

Supplementary tables for “Random Balance: Ensembles of Variable Priors Classifiers for Imbalanced Data”

José F. Díez-Pastor

Juan J. Rodríguez

Cesar I. García-Osorio

Ludmila I. Kuncheva

Table 1: AUC for ensembles in the the Data-processing family.

Dataset	ESM100	ESM200	ESM500	ESM	ERUS	E-RB	EopB	EopS	EopU	ERUSR	EPart
hddt_boundary	0.5985	0.6138	0.6210	0.6258	0.7183	0.6748	0.6476	0.6168	0.6414	0.7200	0.7199
hddt_breast-y	0.6034	0.6049	0.5880	0.6038	0.6612	0.6414	0.6358	0.6160	0.6483	0.6661	0.6626
hddt_cam	0.6622	0.6679	0.6648	0.6651	0.7697	0.7277	0.7347	0.6667	0.7675	0.7704	0.7687
hddt_compustat	0.9032	0.9076	0.9072	0.8966	0.8805	0.9072	0.9024	0.8999	0.8681	0.8820	0.8809
hddt_covtype	0.9921	0.9927	0.9925	0.9916	0.9900	0.9933	0.9922	0.9920	0.9872	0.9899	0.9899
hddt_credit-g	0.7061	0.6991	0.6917	0.7031	0.7427	0.7508	0.7279	0.7130	0.7186	0.7506	0.7433
hddt_estate	0.6322	0.6172	0.5929	0.5896	0.6475	0.6239	0.6404	0.6185	0.6459	0.6475	0.6475
hddt_german-numer	0.7360	0.7304	0.7223	0.7350	0.7649	0.7750	0.7452	0.7344	0.7423	0.7706	0.7649
hddt_heart-v	0.6758	0.6521	0.6459	0.6545	0.6669	0.6907	0.6701	0.6640	0.6464	0.6696	0.6653
hddt_hypo	0.9857	0.9870	0.9875	0.9877	0.9854	0.9911	0.9899	0.9871	0.9788	0.9871	0.9872
hddt_ism	0.9336	0.9368	0.9392	0.9332	0.9315	0.9394	0.9378	0.9363	0.9190	0.9326	0.9340
hddt_letter	0.9974	0.9974	0.9977	0.9952	0.9984	0.9990	0.9976	0.9970	0.9954	0.9984	0.9985
hddt_oil	0.9027	0.9015	0.8958	0.8860	0.9106	0.9128	0.8987	0.8827	0.9016	0.9143	0.9129
hddt_optdigits	0.9958	0.9962	0.9964	0.9966	0.9969	0.9986	0.9967	0.9964	0.9949	0.9969	0.9968
hddt_page	0.9903	0.9904	0.9898	0.9900	0.9902	0.9918	0.9905	0.9901	0.9894	0.9901	0.9903
hddt PENDIGITS	0.9985	0.9991	0.9989	0.9987	0.9985	0.9995	0.9991	0.9988	0.9945	0.9985	0.9984
hddt_phoneme	0.9278	0.9305	0.9298	0.9312	0.9253	0.9339	0.9295	0.9278	0.9108	0.9307	0.9247
hddt_PhosS	0.6976	0.7022	0.7012	0.6815	0.7590	0.7183	0.7473	0.7077	0.7536	0.7580	0.7572
hddt_satimage	0.9443	0.9457	0.9453	0.9430	0.9474	0.9513	0.9438	0.9430	0.9305	0.9477	0.9479
hddt_segment	0.9911	0.9921	0.9932	0.9932	0.9973	0.9991	0.9945	0.9930	0.9893	0.9980	0.9968
keel_abalone19	0.7481	0.7532	0.7448	0.7165	0.7729	0.7427	0.7314	0.7193	0.7350	0.7783	0.7748
keel_abalone9-18	0.7940	0.7923	0.7874	0.7729	0.7680	0.7919	0.7870	0.7853	0.7625	0.7663	0.7664
keel_cleveland-0_vs_4	0.9035	0.9073	0.9193	0.8764	0.9111	0.9377	0.9157	0.8911	0.9092	0.9103	0.9038
keel_ecoli-0-1-3-7_vs_2-6	0.7926	0.8441	0.8439	0.8398	0.9224	0.9278	0.9292	0.8277	0.8718	0.9155	0.9378
keel_ecoli-0-1-4-6_vs_5	0.9532	0.9501	0.9258	0.9098	0.9506	0.9654	0.9337	0.9219	0.9396	0.9526	0.9501
keel_ecoli-0-1-4-7_vs_2-3	0.9110	0.9053	0.9150	0.8991	0.9140	0.9308	0.9043	0.8978	0.8968	0.9141	0.9168
