

AUC results

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Abstract

In this document we show supplementary material for the paper entitled “Effect of Class Imbalance on Quality Measures for Contrast Patterns: An Experimental Study” submitted to the journal Information Science since March, 2016.

1 Average AUC results obtained by LCMine+CAEP using the pattern selection algorithms

In this section, the average AUC results obtained using the pattern selection algorithms is reported. Since these results require a lot of space, they were divided into four tables, which show by the rows the name of the database and by the columns the name of the quality measure.

Table 1: Average AUC results obtained by LCMine+CAEP using the pattern selection algorithms (Part I).

Databases	ACC	Brns	Oconf	Cole	ColStr	Conf	Cos	Cover	Dep	ExCex	Gain	GR	InfGain	Jacc	Klos	Lap
abalone17vs78910	0.5169	0.6329	0.5191	0.6329	0.5585	0.6329	0.6315	0.6314	0.5191	0.6329	0.6171	0.6329	0.5191	0.6315	0.5173	0.6133
abalone19	0.4072	0.5089	0.4075	0.5089	0.4125	0.5089	0.5063	0.5059	0.4075	0.5089	0.4622	0.5089	0.4075	0.5063	0.4075	0.5074
abalone19vs10111213	0.4309	0.5374	0.4330	0.5374	0.4378	0.5374	0.5298	0.5326	0.4330	0.5374	0.5156	0.5374	0.4330	0.5298	0.4309	0.5299
abalone20vs8910	0.5148	0.6487	0.5244	0.6487	0.5311	0.6487	0.6225	0.6223	0.5244	0.6487	0.5373	0.6487	0.5244	0.6225	0.5147	0.6190
abalone21vs8	0.6492	0.8151	0.6629	0.8151	0.6136	0.8151	0.7815	0.7815	0.6629	0.8151	0.6492	0.8151	0.6629	0.7815	0.6492	0.7462
abalone3vs11	0.7030	0.7030	0.7030	0.7030	0.6970	0.7030	0.7030	0.7030	0.7030	0.7030	0.7030	0.7030	0.7030	0.7030	0.7030	0.6970
abalone6vs18	0.5623	0.6965	0.5725	0.6965	0.6467	0.6965	0.6829	0.6828	0.5725	0.6965	0.6965	0.6965	0.5725	0.6829	0.5623	0.6657
cargood	0.6300	0.4757	0.4323	0.4757	0.6520	0.4757	0.7250	0.7215	0.4323	0.4757	0.7087	0.4757	0.4323	0.7255	0.6301	0.7239
ecoli01vs235	0.6354	0.5001	0.4854	0.5001	0.6349	0.5001	0.7349	0.7349	0.4854	0.5001	0.6354	0.5001	0.4854	0.7349	0.6355	0.7273
ecoli0147vs2356	0.6147	0.7338	0.5957	0.7338	0.7587	0.7338	0.7143	0.7143	0.5957	0.7338	0.6405	0.7338	0.5957	0.7143	0.5880	0.6850
ecoli0147vs56	0.9228	0.9894	0.8803	0.9894	0.4395	0.9894	0.9228	0.9228	0.8803	0.9894	0.8654	0.9894	0.8803	0.9228	0.9368	0.9182
ecoli101vs235	0.6988	0.9691	0.9691	0.9691	0.9691	0.9691	0.9688	0.9688	0.9691	0.9691	0.9696	0.9691	0.9691	0.9688	0.9688	0.9182
ecoli101vs235	0.7029	0.7559	0.6286	0.7559	0.7771	0.7559	0.7822	0.7862	0.6286	0.7559	0.7951	0.7559	0.6286	0.7822	0.6563	0.7563
ecoli10137vs26	0.6980	0.8078	0.6646	0.8078	0.7982	0.8078	0.8220	0.8220	0.6646	0.8078	0.7460	0.8078	0.6646	0.8220	0.7065	0.7773
ecoli10146vs5	0.6337	0.7709	0.6339	0.7709	0.5969	0.7709	0.7436	0.7436	0.6339	0.7709	0.6337	0.7709	0.6339	0.7436	0.6337	0.7110
ecoli10146vs5	0.6543	0.7741	0.6420	0.7741	0.8078	0.7741	0.8009	0.8018	0.6420	0.7741	0.7616	0.7741	0.6420	0.8009	0.6543	0.7405
ecoli10147vs2356	0.6571	0.7517	0.6347	0.7517	0.7838	0.7517	0.7839	0.7839	0.6347	0.7517	0.7790	0.7517	0.6347	0.7839	0.6571	0.7415
ecoli10234vs5	0.6818	0.7997	0.6646	0.7997	0.8086	0.7997	0.8235	0.8235	0.6646	0.7997	0.7704	0.7997	0.6646	0.8235	0.6952	0.7841
ecoli10267vs35	0.7093	0.8324	0.6875	0.8324	0.8296	0.8324	0.8657	0.8657	0.6875	0.8324	0.7934	0.8324	0.6875	0.8657	0.7087	0.7929
