx: 1,Largest 0

Statistics

Rank by PR-AUC : ['RM_3', 'DGHL_3', 'LSTMVAE_3', 'LSTMVAE_4', 'DGHL_2', 'DGHL_4', 'LSTMVAE_2', 'RM_1', 'DGHL_1', 'LOF_1', 'LOF_2', 'LOF_3', 'LOF_4', 'LSTMVAE_1', 'RM_2']

Rank by F1 : ['LSTMVAE_1', 'RM_2', 'RM_3', 'DGHL_3', 'LSTMVAE_3', 'LSTMVAE_4', 'DGHL_2', 'DGHL_4', 'LSTMVAE_2', 'RM_1', 'DGHL_1', 'LOF_1', 'LOF_2', 'LOF_3', 'LOF_4']

Kemeny Predicted rank : ['DGHL_2', 'DGHL_1', 'LSTMVAE_4', 'RM_1', 'DGHL_3', 'LSTMVAE_1', 'RM_2', 'RM_3', 'LSTMVAE_2', 'LSTMVAE_3', 'DGHL_4', 'LOF_1', 'LOF_2', 'LOF_3', 'LOF_4']

Max PR-AUC: 0.2499962500437522 is achieved by RM_3

Max F-1: 0.9999850001249884 is achieved by LSTMVAE_1

Our chosen model is : DGHL_2 which has PR-AUC (using Kemeny)= 0.09999880001239858 and best F-1= 0.3333294444564876

(Normalized Discounted Cumulative Gain) NDCG of predicted ranks with PR-AUC= 0.6031723353420256 and best F-1= 0.6210317202036051