keel_ecoli-0-1-4-7_vs_5-6	0.9480	0.9329	0.9269	0.9119	0.9243	0.9521	0.9081	0.9261	0.9142	0.9217	0.9270
keel_ecoli-0-1_vs_2-3-5	0.9484	0.9476	0.9302	0.9302	0.9320	0.9480	0.9183	0.9134	0.9361	0.9314	0.9313
keel_ecoli-0-1_vs_5	0.9256	0.9241	0.8926	0.8660	0.9434	0.9579	0.9380	0.8850	0.9279	0.9453	0.9469
keel_ecoli-0-2-3-4_vs_5	0.9271	0.9262	0.9280	0.9255	0.9669	0.9690	0.9425	0.9221	0.9420	0.9625	0.9660
keel_ecoli-0-2-6-7_vs_3-5	0.9110	0.9129	0.9212	0.9165	0.9202	0.9261	0.9151	0.9141	0.9156	0.9199	0.9218
keel_ecoli-0-3-4-6_vs_5	0.9234	0.9189	0.9049	0.9023	0.9474	0.9568	0.9288	0.8984	0.9374	0.9471	0.9442
keel_ecoli-0-3-4-7_vs_5-6	0.9291	0.9233	0.9196	0.9092	0.9374	0.9474	0.9106	0.9115	0.9257	0.9357	0.9399
keel_ecoli-0-3-4_vs_5	0.8937	0.8966	0.8902	0.8757	0.9403	0.9619	0.9342	0.8793	0.9449	0.9477	0.9410
keel_ecoli-0-4-6_vs_5	0.9528	0.9361	0.9157	0.9115	0.9671	0.9677	0.9563	0.9222	0.9649	0.9625	0.9681
keel_ecoli-0-6-7_vs_3-5	0.8812	0.8921	0.8986	0.9083	0.9254	0.9213	0.9110	0.8911	0.8815	0.9211	0.9208
keel_ecoli-0-6-7_vs_5	0.9090	0.9297	0.9459	0.9541	0.9565	0.9541	0.9255	0.9290	0.9231	0.9587	0.9572
keel_ecoli-0_vs_1	0.9843	0.9844	0.9858	0.9845	0.9859	0.9954	0.9860	0.9831	0.9843	0.9903	0.9862
keel_ecoli1	0.9477	0.9453	0.9433	0.9450	0.9557	0.9543	0.9541	0.9445	0.9472	0.9556	0.9558
keel_ecoli2	0.9208	0.9246	0.9353	0.9351	0.9392	0.9429	0.9351	0.9265	0.9285	0.9387	0.9408
keel_ecoli3	0.9097	0.9156	0.9181	0.9155	0.9359	0.9391	0.9221	0.9045	0.9106	0.9368	0.9338
keel_ecoli4	0.9229	0.9255	0.9281	0.8896	0.9653	0.9630	0.9154	0.8871	0.9288	0.9607	0.9628
keel_glass-0-1-2-3_vs_4-5	0.9454	0.9461	0.9461	0.9466	0.9509	0.9724	0.9504	0.9463	0.9502	0.9554	0.9513
keel_glass-0-1-4-6_vs_2	0.7098	0.6998	0.7089	0.7041	0.6993	0.7662	0.7359	0.6820	0.7219	0.7271	0.7132
keel_glass-0-1-5_vs_2	0.7057	0.7202	0.6865	0.6959	0.7135	0.7551	0.7216	0.6992	0.6893	0.6801	0.7030
keel_glass-0-1-6_vs_2	0.6754	0.6804	0.6618	0.6464	0.6641	0.7335	0.7166	0.6614	0.6717	0.6670	0.6739
keel_glass-0-1-6_vs_5	0.9889	0.9903	0.9949	0.9897	0.9808	0.9948	0.9935	0.9883	0.9893	0.9776	0.9861
keel_glass-0-4_vs_5	0.9940	0.9940	0.9940	0.9940	0.9940	0.9957	0.9940	0.9940	0.9940	0.9952	0.9940
keel_glass-0-6_vs_5	0.9476	0.9472	0.9468	0.9464	0.9844	0.9843	0.9845	0.9468	0.9631	0.9861	0.9803
keel_glass0	0.8400	0.8413	0.8512	0.8389	0.8601	0.8593	0.8384	0.8255	0.8327	0.8623	0.8516
keel_glass1	0.8012	0.8046	0.7963	0.7936	0.8056	0.8146	0.7974	0.7843	0.7723	0.8207	0.8114
keel_glass2	0.7548	0.7800	0.7903	0.7838	0.7434	0.8214	0.7772	0.7506	0.7458	0.7560	0.7527
keel_glass4	0.8898	0.8962	0.8930	0.8235	0.8983	0.9117	0.9092	0.8347	0.8905	0.9072	0.9080
keel_glass5	0.9908	0.9898	0.9906	0.9888	0.9714	0.9922	0.9905	0.9873	0.9910	0.9717	0.9701

Continued on next page

Table 1: AUC for ensembles in the the Data-processing family.