ecoli10267vs35	0.6435	0.6927	0.5928	0.6927	0.7890	0.6927	0.7900	0.7900	0.5928	0.6927	0.7742	0.6927	0.5928	0.7900	0.6439	0.7207
ecoli10267vs35	0.7143	0.8625	0.7010	0.8625	0.7143	0.8625	0.8770	0.8765	0.7010	0.8625	0.7533	0.8625	0.7010	0.8770	0.7144	0.7996
ecoli10246vs5	0.6944	0.8062	0.6657	0.8062	0.7640	0.8062	0.8462	0.8462	0.6657	0.8062	0.7786	0.8062	0.6657	0.8462	0.6921	0.7789
ecoli1046vs5	0.7451	0.8554	0.7077	0.8554	0.8404	0.8554	0.8830	0.8830	0.7077	0.8554	0.8485	0.8554	0.7077	0.8830	0.7138	0.7950
ecoli1067vs35	0.6889	0.7871	0.6577	0.7871	0.8355	0.7871	0.8500	0.8500	0.6577	0.7871	0.8402	0.7871	0.6577	0.8500	0.6842	0.7732
ecoli1067vs35	0.6882	0.7706	0.6036	0.7706	0.7029	0.7706	0.8458	0.8458	0.6036	0.7706	0.8337	0.7706	0.6036	0.8458	0.6904	0.7764
ecoli1	0.8364	0.6487	0.6487	0.6487	0.7706	0.6487	0.8355	0.8355	0.6487	0.7706	0.8403	0.7706	0.6487	0.8355	0.8387	0.8310
ecoli12	0.7091	0.8566	0.7096	0.8566	0.8303	0.8566	0.8077	0.8077	0.7096	0.8566	0.7750	0.8566	0.7096	0.8077	0.7085	0.8267
ecoli14	0.6450	0.7746	0.6412	0.7746	0.7643	0.7746	0.7635	0.7639	0.6412	0.7746	0.7615	0.7746	0.6412	0.7635	0.6473	0.7552
ecoli14	0.7029	0.8010	0.6554	0.8010	0.7633	0.8010	0.8424	0.8424	0.6554	0.8010	0.7029	0.8010	0.6554	0.8424	0.7029	0.7799
flareF	0.6572	0.8239	0.7143	0.8239	0.5949	0.8239	0.7965	0.7965	0.7143	0.8239	0.5641	0.8239	0.7143	0.7965	0.7858	0.5595
glass0	0.9073	0.9059	0.9059	0.9059	0.9059	0.9059	0.9059	0.9059	0.9059	0.9059	0.9054	0.9059	0.9059	0.9054	0.9059	0.8990
glass0123vs456	0.5607	0.6880	0.5561	0.6880	0.5659	0.6880	0.7498	0.7498	0.5561	0.6880	0.5595	0.6880	0.5561	0.7498	0.5696	0.6638
glass0146vs5	0.4796	0.5735	0.4791	0.5735	0.4947	0.5735	0.5914	0.5914	0.4791	0.5735	0.4891	0.5735	0.4791	0.5914	0.4725	0.5765
glass015vs2	0.4725	0.5679	0.4922	0.5679	0.4821	0.5679	0.5674	0.5674	0.4922	0.5679	0.4736	0.5679	0.4922	0.5707	0.4725	0.5670
glass016vs5	0.7836	0.9428	0.9428	0.9428	0.9428	0.9428	0.9428	0.9428	0.9428	0.9428	0.9428	0.9428	0.9428	0.9428	0.9428	0.8695
glass04vs5	0.9220	0.9762	0.8275	0.9762	0.7489	0.9762	0.8875	0.8875	0.8275	0.9762	0.7758	0.9762	0.8275	0.8875	0.8664	0.8878
glass06vs5	0.8303	0.9698	0.8405	0.9698	0.8405	0.9698	0.8405	0.8405	0.8405	0.9698	0.7964	0.9698	0.8405	0.8405	0.8405	0.8626
glass1	0.6533	0.7632	0.6620	0.7632	0.7220	0.7632	0.7193	0.7193	0.6620	0.7632	0.7247	0.7632	0.6620	0.7193	0.7301	0.7213
glass2	0.5467	0.6427	0.5242	0.6427	0.5346	0.6427	0.6373	0.6381	0.5242	0.6427	0.5468	0.6427	0.5242	0.6373	0.5477	0.6161
glass4	0.6994	0.8762	0.7100	0.8762	0.8121	0.8762	0.8423	0.8423	0.7100	0.8762	0.6994	0.8762	0.7100	0.8423	0.6994	0.7901
glass5	0.8220	0.9507	0.8366	0.9507	0.7489	0.9507	0.8838	0.8838	0.8366	0.9507	0.8220	0.9507	0.8366	0.8838	0.8220	0.8567
glass6	0.8569	0.9016	0.9016	0.9016	0.9016	0.9016	0.9016	0.9016	0.9016	0.9016	0.9016	0.9016	0.9016	0.9016	0.9016	0.8156
haberman	0.4710	0.5149	0.4527	0.5149	0.4527	0.5149	0.5511	0.5492	0.4527	0.5149	0.5551	0.5149	0.4527	0.5501	0.5300	0.5410
iris0	0.9273	0.9313	0.8913	0.9313	0.9313	0.9313	0.9273	0.9273	0.8913	0.9313	0.8873	0.9313	0.8913	0.9273	0.8873	0.9207

Table 2: Average AUC results obtained by LCMine+CAEP using the pattern selection algorithms (Part II).

