1 Table of results for BPIC15

Dataset	Model	Loss	Activation	Accuracy		Precision		Recall		F1Score	
				Avg	**Sd**	**Avg**	**Sd**	**Avg**	**Sd**	**Avg**	**Sd**
BPIC15	LSTM	mse	tanh	0.8848	0.0074	0.8854	0.0074	0.8848	0.0074	0.8845	0.0078
BPIC15	LSTM	bin_ce	sigmoid	0.8806	0.0062	0.8818	0.006	0.8806	0.0062	0.8804	0.0064
BPIC15	LSTM	mse	sigmoid	0.8783	0.0069	0.8796	0.0064	0.8783	0.0069	0.8782	0.0068
BPIC15	GRU	mse	tanh	0.8741	0.007	0.8747	0.0071	0.8741	0.007	0.8733	0.0075
BPIC15	GRU	bin_ce-logits	sigmoid	0.8733	0.0097	0.8738	0.0103	0.8733	0.0097	0.8728	0.0101
BPIC15	GRU	bin_ce	sigmoid	0.8677	0.0126	0.8683	0.0117	0.8677	0.0126	0.8672	0.0125
BPIC15	GRU	mse	sigmoid	0.8623	0.0077	0.863	0.0081	0.8623	0.0077	0.8619	0.0079
BPIC15	LSTM	bin_ce-logits	sigmoid	0.8571	0.0095	0.8597	0.0095	0.8571	0.0095	0.8566	0.0099
BPIC15	LSTM	manhattan	tanh	0.8257	0.0145	0.8311	0.0155	0.8257	0.0145	0.8228	0.0147
BPIC15	GRU	bin_ce-logits	tanh	0.7937	0.0596	0.7502	0.1143	0.7937	0.0596	0.7676	0.0902
BPIC15	GRU	bin_ce	tanh	0.7898	0.021	0.7889	0.0206	0.7898	0.021	0.7841	0.0224
BPIC15	GRU	manhattan	tanh	0.7858	0.0092	0.7896	0.0109	0.7858	0.0092	0.7739	0.0105
BPIC15	LSTM	jaccard	sigmoid	0.7858	0.0447	0.8072	0.0581	0.7858	0.0447	0.7541	0.0666
BPIC15	LSTM	bin_ce	tanh	0.7724	0.0778	0.7864	0.0625	0.7724	0.0778	0.7666	0.0839
BPIC15	LSTM	bin_ce-logits	tanh	0.7436	0.1165	0.7129	0.1585	0.7436	0.1165	0.6944	0.1604
BPIC15	GRU	jaccard	sigmoid	0.6962	0.0583	0.706	0.0696	0.6962	0.0583	0.6566	0.0861
BPIC15	LSTM	jaccard	tanh	0.6098	0.0438	0.588	0.0276	0.6098	0.0438	0.5416	0.0565
BPIC15	GRU	jaccard	tanh	0.5529	0.0244	0.5832	0.0511	0.5529	0.0244	0.4847	0.042
BPIC15	GRU	manhattan	sigmoid	0.2538	0.0585	0.1223	0.0912	0.2538	0.0585	0.1194	0.0627
BPIC15	LSTM	manhattan	sigmoid	0.2313	0.0552	0.0893	0.0776	0.2313	0.0552	0.0926	0.0505

