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Reassess The Model

Number of metrics: 11 | Number of models: 11

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
LOF_1	0.546944	0.727257	0.798301	0.174755	166.582936	0.010423	0.001922	0.061418	0.073226	0.374041	0.00	0.827133	0.919699	0.929615
LOF_2	0.546944	0.727257	0.798301	0.174755	166.582936	0.010423	0.001922	0.061418	0.073226	0.374041	0.00	0.827133	0.919699	0.929615
LOF_3	0.546944	0.727257	0.798301	0.174755	166.582936	0.010423	0.001922	0.061418	0.073226	0.374041	0.00	0.827133	0.919699	0.929615
LOF_4	0.546944	0.727257	0.798301	0.174755	166.582936	0.010423	0.001922	0.061418	0.073226	0.374041	0.00	0.827133	0.919699	0.929615
NN_1	0.068582	0.184486	0.814907	0.068223	inf	0.047561	0.010401	0.549979	1635.616455	0.342930	312279.25	0.602356	0.424403	0.765246
NN_2	0.083408	0.236621	0.817469	0.068223	inf	0.043823	0.008736	0.548193	2158.673340	0.343942	292831.75	0.602521	0.424699	0.765783
NN_3	0.084906	0.236621	0.807636	0.068223	inf	0.043036	0.008289	0.572666	2487.306641	0.344658	307445.25	0.602521	0.424416	0.765863
RNN_1	0.660919	0.877893	0.918139	0.174755	126.122793	0.038359	0.007528	1.105328	3643.216064	0.333606	128570.25	0.913389	0.965605	0.954360
RNN_2	0.662668	0.879815	0.916740	0.174755	113.568453	0.038738	0.007753	1.134377	3315.304932	0.332691	122801.25	0.911208	0.966860	0.955505
RNN_3	0.656735	0.877893	0.912109	0.174755	112.868198	0.039436	0.007762	1.164767	3862.564209	0.320772	144636.25	0.911923	0.965913	0.955239
RNN_4	0.661278	0.877893	0.917459	0.174755	112.322421	0.039812	0.007628	1.112410	4470.296387	0.332005	148135.00	0.917962	0.968530	0.956316

Models Rank Matrix (f1)

	rank
LOF_1	0.879815
LOF_2	0.877893
LOF_3	0.877893
LOF_4	0.877893
NN_1	0.727257
NN_2	0.727257
NN_3	0.727257
RNN_1	0.727257
RNN_2	0.236621
RNN_3	0.236621
RNN_4	0.184486

average rank values

	rank
LOF_1	2
LOF_2	1
LOF_3	4
LOF_4	5
NN_1	3
NN_2	6
NN_3	7
RNN_1	11
RNN_2	9
RNN_3	10
RNN_4	8

markov_aggregated_rank

	rank
LOF_1	0.727257
LOF_2	0.877893
LOF_3	0.727257
LOF_4	0.727257
NN_1	0.877893
NN_2	0.877893
NN_3	0.879815
RNN_1	0.236621
RNN_2	0.727257
RNN_3	0.236621

RNN_4	0.184486
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copeland_rank	
	rank
LOF_1	0.184486
LOF_2	0.236621
LOF_3	0.727257
LOF_4	0.727257
NN_1	0.236621
NN_2	0.727257
NN_3	0.877893
RNN_1	0.879815
RNN_2	0.727257
RNN_3	0.877893
RNN_4	0.877893

spearman's_footrule	
	rank
LOF_1	0.877893
LOF_2	0.727257
LOF_3	0.877893
LOF_4	0.877893
NN_1	0.727257
NN_2	0.727257
NN_3	0.727257
RNN_1	0.879815
RNN_2	0.236621
RNN_3	0.236621
RNN_4	0.184486

Models Borda Rank from F1 Matrix	
	rank
LOF_1	0.727257
LOF_2	0.727257
LOF_3	0.727257
LOF_4	0.184486
NN_1	0.727257
NN_2	0.236621
NN_3	0.236621
RNN_1	0.877893
RNN_2	0.877893
RNN_3	0.877893
RNN_4	0.879815

Models Trimmed Borda Rank Matrix	
	rank
LOF_1	0.727257
LOF_2	0.727257
LOF_3	0.184486
LOF_4	0.236621
NN_1	0.727257
NN_2	0.727257
NN_3	0.236621
RNN_1	0.877893
RNN_2	0.879815
RNN_3	0.877893
RNN_4	0.877893

Models Partial Borda Rank Matrix	
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	rank
LOF_1	0.727257
LOF_2	0.727257
LOF_3	0.727257
LOF_4	0.236621
NN_1	0.727257
NN_2	0.184486
NN_3	0.236621
RNN_1	0.877893
RNN_2	0.877893
RNN_3	0.877893
RNN_4	0.879815

Models Trimmed Partial Borda Rank Matrix

	rank
LOF_1	0.727257
LOF_2	0.727257
LOF_3	0.727257
LOF_4	0.727257
NN_1	0.236621
NN_2	0.236621
NN_3	0.877893
RNN_1	0.877893
RNN_2	0.879815
RNN_3	0.877893
RNN_4	0.184486

Models Borda Trimmed Rank Matrix

	rank
LOF_1	0.727257
LOF_2	0.727257
LOF_3	0.727257
LOF_4	0.727257
NN_1	0.184486
NN_2	0.236621
NN_3	0.236621
RNN_1	0.879815
RNN_2	0.877893
RNN_3	0.877893
RNN_4	0.877893

EMPIRICAL INFLUENCE AND ROBUST RANK AGGREGATION

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

Most reliable cluster idx: 0,Largest 0

Statistics

Rank by PR-AUC : ['RNN_2','RNN_4','RNN_1','RNN_3','LOF_1','LOF_2','LOF_3','LOF_4','NN_3','NN_2','NN_1']

Rank by F1 : ['RNN_2','RNN_1','RNN_3','RNN_4','LOF_1','LOF_2','LOF_3','LOF_4','NN_2','NN_3','NN_1']

Kemeny Predicted rank : ['LOF_1', 'LOF_2', 'LOF_3', 'LOF_4', 'RNN_1', 'RNN_2', 'RNN_3', 'RNN_4', 'NN_3', 'NN_2', 'NN_1']

Max PR-AUC: 0.6626679784234584 is achieved by RNN_2

Max F-1: 0.8798153604691874 is achieved by RNN_2

Our chosen model is : LOF_1 which has PR-AUC (using Kemeny)= 0.5469441714360208 and best F-1= 0.7272565973740647

(Normalized Discounted Cumulative Gain) NDCG of predicted ranks with PR-AUC= 0.8498148696375998 and best F-1= 0.8778313075537065