Databases	Lever	Lift	MDisc	MultInf	NetConf	OddsR	Pearson	RelRisk	SeBag	Spec	Streng	Sup	SupDif	WRACC	χ^2	Zhang
abalone	abalone17vs78910	0.2623	0.6329	0.6221	0.5167	0.6329	0.5181	0.5167	0.6329	0.5178	0.6316	0.6157	0.6316	0.6316	0.6045	0.6329
	abalone19	0.2854	0.5089	0.5000	0.4077	0.5089	0.4077	0.4077	0.5089	0.4072	0.5062	0.5067	0.5067	0.5062	0.4077	0.5089
	abalone19vs10111213	0.2747	0.4330	0.5220	0.4312	0.5374	0.4313	0.4312	0.5374	0.4313	0.5298	0.5374	0.5298	0.5298	0.4278	0.5374
	abalone20vs8910	0.2460	0.5244	0.6487	0.5962	0.6487	0.5179	0.5166	0.6487	0.5179	0.6235	0.6169	0.6235	0.6235	0.5279	0.6487
	abalone21vs8	0.2900	0.6629	0.8151	0.7325	0.6498	0.8151	0.6492	0.8151	0.6492	0.7815	0.7460	0.7815	0.7815	0.6494	0.8151
	abalone3vs1	0.7030	0.7030	0.7030	0.7030	0.7030	0.7030	0.7030	0.7030	0.7030	0.7030	0.6970	0.7030	0.7030	0.7030	0.7030
	abalone6vs18	0.3066	0.5725	0.6965	0.6610	0.5619	0.6965	0.5623	0.6965	0.5623	0.6829	0.6557	0.6829	0.6829	0.5598	0.6965
	cargood	0.3259	0.4323	0.4758	0.7286	0.6288	0.6311	0.6320	0.4758	0.6319	0.7255	0.7215	0.7255	0.7255	0.6219	0.4757
	cargood	0.3757	0.4854	0.5001	0.6354	0.6341	0.5001	0.6354	0.5001	0.6354	0.7349	0.7287	0.7349	0.7349	0.6205	0.5001
	cleveland0vs4	0.2721	0.5957	0.7338	0.7204	0.5686	0.6699	0.5873	0.7338	0.6783	0.7143	0.7143	0.7143	0.7143	0.7211	0.7338
dermatology	dermatology6	0.3820	0.8803	0.9473	0.9228	0.9039	0.9894	0.9039	0.9894	0.9039	0.9228	0.9366	0.9228	0.9228	0.9894	0.9894
	ecoli0vs1	0.3082	0.8102	0.9691	0.9688	0.9685	0.9688	0.9685	0.9691	0.9685	0.9688	0.9182	0.9688	0.9688	0.9730	0.9691
	ecoli01vs235	0.2587	0.6286	0.7559	0.7908	0.6412	0.7559	0.7908	0.6412	0.7559	0.7857	0.7559	0.7857	0.7857	0.7559	0.7559
	ecoli013vs26	0.3299	0.6646	0.8078	0.8292	0.6684	0.8078	0.8292	0.6684	0.8078	0.8220	0.7638	0.8220	0.8220	0.8162	0.8078
	ecoli0146vs5	0.2653	0.6339	0.7709	0.6337	0.7709	0.6337	0.6337	0.7709	0.6337	0.7436	0.7110	0.7436	0.7436	0.6253	0.7709
	ecoli0147vs2356	0.3241	0.6420	0.7741	0.7883	0.6526	0.7741	0.6991	0.7883	0.6526	0.8016	0.7448	0.8016	0.8016	0.7787	0.7741
	ecoli0147vs26	0.3410	0.6875	0.7517	0.8066	0.6590	0.7517	0.6571	0.8066	0.6571	0.7839	0.7517	0.7839	0.7839	0.7065	0.7517
	ecoli0234vs5	0.3453	0.6875	0.8324	0.8346	0.6927	0.7940	0.6952	0.8324	0.6952	0.8368	0.7705	0.8368	0.8368	0.7928	0.7997
	ecoli0267vs35	0.3229	0.5928	0.6927	0.7812	0.6330	0.7668	0.6933	0.6927	0.7668	0.8652	0.7944	0.8652	0.8652	0.8623	0.8324
	ecoli034vs5	0.3348	0.7242	0.8814	0.7794	0.7267	0.7533	0.7260	0.8814	0.7260	0.7846	0.7287	0.7846	0.7846	0.7668	0.6927
ecoli	ecoli0346vs5	0.3525	0.7010	0.8625	0.8581	0.7144	0.8625	0.7144	0.8625	0.7137	0.8770	0.7985	0.8770	0.8770	0.8560	0.8814
	ecoli0347vs6	0.3202	0.6657	0.8062	0.8229	0.6889	0.7374	0.6944	0.8062	0.6944	0.8462	0.7812	0.8462	0.8462	0.8062	0.8625
	ecoli046vs5	0.3425	0.7077	0.8554	0.8773	0.7019	0.8554	0.7188	0.8554	0.7194	0.8830	0.8035	0.8830	0.8830	0.8793	0.8554