2 Table of results for BPIC20

Dataset	Model	Loss	Activation	Accuracy		Precision		Recall		F1Score	
				Avg	Sd	Avg	Sd	Avg	Sd	Avg	Sd
BPIC20	LSTM	mse	sigmoid	0.8744	0.0397	0.8876	0.0279	0.8744	0.0397	0.8716	0.0424
BPIC20	LSTM	mse	tanh	0.8585	0.0375	0.8764	0.0261	0.8585	0.0375	0.8539	0.0416
BPIC20	LSTM	bin_ce-logits	sigmoid	0.8541	0.0714	0.8736	0.0499	0.8541	0.0714	0.8425	0.0852
BPIC20	LSTM	bin_ce	sigmoid	0.8397	0.0642	0.8598	0.0485	0.8397	0.0642	0.8308	0.0744
BPIC20	GRU	mse	sigmoid	0.8258	0.0897	0.829	0.0997	0.8258	0.0897	0.8148	0.1086
BPIC20	GRU	mse	tanh	0.8198	0.0489	0.8508	0.0287	0.8198	0.0489	0.8094	0.0574
BPIC20	GRU	bin_ce-logits	sigmoid	0.7895	0.0617	0.8229	0.0499	0.7895	0.0617	0.7722	0.0728
BPIC20	GRU	bin_ce	sigmoid	0.7758	0.0428	0.81	0.0338	0.7758	0.0428	0.758	0.054
BPIC20	LSTM	bin_ce-logits	tanh	0.7569	0.072	0.7797	0.0806	0.7569	0.072	0.7284	0.0924
BPIC20	GRU	bin_ce-logits	tanh	0.7303	0.1003	0.7828	0.0714	0.7303	0.1003	0.6852	0.1422
BPIC20	LSTM	bin_ce	tanh	0.6469	0.126	0.6276	0.2199	0.6469	0.126	0.5695	0.1876
BPIC20	GRU	bin_ce	tanh	0.5918	0.041	0.5966	0.205	0.5918	0.041	0.478	0.0642
BPIC20	LSTM	manhattan	tanh	0.5878	0.0332	0.5173	0.1275	0.5878	0.0332	0.4707	0.0459
BPIC20	GRU	manhattan	tanh	0.5826	0.0458	0.6858	0.0653	0.5826	0.0458	0.4506	0.0629
BPIC20	GRU	jaccard	sigmoid	0.5449	0.0139	0.3075	0.0176	0.5449	0.0139	0.3898	0.0165
BPIC20	LSTM	jaccard	tanh	0.4661	0.0236	0.2321	0.0435	0.4661	0.0236	0.2995	0.0278
BPIC20	LSTM	manhattan	sigmoid	0.4629	0.0115	0.2144	0.0107	0.4629	0.0115	0.293	0.0123
BPIC20	GRU	jaccard	tanh	0.4602	0.0229	0.2362	0.0367	0.4602	0.0229	0.2933	0.0242
BPIC20	GRU	manhattan	sigmoid	0.4584	0.0217	0.2105	0.02	0.4584	0.0217	0.2884	0.023
BPIC20	LSTM	jaccard	sigmoid	0.4576	0.0144	0.2096	0.0132	0.4576	0.0144	0.2875	0.0152