Dataset	ESM100	ESM200	ESM500	ESM	ERUS	E-RB	EopB	EopS	EopU	ERUSR	EPart
keel_glass6	0.9428	0.9485	0.9481	0.9441	0.9525	0.9530	0.9494	0.9418	0.9353	0.9543	0.9444
keel_haberman	0.6971	0.6965	0.7025	0.6937	0.7098	0.7090	0.7074	0.6894	0.6986	0.7122	0.7102
keel_liris0	0.9820	0.9820	0.9820	0.9820	0.9820	1.0000	0.9820	0.9820	0.9820	0.9820	0.9820
keel_led7digit-0-2-4-5-6-	0.9323	0.9399	0.9420	0.9438	0.9539	0.9577	0.9482	0.9450	0.9459	0.9548	0.9533
keel_new-thyroid1	0.9699	0.9670	0.9651	0.9647	0.9934	0.9936	0.9669	0.9583	0.9644	0.9925	0.9916
keel_new-thyroid2	0.9765	0.9703	0.9769	0.9690	0.9929	0.9950	0.9817	0.9744	0.9765	0.9936	0.9927
keel_page-blocks-1-3_vs_4	0.9937	0.9936	0.9957	0.9766	0.9988	0.9997	0.9987	0.9762	0.9967	0.9986	0.9994
keel_page-blocks0	0.9898	0.9897	0.9892	0.9891	0.9892	0.9913	0.9896	0.9894	0.9880	0.9891	0.9890
keel_pima	0.8035	0.8039	0.8023	0.8035	0.8126	0.8185	0.8047	0.8002	0.7989	0.8181	0.8122
keel_segment0	0.9924	0.9936	0.9928	0.9919	0.9955	0.9983	0.9938	0.9931	0.9907	0.9965	0.9958
keel_shuttle-c0-vs-c4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999	0.9999	0.9999	1.0000	1.0000
keel_shuttle-c2-vs-c4	1.0000	1.0000	1.0000	1.0000	0.9997	1.0000	0.9656	0.9656	0.9656	1.0000	1.0000
keel_vehicle0	0.9773	0.9776	0.9787	0.9786	0.9887	0.9885	0.9837	0.9769	0.9798	0.9886	0.9882
keel_vehicle1	0.8296	0.8325	0.8270	0.8318	0.8459	0.8452	0.8381	0.8306	0.8157	0.8480	0.8457
keel_vehicle2	0.9833	0.9833	0.9825	0.9834	0.9929	0.9936	0.9896	0.9796	0.9856	0.9929	0.9932
keel_vehicle3	0.8342	0.8312	0.8215	0.8310	0.8414	0.8478	0.8373	0.8246	0.8126	0.8431	0.8422
keel_vowel0	0.9935	0.9943	0.9968	0.9957	0.9898	0.9965	0.9965	0.9948	0.9793	0.9905	0.9892
keel_wisconsin	0.9855	0.9861	0.9854	0.9851	0.9904	0.9921	0.9888	0.9857	0.9891	0.9907	0.9908
keel_yeast-0-2-5-6_vs_3-7	0.8113	0.8252	0.8320	0.8345	0.8559	0.8449	0.8439	0.8316	0.8480	0.8551	0.8568
keel_yeast-0-2-5-7-9_vs_3	0.9205	0.9343	0.9391	0.9366	0.9433	0.9483	0.9421	0.9360	0.9439	0.9464	0.9442
keel_yeast-0-3-5-9_vs_7-8	0.7517	0.7511	0.7277	0.7336	0.7695	0.7573	0.7454	0.7332	0.7566	0.7707	0.7740
keel_yeast-0-5-6-7-9_vs_4	0.8799	0.8782	0.8792	0.8795	0.8914	0.8931	0.8850	0.8809	0.8790	0.8896	0.8878
keel_yeast-1-2-8-9_vs_7	0.7953	0.7885	0.7587	0.7245	0.7640	0.7373	0.7467	0.7406	0.7610	0.7677	0.7720
keel_yeast-1-4-5-8_vs_7	0.6618	0.6447	0.6424	0.6268	0.6857	0.6477	0.6393	0.6250	0.6757	0.6775	0.6837
keel_yeast-1_vs_7	0.8336	0.8238	0.8112	0.7734	0.8100	0.8096	0.7941	0.7979	0.8243	0.8123	0.8084
keel_yeast-2_vs_4	0.9695	0.9736	0.9736	0.9785	0.9783	0.9799	0.9779	0.9763	0.9755	0.9784	0.9789
keel_yeast-2_vs_8	0.7865	0.7865	0.8176	0.7960	0.7905	0.8167	0.7848	0.7860	0.7704	0.7895	0.7860
keel_yeast1	0.7770	0.7771	0.7736	0.7769	0.7925	0.7949	0.7804	0.7689	0.7719	0.7966	0.7927
keel_yeast3	0.9703	0.9706	0.9721	0.9707	0.9720	0.9741	0.9721	0.9682	0.9658	0.9721	0.9725
keel_yeast4	0.9303	0.9298	0.9305	0.9256	0.9345	0.9335	0.9330	0.9282	0.9313	0.9342	0.9356
keel_yeast5	0.9618	0.9734	0.9745	0.9627	0.9907	0.9897	0.9816	0.9589	0.9876	0.9909	0.9913
keel_yeast6	0.9006	0.8981	0.8979	0.8884	0.9281	0.9137	0.9031	0.8952	0.8981	0.9301	0.9325