	ecoli067vs35	0.3102	0.6577	0.7871	0.8472	0.6668	0.7871	0.6842	0.7871	0.6842	0.8453	0.7744	0.8453	0.8453	0.8370	0.7871
	ecoli067vs5	0.2995	0.6036	0.7032	0.8465	0.6662	0.7032	0.6882	0.7032	0.6882	0.8458	0.7741	0.8458	0.8458	0.7975	0.7032
	ecoli1	0.2792	0.6487	0.7706	0.8397	0.7022	0.7706	0.7047	0.7706	0.7047	0.8377	0.8377	0.8377	0.8377	0.8404	0.7706
	ecoli2	0.3660	0.7096	0.8566	0.7793	0.7084	0.8566	0.7084	0.8566	0.7091	0.8077	0.8010	0.8077	0.8077	0.7265	0.8566
	ecoli3	0.2835	0.6412	0.7746	0.7655	0.6620	0.7746	0.6588	0.7746	0.6449	0.7613	0.7491	0.7613	0.7613	0.7426	0.7746
	ecoli4	0.3088	0.6554	0.8010	0.7336	0.7002	0.8010	0.7029	0.8010	0.7029	0.8424	0.7899	0.8424	0.8424	0.8529	0.8010
	flareF	0.2593	0.4665	0.5647	0.5628	0.4605	0.5647	0.4605	0.5647	0.4655	0.5684	0.5904	0.5647	0.5647	0.5553	0.5647
glass	glass0	0.4031	0.7143	0.8239	0.7945	0.6912	0.8239	0.7873	0.6912	0.7873	0.7965	0.7965	0.7965	0.7965	0.8239	0.8239
	glass0123vs456	0.3184	0.7498	0.9059	0.9067	0.7521	0.9059	0.7521	0.9059	0.7521	0.9068	0.9067	0.9068	0.9067	0.9059	0.9059
	glass0146vs2	0.2766	0.5561	0.6880	0.5764	0.5774	0.6880	0.5758	0.5774	0.5595	0.6754	0.6493	0.6754	0.6754	0.5667	0.6880
	glass015vs2	0.2766	0.5561	0.6880	0.5764	0.5774	0.6880	0.5758	0.5774	0.5595	0.6754	0.6493	0.6754	0.6754	0.5667	0.6880
	glass016vs2	0.3047	0.4791	0.4922	0.4755	0.4821	0.4837	0.4813	0.4755	0.4891	0.5941	0.5788	0.5941	0.5941	0.4837	0.5755
	glass016vs2	0.2894	0.4922	0.6079	0.4736	0.4743	0.6079	0.4736	0.4743	0.6079	0.5701	0.5675	0.5701	0.5701	0.4649	0.6079
	glass016vs5	0.3005	0.7708	0.8840	0.7758	0.7836	0.7842	0.7842	0.7758	0.7842	0.8791	0.8785	0.8791	0.8791	0.7999	0.9428
	glass04vs5	0.4115	0.8275	0.8021	0.9220	0.9041	0.9220	0.9041	0.9220	0.9041	0.9041	0.8875	0.9041	0.9041	0.9220	0.9220
	glass06vs5	0.3055	0.7890	0.8921	0.7964	0.8030	0.9668	0.8030	0.9668	0.8030	0.8030	0.8703	0.8030	0.8030	0.7964	0.9668
	glass1	0.4138	0.6620	0.7632	0.7272	0.6368	0.7632	0.6329	0.7632	0.6353	0.7193	0.7201	0.7193	0.7193	0.7302	0.7632
haberman	glass2	0.3028	0.5242	0.6427	0.5468	0.5477	0.6427	0.5468	0.5477	0.5468	0.6378	0.6401	0.6378	0.6378	0.5386	0.6427
	glass4	0.3235	0.7100	0.8762	0.7313	0.6994	0.8762	0.6994	0.8762	0.6994	0.8423	0.7901	0.8423	0.8423	0.8351	0.8762
	glass5	0.2934	0.8366	0.8922	0.8220	0.8220	0.8922	0.8220	0.8922	0.8220	0.8838	0.8567	0.8838	0.8838	0.8740	0.9507
	glass6	0.3687	0.7346	0.9016	0.8842	0.7356	0.9016	0.7316	0.9016	0.7316	0.8775	0.8189	0.8775	0.8775	0.8811	0.9016
	haberman	0.3361	0.4527	0.5149	0.5550	0.4746	0.5357	0.4739	0.5149	0.5357	0.5532	0.5431	0.5532	0.5532	0.5357	0.5149
	iris0	0.4311	0.6361	0.9273	0.9273	0.9313	0.9273	0.9273	0.9313	0.9273	0.9273	0.9211	0.9273	0.9273	0.9273	0.9313

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Table 3: Average AUC results obtained by LCMine+CAEP using the pattern selection algorithms (Part III).