3 Table of results for Claroline Dissimilar 10

Dataset	Model	Loss	Activation	Accuracy		Precision		Recall		F1Score	
				Avg	Sd	Avg	Sd	Avg	Sd	Avg	Sd
claroline-dis_10	GRU	bin_ce	sigmoid	0.9968	0.0006	0.9968	0.0006	0.9968	0.0006	0.9968	0.0006
claroline-dis_10	GRU	bin_ce-logits	sigmoid	0.9964	0.0003	0.9965	0.0003	0.9964	0.0003	0.9964	0.0003
claroline-dis_10	GRU	mse	sigmoid	0.9064	0.1868	0.8842	0.2111	0.9064	0.1868	0.8905	0.2059
claroline-dis_10	LSTM	mse	tanh	0.8536	0.2532	0.8181	0.3077	0.8536	0.2532	0.8245	0.2977
claroline-dis_10	LSTM	mse	sigmoid	0.7458	0.2554	0.6726	0.3102	0.7458	0.2554	0.6913	0.2986
claroline-dis_10	LSTM	bin_ce-logits	sigmoid	0.6885	0.217	0.6007	0.2605	0.6885	0.217	0.6147	0.2531
claroline-dis_10	LSTM	bin_ce	sigmoid	0.6871	0.3138	0.6213	0.3627	0.6871	0.3138	0.6258	0.362
claroline-dis_10	LSTM	bin_ce	tanh	0.3592	0.2734	0.2388	0.27	0.3592	0.2734	0.2636	0.2772
claroline-dis_10	LSTM	manhattan	tanh	0.2687	0.0785	0.1686	0.0583	0.2687	0.0785	0.1767	0.0732
claroline-dis_10	GRU	bin_ce	tanh	0.2599	0.3392	0.1774	0.3597	0.2599	0.3392	0.1875	0.3619
claroline-dis_10	GRU	jaccard	tanh	0.1998	0.1043	0.0595	0.0644	0.1998	0.1043	0.0843	0.079
claroline-dis_10	LSTM	jaccard	tanh	0.1796	0.0786	0.0552	0.0564	0.1796	0.0786	0.0728	0.0643
claroline-dis_10	GRU	manhattan	sigmoid	0.1012	0.0015	0.0103	0.0003	0.1012	0.0015	0.0186	0.0005
claroline-dis_10	GRU	bin_ce-logits	tanh	0.1006	0.0012	0.0101	0.0002	0.1006	0.0012	0.0184	0.0004
claroline-dis_10	GRU	mse	tanh	0.0998	0.0017	0.01	0.0003	0.0998	0.0017	0.0181	0.0006
claroline-dis_10	LSTM	bin_ce-logits	tanh	0.0997	0.0019	0.0116	0.005	0.0997	0.0019	0.0181	0.0007
claroline-dis_10	LSTM	manhattan	sigmoid	0.0996	0.0016	0.0099	0.0003	0.0996	0.0016	0.018	0.0006
claroline-dis_10	LSTM	jaccard	sigmoid	0.0995	0.0016	0.0099	0.0003	0.0995	0.0016	0.018	0.0006
claroline-dis_10	GRU	manhattan	tanh	0.0991	0.0022	0.0098	0.0004	0.0991	0.0022	0.0179	0.0007
claroline-dis_10	GRU	jaccard	sigmoid	0.0989	0.0022	0.0098	0.0004	0.0989	0.0022	0.0178	0.0008

4 Table of results for Claroline Random 10

Dataset	Model	Loss	Activation	Accuracy		Precision		Recall		F1Score	
				Avg	Sd	Avg	Sd	Avg	Sd	Avg	Sd
claroline-rand_10	GRU	bin_ce	sigmoid	0.9861	0.0321	0.9811	0.0482	0.9861	0.0321	0.9828	0.0428
claroline-rand_10	GRU	bin_ce-logits	sigmoid	0.9664	0.0947	0.9548	0.1317	0.9664	0.0947	0.9581	0.1211
claroline-rand_10	GRU	mse	sigmoid	0.9154	0.1063	0.8869	0.1355	0.9154	0.1063	0.8945	0.1292
claroline-rand_10	LSTM	mse	tanh	0.8886	0.1639	0.859	0.2065	0.8886	0.1639	0.8619	0.1999
claroline-rand_10	LSTM	bin_ce	sigmoid	0.7678	0.2389	0.7068	0.2775	0.7678	0.2389	0.7211	0.2713
claroline-rand_10	LSTM	mse	sigmoid	0.7352	0.2056	0.6751	0.2397	0.7352	0.2056	0.6863	0.2358
claroline-rand_10	LSTM	bin_ce-logits	sigmoid	0.7183	0.1685	0.6454	0.2028	0.7183	0.1685	0.6573	0.2015
claroline-rand_10	LSTM	bin_ce	tanh	0.4748	0.1905	0.3559	0.2044	0.4748	0.1905	0.382	0.2052
claroline-rand_10	GRU	jaccard	tanh	0.2099	0.2221	0.1228	0.2179	0.2099	0.2221	0.1342	0.2249
claroline-rand_10	LSTM	manhattan	tanh	0.1902	0.0734	0.1045	0.0698	0.1902	0.0734	0.1076	0.0661
claroline-rand_10	GRU	bin_ce	tanh	0.1793	0.2517	0.0928	0.2621	0.1793	0.2517	0.1023	0.2661
claroline-rand_10	LSTM	jaccard	tanh	0.1385	0.0696	0.0271	0.0311	0.1385	0.0696	0.0426	0.0441
claroline-rand_10	LSTM	manhattan	sigmoid	0.1012	0.0017	0.0102	0.0003	0.1012	0.0017	0.0186	0.0006
claroline-rand_10	GRU	manhattan	tanh	0.1007	0.0015	0.0101	0.0003	0.1007	0.0015	0.0184	0.0005
claroline-rand_10	GRU	bin_ce-logits	tanh	0.1007	0.0013	0.0101	0.0003	0.1007	0.0013	0.0184	0.0005
claroline-rand_10	LSTM	bin_ce-logits	tanh	0.1004	0.0019	0.0101	0.0004	0.1004	0.0019	0.0183	0.0007
claroline-rand_10	GRU	mse	tanh	0.1001	0.0018	0.01	0.0004	0.1001	0.0018	0.0182	0.0006
claroline-rand_10	GRU	manhattan	sigmoid	0.0991	0.0018	0.0098	0.0004	0.0991	0.0018	0.0179	0.0006
claroline-rand_10	LSTM	jaccard	sigmoid	0.0989	0.0016	0.0098	0.0003	0.0989	0.0016	0.0178	0.0005
claroline-rand_10	GRU	jaccard	sigmoid	0.0983	0.0014	0.0097	0.0003	0.0983	0.0014	0.0176	0.0005