Databases	ACC	Bins	Cconf	Cole	ColStr	Conf	Cos	Cover	Dep	ExCex	Gain	GR	InfGain	Jacc	Klos	Lap
krak3konevsffteen	0.9369	0.9569	0.8615	0.9569	0.7504	0.9229	0.9136	0.8754	0.8615	0.9569	0.7612	0.9569	0.8615	0.8754	0.7612	0.8548
krak3threevsleven	0.7592	0.8206	0.7717	0.8206	0.8033	0.9229	0.9136	0.8754	0.7717	0.8206	0.7592	0.8206	0.8615	0.8754	0.7592	0.8338
krak3zerovsight	0.7127	0.7955	0.7955	0.7955	0.7733	0.7955	0.8096	0.8096	0.6965	0.7955	0.7955	0.7955	0.6965	0.8096	0.7955	0.8096
krak3zerovsffteen	0.9995	0.8340	0.8182	0.8340	0.6502	0.8340	0.8985	0.8985	0.8182	0.8340	0.8208	0.8340	0.8182	0.8985	0.8208	0.8985
krak3zeroonevsdraw	0.7427	0.8938	0.7445	0.8938	0.8918	0.8918	0.8918	0.8918	0.7445	0.8938	0.8719	0.8938	0.7445	0.8918	0.7424	0.8356
led7dig102456789vs1	0.6260	0.6619	0.5708	0.6619	0.6442	0.6619	0.7272	0.7428	0.5708	0.6619	0.7271	0.6619	0.7405	0.7359	0.6173	0.6888
lymphography nor-	0.6779	0.6800	0.6620	0.6800	0.5200	0.6800	0.6851	0.6851	0.6620	0.6800	0.6079	0.6800	0.6620	0.6851	0.5893	0.6659
malibrosis																
newthyroid1	0.8384	0.9229	0.8239	0.9229	0.5437	0.9229	0.9136	0.8754	0.8239	0.9229	0.8066	0.9229	0.8239	0.9136	0.8079	0.8533
newthyroid2	0.8271	0.9138	0.7512	0.9138	0.5560	0.9138	0.9318	0.9136	0.7512	0.9138	0.7966	0.9138	0.7512	0.9318	0.7945	0.8434
pageblock0	0.7461	0.7713	0.6740	0.7713	0.9061	0.7713	0.9036	0.9050	0.6740	0.7713	0.9036	0.7713	0.6740	0.9044	0.8657	0.9061
pageblock13vs4	0.8050	0.9870	0.8577	0.9870	0.8042	0.9870	0.8398	0.8398	0.8577	0.9870	0.8050	0.9870	0.8577	0.8398	0.8052	0.8544
pima	0.6219	0.6846	0.6046	0.6846	0.7238	0.6846	0.7237	0.7241	0.6046	0.6846	0.7221	0.6846	0.6046	0.7237	0.7191	0.7181
poker8vs6	0.4240	0.4957	0.4058	0.4957	0.4215	0.4957	0.5234	0.5231	0.4058	0.4957	0.4427	0.4957	0.4058	0.5234	0.4240	0.5233
poker8vs5	0.4475	0.5428	0.4385	0.5428	0.4416	0.5428	0.5549	0.5543	0.4385	0.5428	0.4475	0.5428	0.4385	0.5547	0.4476	0.5463
poker8vs6	0.4234	0.5386	0.4341	0.5386	0.4217	0.5386	0.5261	0.5260	0.4341	0.5386	0.4234	0.5386	0.4341	0.5261	0.4234	0.5221
poker9vs7	0.4870	0.6053	0.4997	0.6053	0.5535	0.6053	0.5840	0.5840	0.4997	0.6053	0.4875	0.6053	0.4997	0.5840	0.4870	0.5840
segment0	0.7869	0.9279	0.7750	0.9279	0.9041	0.9279	0.9126	0.9126	0.7750	0.9279	0.8359	0.9279	0.7750	0.9126	0.8117	0.9629
shuttle2vs5	0.8586	0.8586	0.8006	0.8586	0.6156	0.8586	0.8586	0.8586	0.8006	0.8586	0.8006	0.8586	0.8006	0.8586	0.8006	0.7976
shuttle6vs23	0.9264	0.9368	0.7617	0.9368	0.6341	0.9368	0.9464	0.9464	0.7617	0.9368	0.7717	0.9368	0.7617	0.9464	0.7517	0.8246
shuttlec0vs4	0.7798	0.7799	0.7733	0.7799	0.4559	0.7799	0.7798	0.7798	0.7733	0.7799	0.7733	0.7799	0.7733	0.7798	0.7733	0.7798
shuttlec2vs4	0.6323	0.6323	0.6323	0.6323	0.5881	0.6323	0.6323	0.6323	0.6323	0.6323	0.5923	0.6323	0.6323	0.6323	0.5923	0.6045
vehicle0	0.7816	0.9158	0.7732	0.9158	0.9272	0.9158	0.9272	0.9270	0.7732	0.9158	0.9800	0.9158	0.7732	0.9272	0.8945	0.9390
vehicle1	0.6003	0.6966	0.5991	0.6966	0.7065	0.6966	0.7065	0.7060	0.5991	0.6966	0.7050	0.6966	0.5991	0.7065	0.6899	0.6996
vehicle2	0.7931	0.9586	0.7949	0.9586	0.9508	0.9586	0.9473	0.9473	0.7949	0.9586	0.9415	0.9586	0.7949	0.9473	0.9157	0.9556
vehicle3	0.5943	0.7029	0.5998	0.7029	0.7051	0.7029	0.7041	0.7039	0.5998	0.7029	0.7038	0.7029	0.5998	0.7041	0.6913	0.6940
vowel0	0.8836	0.9002	0.7343	0.9002	0.4909	0.9002	0.8787	0.7343	0.7343	0.9002	0.8803	0.9002	0.7343	0.8787	0.7324	0.8240
winequalityred3vs5	0.4374	0.5460	0.4376	0.5460	0.5302	0.5460	0.5434	0.5431	0.4376	0.5460	0.4442	0.5460	0.4376	0.5434	0.4374	0.5374
winequalityred4	0.4333	0.5534	0.4424	0.5534	0.4876	0.5534	0.5392	0.5410	0.4424	0.5534	0.5270	0.5534	0.4424	0.5392	0.4333	0.5310
winequalityred8vs6	0.5280	0.6959	0.5527	0.6959	0.5549	0.6959	0.6449	0.6516	0.5527	0.6959	0.5215	0.6959	0.5527	0.6449	0.5283	0.6255
winequalityred8vs67	0.4556	0.5671	0.4558	0.5671	0.4820	0.5671	0.5622	0.5622	0.4558	0.5671	0.5127	0.5671	0.4558	0.5622	0.4558	0.5544
winequalitywhite3vs7	0.4613	0.6515	0.5183	0.6515	0.5801	0.6515	0.5593	0.5543	0.5183	0.6515	0.5704	0.6515	0.5183	0.5593	0.4613	0.5600
winequalitywhite39vs5	0.4584	0.5794	0.4646	0.5794	0.4828	0.5794	0.5675	0.5678	0.4646	0.5794	0.5631	0.5794	0.4646	0.5675	0.4577	0.5571
winequalitywhite9vs4	0.5946	0.7372	0.5854	0.7372	0.5548	0.7372	0.7309	0.7309	0.5854	0.7372	0.5946	0.7372	0.5854	0.7309	0.5946	0.6914
wisconsin	0.9594	0.9574	0.8043	0.9574	0.7053	0.9574	0.9570	0.9570	0.8043	0.9574	0.9574	0.9574	0.8043	0.9570	0.9570	0.9569
yeast0256vs3789	0.6167	0.6877	0.5841	0.6877	0.7328	0.6877	0.7392	0.7411	0.5841	0.6877	0.7305	0.6877	0.5841	0.7402	0.6348	0.7203
yeast02579vs368	0.6917	0.7648	0.6556	0.7648	0.8100	0.7648	0.8253	0.8253	0.6556	0.7648	0.8102	0.7648	0.6556	0.8254	0.6914	0.8427
yeast0359vs78	0.5430	0.6652	0.5454	0.6652	0.6506	0.6652	0.6603	0.6610	0.5454	0.6652	0.6451	0.6652	0.5454	0.6603	0.5429	0.6347
yeast05679vs4	0.6156	0.6998	0.5835	0.6998	0.7367	0.6998	0.7452	0.7458	0.5835	0.6998	0.7395	0.6998	0.5835	0.7450	0.6177	0.7074
yeast1	0.6086	0.6983	0.6040	0.6983	0.7154	0.6983	0.7170	0.7165	0.6040	0.6983	0.7128	0.6983	0.6040	0.7172	0.7048	0.7097
yeast11vs7	0.5273	0.5969	0.4992	0.5969	0.6251	0.5969	0.6407	0.6482	0.4992	0.5969	0.6208	0.5969	0.4992	0.6413	0.5269	0.6204
yeast1289vs7	0.4938	0.5832	0.4848	0.5832	0.5026	0.5832	0.6043	0.6043	0.4848	0.5832	0.5932	0.5832	0.4848	0.6016	0.4937	0.5922
yeast1458vs7	0.4385	0.5442	0.4382	0.5442	0.4366	0.5442	0.5479	0.5474	0.4382	0.5442	0.5299	0.5442	0.4382	0.5479	0.4410	0.5385
yeast2vs4	0.7244	0.8189	0.6900	0.8189	0.8306	0.8189	0.8877	0.8885	0.6900	0.8189	0.8877	0.8189	0.6900	0.8877	0.7538	0.8866
yeast2vs8	0.5283	0.5704	0.4743	0.5704	0.5076	0.5704	0.6494	0.6492	0.4743	0.5704	0.6295	0.5704	0.4743	0.6494	0.5285	0.6199
yeast3	0.7228	0.8340	0.6937	0.8340	0.8728	0.8340	0.8840	0.8851	0.6937	0.8340	0.8983	0.8340	0.6937	0.8849	0.8442	0.8813
yeast4	0.5700	0.6789	0.5545	0.6789	0.6838	0.6789	0.6902	0.6903	0.5545	0.6789	0.6761	0.6789	0.5545	0.6902	0.5732	0.6668
yeast5	0.7040	0.8577	0.7117	0.8577	0.9921	0.8577	0.8473	0.8458	0.7117	0.8577	0.8468	0.8577	0.7117	0.8473	0.7142	0.8083
yeast6	0.5989	0.6957	0.5846	0.6957	0.6403	0.6957	0.7164	0.7191	0.5846	0.6957	0.6876	0.6957	0.5846	0.7164	0.5989	0.6961
zoo3	0.6143	0.6875	0.6049	0.6875	0.6210	0.6875	0.6143	0.6143	0.6049	0.6875	0.6143	0.6875	0.6049	0.6143	0.6154	0.6901

(continued on next page)

Table 4: Average AUC results obtained by LCMine+CAEP using the pattern selection algorithms (Part IV).