5 Table of results for Claroline Dissimilar 50

Dataset	Model	Loss	Activation	Accuracy		Precision		Recall		F1Score	
				Avg	Sd	Avg	Sd	Avg	Sd	Avg	Sd
claroline-dis_50	LSTM	bin_ce	sigmoid	0.8001	0.1387	0.7631	0.1562	0.8001	0.1387	0.7603	0.1532
claroline-dis_50	LSTM	bin_ce-logits	sigmoid	0.7833	0.2161	0.7367	0.2528	0.7833	0.2161	0.7403	0.25
claroline-dis_50	GRU	bin_ce-logits	sigmoid	0.7225	0.381	0.6943	0.3834	0.7225	0.381	0.7002	0.3848
claroline-dis_50	LSTM	mse	tanh	0.6211	0.0379	0.5221	0.045	0.6211	0.0379	0.5373	0.0374
claroline-dis_50	GRU	bin_ce	sigmoid	0.5256	0.4459	0.4901	0.4408	0.5256	0.4459	0.4975	0.4442
claroline-dis_50	LSTM	mse	sigmoid	0.2437	0.25	0.197	0.223	0.2437	0.25	0.1983	0.2226
claroline-dis_50	GRU	mse	sigmoid	0.2089	0.2153	0.1375	0.1617	0.2089	0.2153	0.1507	0.1747
claroline-dis_50	GRU	bin_ce	tanh	0.1015	0.2253	0.0761	0.2231	0.1015	0.2253	0.0781	0.2257
claroline-dis_50	GRU	jaccard	tanh	0.0778	0.0386	0.0209	0.0217	0.0778	0.0386	0.026	0.0251
claroline-dis_50	LSTM	jaccard	tanh	0.0389	0.0131	0.0019	0.0011	0.0389	0.0131	0.0036	0.002
claroline-dis_50	LSTM	jaccard	sigmoid	0.0273	0.01	0.0013	0.0016	0.0273	0.01	0.0024	0.0026
claroline-dis_50	GRU	manhattan	sigmoid	0.0201	0.0003	0.0004	0.0	0.0201	0.0003	0.0008	0.0
claroline-dis_50	GRU	manhattan	tanh	0.0201	0.0008	0.0004	0.0001	0.0201	0.0008	0.0009	0.0002
claroline-dis_50	LSTM	bin_ce-logits	tanh	0.0201	0.0004	0.0004	0.0	0.0201	0.0004	0.0008	0.0
claroline-dis_50	LSTM	manhattan	sigmoid	0.0201	0.0006	0.0004	0.0	0.0201	0.0006	0.0008	0.0
claroline-dis_50	GRU	mse	tanh	0.02	0.0004	0.0004	0.0	0.02	0.0004	0.0008	0.0
claroline-dis_50	GRU	bin_ce-logits	tanh	0.02	0.0004	0.0004	0.0	0.02	0.0004	0.0008	0.0
claroline-dis_50	LSTM	manhattan	tanh	0.0199	0.0004	0.0004	0.0	0.0199	0.0004	0.0008	0.0
claroline-dis_50	GRU	jaccard	sigmoid	0.0192	0.0002	0.0004	0.0	0.0192	0.0002	0.0007	0.0
claroline-dis_50	LSTM	bin_ce	tanh	0.0158	0.0078	0.001	0.0009	0.0158	0.0078	0.0014	0.0012

6 Table of results for Claroline Random 50

Dataset	Model	Loss	Activation	Accuracy		Precision		Recall		F1Score	
				Avg	Sd	Avg	Sd	Avg	Sd	Avg	Sd
claroline-rand_50	GRU	bin_ce	sigmoid	0.9562	0.0785	0.9442	0.1023	0.9562	0.0785	0.9475	0.0953
claroline-rand_50	GRU	bin_ce-logits	sigmoid	0.9498	0.1013	0.9368	0.1304	0.9498	0.1013	0.939	0.1238
claroline-rand_50	LSTM	bin_ce-logits	sigmoid	0.9197	0.1032	0.9085	0.1109	0.9197	0.1032	0.9041	0.1209
claroline-rand_50	LSTM	bin_ce	sigmoid	0.8855	0.0936	0.8607	0.1175	0.8855	0.0936	0.8631	0.1106
claroline-rand_50	LSTM	mse	sigmoid	0.698	0.221	0.6235	0.248	0.698	0.221	0.6429	0.2421
claroline-rand_50	LSTM	mse	tanh	0.6136	0.0387	0.5077	0.046	0.6136	0.0387	0.5289	0.0372
claroline-rand_50	GRU	mse	sigmoid	0.5852	0.3281	0.5186	0.322	0.5852	0.3281	0.5331	0.324
claroline-rand_50	GRU	mse	tanh	0.4372	0.288	0.3482	0.2402	0.4372	0.288	0.3691	0.2544
claroline-rand_50	GRU	bin_ce	tanh	0.3667	0.1106	0.3056	0.1063	0.3667	0.1106	0.3179	0.1041
claroline-rand_50	GRU	jaccard	sigmoid	0.2623	0.2071	0.1773	0.186	0.2623	0.2071	0.1923	0.1943
claroline-rand_50	LSTM	jaccard	sigmoid	0.1028	0.0811	0.0373	0.0467	0.1028	0.0811	0.0464	0.0546
claroline-rand_50	GRU	jaccard	tanh	0.0981	0.0224	0.0305	0.0166	0.0981	0.0224	0.0375	0.0185
claroline-rand_50	LSTM	jaccard	tanh	0.0745	0.0282	0.0135	0.0215	0.0745	0.0282	0.0186	0.0227
claroline-rand_50	LSTM	bin_ce	tanh	0.0395	0.0262	0.0205	0.0247	0.0395	0.0262	0.0195	0.0258
claroline-rand_50	GRU	manhattan	tanh	0.0394	0.0094	0.0232	0.0146	0.0394	0.0094	0.0205	0.0095
claroline-rand_50	LSTM	manhattan	tanh	0.0202	0.0004	0.0004	0.0	0.0202	0.0004	0.0008	0.0
claroline-rand_50	LSTM	manhattan	sigmoid	0.0199	0.0003	0.0004	0.0	0.0199	0.0003	0.0008	0.0
claroline-rand_50	GRU	bin_ce-logits	tanh	0.0198	0.0004	0.0007	0.0007	0.0198	0.0004	0.0008	0.0
claroline-rand_50	LSTM	bin_ce-logits	tanh	0.0198	0.0005	0.0004	0.0	0.0198	0.0005	0.0008	0.0
claroline-rand_50	GRU	manhattan	sigmoid	0.0197	0.0006	0.0004	0.0	0.0197	0.0006	0.0008	0.0