Databases	Lever	Lift	MDisc	MultiInf	NetConf	OddsR	Pearson	RelRisk	SeBag	Spec	Streng	Sup	SupDif	WRACC	χ^2	Zhang
krakovevsfifteen	0.4941	0.8239	0.9229	0.9478	0.8046	0.9324	0.8551	0.8086	0.9229	0.8086	0.9136	0.8584	0.8754	0.8754	0.9571	0.9569
krakakthreevsleven	0.4265	0.7717	0.8206	0.8307	0.7592	0.8206	0.7592	0.7592	0.8206	0.7592	0.9196	0.8754	0.8754	0.8754	0.9571	0.9569
krakakzerovseight	0.5368	0.6965	0.7955	0.8189	0.7127	0.7955	0.7127	0.7955	0.8189	0.7127	0.8096	0.8096	0.8096	0.8096	0.8012	0.7955
krakakzerovfifteen	0.5531	0.8182	0.7270	0.9187	0.9995	0.8340	0.9995	0.9995	0.8340	0.9995	0.8985	0.8985	0.8985	0.8985	0.9570	0.8340
krakakzeronevsdraw	0.4154	0.7445	0.8938	0.8789	0.7417	0.8938	0.8345	0.7424	0.8938	0.7426	0.8918	0.8918	0.8918	0.8918	0.8893	0.8938
led7digit02456789vs1	0.4177	0.3708	0.6619	0.7105	0.5731	0.6619	0.6173	0.5960	0.6619	0.6230	0.7379	0.7201	0.7292	0.7292	0.6352	0.6619
lymphography	0.4376	0.6620	0.6785	0.6630	0.6393	0.6800	0.6865	0.6472	0.6800	0.6472	0.6837	0.6851	0.6830	0.6830	0.6979	0.6800
multibrosis	0.4148	0.8239	0.9229	0.9478	0.8046	0.9324	0.8551	0.8086	0.9229	0.8086	0.9136	0.8584	0.8754	0.8754	0.9571	0.9569
newthyroid1	0.4385	0.7512	0.9138	0.9310	0.7870	0.9138	0.8271	0.7894	0.9138	0.7894	0.9403	0.9403	0.9403	0.9403	0.9386	0.9138
newthyroid2	0.2785	0.6740	0.7713	0.9013	0.7411	0.7713	0.8676	0.7413	0.7713	0.7468	0.9044	0.9087	0.9044	0.9044	0.9046	0.7713
pageblo-cks13vs4	0.3936	0.8577	0.9622	0.8052	0.8052	0.9870	0.8052	0.8052	0.9870	0.8050	0.8398	0.8398	0.8398	0.8398	0.9124	0.9870
pima	0.3562	0.6046	0.6046	0.7220	0.6206	0.6846	0.7192	0.6209	0.6846	0.6218	0.7230	0.7185	0.7230	0.7230	0.7192	0.6846
poker8vs6	0.3787	0.4058	0.4957	0.4428	0.4240	0.4957	0.4240	0.4240	0.4957	0.4240	0.5234	0.5234	0.5234	0.5234	0.4140	0.4957
poker89vs5	0.3320	0.4385	0.5428	0.4475	0.4470	0.5428	0.4475	0.4470	0.5428	0.4475	0.5543	0.5543	0.5543	0.5543	0.4360	0.5428
poker89vs6	0.3709	0.4341	0.5386	0.4234	0.4234	0.5386	0.4234	0.4234	0.5386	0.4234	0.5261	0.5261	0.5261	0.5261	0.4160	0.5386
poker9vs7	0.3059	0.4997	0.6053	0.5648	0.4862	0.6053	0.4875	0.4866	0.6053	0.4875	0.5840	0.5840	0.5840	0.5840	0.6053	0.4997
segment0	0.2922	0.7750	0.9279	0.9100	0.7869	0.9279	0.8367	0.7869	0.9279	0.7869	0.9126	0.9126	0.9126	0.9126	0.9756	0.9279
shuttle2vs5	0.4752	0.8006	0.8348	0.8586	0.8586	0.8586	0.8586	0.8586	0.8586	0.8586	0.8586	0.8586	0.8586	0.8586	0.8586	0.8586
shuttle6vs23	0.4861	0.7617	0.6578	0.9464	0.9255	0.9368	0.9464	0.9264	0.9368	0.9464	0.9464	0.9464	0.9464	0.9464	0.9350	0.9368
shuttlec0vs4	0.4505	0.7733	0.7778	0.7798	0.7798	0.7798	0.7798	0.7798	0.7798	0.7798	0.7798	0.7798	0.7798	0.7798	0.7798	0.7798
shuttlec2vs4	0.5539	0.6323	0.5715	0.6123	0.6323	0.6323	0.6123	0.6323	0.6323	0.6323	0.5923	0.5923	0.5923	0.5923	0.6323	0.6323
vehicle0	0.3217	0.7732	0.9158	0.9299	0.7840	0.9158	0.9082	0.7838	0.9158	0.7837	0.9294	0.9372	0.9294	0.9294	0.9353	0.9158
vehicle1	0.3589	0.5991	0.6966	0.7053	0.5988	0.6966	0.6965	0.5992	0.6966	0.5995	0.7067	0.7067	0.7067	0.7067	0.6953	0.6966
vehicle2	0.3505	0.7949	0.9586	0.9411	0.7928	0.9586	0.9231	0.7929	0.9586	0.7931	0.9473	0.9559	0.9473	0.9473	0.9491	0.9586
vehicle3	0.3470	0.5998	0.7029	0.7010	0.6026	0.7029	0.6917	0.6017	0.7029	0.5947	0.7047	0.6908	0.7047	0.7047	0.6917	0.7029
vowel0	0.3449	0.7343	0.9002	0.8767	0.7296	0.9002	0.8801	0.7324	0.9002	0.7324	0.8787	0.8157	0.8787	0.8787	0.9002	0.9002
winequalityred3vs5	0.2448	0.4376	0.5460	0.5430	0.4382	0.5460	0.4442	0.4374	0.5460	0.4442	0.5434	0.5434	0.5434	0.5434	0.5211	0.5460
winequalityred4	0.2823	0.4424	0.5534	0.5288	0.4332	0.5534	0.4334	0.4332	0.5534	0.4334	0.5393	0.5329	0.5393	0.5393	0.4303	0.5534
winequalityred4vs6	0.2585	0.5527	0.6959	0.6381	0.5280	0.6959	0.5217	0.5279	0.6959	0.5215	0.6449	0.6253	0.6451	0.6451	0.5724	0.6959
winequalityred8vs67	0.2871	0.4558	0.5671	0.5574	0.4557	0.5671	0.4557	0.4571	0.5671	0.4571	0.5622	0.5543	0.5622	0.5622	0.4442	0.5671
winequalitywhite3vs7	0.3322	0.5183	0.6515	0.5682	0.4614	0.6515	0.5464	0.4614	0.6515	0.4613	0.5593	0.5593	0.5593	0.5593	0.5837	0.6515
winequalitywhite30vs5	0.2919	0.4646	0.5794	0.5654	0.5946	0.5794	0.5946	0.5946	0.5794	0.5946	0.5675	0.5675	0.5675	0.5675	0.4955	0.5794
winequalitywhite9vs4	0.3667	0.5854	0.7059	0.5946	0.5946	0.7059	0.5946	0.5946	0.7059	0.5946	0.7308	0.6915	0.7308	0.7308	0.5940	0.7372
wisconsin	0.3156	0.8043	0.9574	0.9570	0.9569	0.9574	0.9570	0.9572	0.9574	0.9570	0.9570	0.9570	0.9570	0.9570	0.9572	0.9574
yeast0256vs3789	0.3115	0.5841	0.6877	0.7333	0.6106	0.6877	0.6530	0.6132	0.6877	0.6159	0.7402	0.7190	0.7401	0.7401	0.6549	0.6877
yeast02579vs368	0.3001	0.6556	0.7648	0.8125	0.6941	0.7648	0.7311	0.6936	0.7648	0.6917	0.8254	0.8253	0.8253	0.8253	0.7648	0.7648
yeast0359vs78	0.2914	0.5454	0.6652	0.6488	0.5505	0.6652	0.5405	0.5461	0.6652	0.5402	0.6815	0.6284	0.6604	0.6604	0.5422	0.6652
yeast05679vs4	0.2805	0.5835	0.6998	0.7397	0.6191	0.6998	0.6957	0.6193	0.6998	0.6196	0.7470	0.7055	0.7470	0.7470	0.6952	0.6998
yeast1	0.3623	0.6040	0.6983	0.7132	0.6088	0.6983	0.7055	0.6086	0.6983	0.6088	0.7161	0.7098	0.7161	0.7161	0.7056	0.6983
yeast1lv7	0.2515	0.4992	0.5969	0.6273	0.5308	0.5969	0.5278	0.5307	0.5969	0.5245	0.6284	0.6405	0.6405	0.6405	0.5290	0.5969
yeast1289vs7	0.2904	0.4848	0.5832	0.5961	0.4948	0.5832	0.4937	0.4947	0.5832	0.4936	0.6016	0.5937	0.6016	0.6016	0.4942	0.5832
yeast1458vs7	0.2889	0.4382	0.5442	0.5310	0.4414	0.5442	0.4385	0.4411	0.5442	0.4385	0.5479	0.5354	0.5479	0.5479	0.4419	0.5442
yeast2vs4	0.2446	0.6900	0.8189	0.8841	0.7207	0.8189	0.8429	0.7229	0.8189	0.7280	0.8877	0.8930	0.8877	0.8877	0.5282	0.8189
yeast2vs8	0.3267	0.4743	0.5704	0.6448	0.4757	0.5704	0.5281	0.4757	0.5704	0.5281	0.6494	0.6237	0.6494	0.6494	0.5282	0.5704
yeast3	0.2512	0.6937	0.8340	0.8585	0.7181	0.8340	0.8447	0.7176	0.8340	0.7228	0.8813	0.8800	0.8813	0.8813	0.8459	0.8340
yeast4	0.2335	0.5545	0.6789	0.6761	0.5679	0.6789	0.6717	0.5679	0.6789	0.5750	0.6916	0.6688	0.6934	0.6934	0.6610	0.6789
yeast4	0.2841	0.7117	0.8577	0.8575	0.7132	0.8577	0.8467	0.7144	0.8577	0.7144	0.8575	0.8575	0.8575	0.8575	0.8575	0.8577
yeast6	0.2678	0.5846	0.6957	0.7106	0.5987	0.6957	0.6189	0.5989	0.6957	0.6189	0.7164	0.6988	0.7164	0.7164	0.7005	0.6957
yeast6	0.3715	0.6049	0.6649	0.6143	0.6154	0.7674	0.6143	0.6143	0.6875	0.6143	0.6143	0.6890	0.6143	0.6143	0.6143	0.6875