Table 2: F-Measure for ensembles in the the Data-processing family.

Dataset	ESM100	ESM200	ESM500	ESM	ERUS	E-RB	EopB	EopS	EopU	ERUSR	EPart
hddt_boundary	0.0805	0.0871	0.0910	0.1204	0.1111	0.1421	0.1001	0.0850	0.0586	0.1106	0.1104
hddt_breast-y	0.4090	0.4263	0.4338	0.4014	0.4789	0.4417	0.4307	0.4183	0.4321	0.4780	0.4754
hddt_cam	0.1525	0.1622	0.1551	0.1598	0.2040	0.1922	0.2096	0.1603	0.2352	0.2037	0.2044
hddt_compustat	0.3000	0.3725	0.4089	0.3648	0.2109	0.3404	0.3761	0.3826	0.2089	0.2090	0.2097
hddt_covtype	0.8660	0.8718	0.8670	0.8618	0.6951	0.8517	0.8614	0.8616	0.8450	0.6937	0.6945
hddt_credit-g	0.4901	0.4892	0.4926	0.4856	0.5575	0.5536	0.5224	0.4946	0.5135	0.5616	0.5594
hddt_estate	0.0638	0.1447	0.2101	0.2212	0.2710	0.2425	0.1456	0.0787	0.1591	0.2713	0.2746
hddt_german-numer	0.5139	0.5092	0.5120	0.5214	0.5872	0.5819	0.5342	0.5148	0.5403	0.5804	0.5825
hddt_heart-v	0.4106	0.3967	0.3892	0.3978	0.4523	0.4250	0.4255	0.3669	0.3677	0.4523	0.4563
hddt_hypo	0.8946	0.8844	0.8797	0.8393	0.7219	0.8685	0.8562	0.8723	0.8733	0.7181	0.7187
hddt_ism	0.6637	0.6586	0.6502	0.5498	0.3209	0.5359	0.5285	0.6278	0.5922	0.3177	0.3225
hddt_letter	0.9454	0.9496	0.9455	0.9292	0.7793	0.9569	0.9386	0.9420	0.9317	0.7768	0.7773
hddt_oil	0.4802	0.5064	0.4894	0.4246	0.2583	0.4510	0.4121	0.4662	0.4139	0.2611	0.2605
hddt_optdigits	0.9741	0.9749	0.9716	0.9717	0.9450	0.9793	0.9728	0.9725	0.9717	0.9406	0.9467
hddt_page	0.8730	0.8703	0.8487	0.8410	0.7820	0.8498	0.8542	0.8550	0.8689	0.7765	0.7819
hddt_pendigits	0.9608	0.9666	0.9645	0.9638	0.9330	0.9725	0.9647	0.9619	0.9459	0.9282	0.9313
hddt_phoneme	0.7785	0.7822	0.7687	0.7837	0.7561	0.7837	0.7801	0.7775	0.7454	0.7587	0.7550
hddt_PhosS	0.1391	0.1615	0.1692	0.1307	0.1896	0.1753	0.2192	0.1570	0.2057	0.1870	0.1884
hddt_satimage	0.6443	0.6503	0.6410	0.6331	0.5380	0.6354	0.6210	0.6343	0.5813	0.5311	0.5361
hddt_segment	0.9754	0.9722	0.9714	0.9714	0.9390	0.9727	0.9610	0.9756	0.9713	0.9347	0.9385
keel_abalone19	0.0080	0.0205	0.0374	0.0450	0.0283	0.0535	0.0408	0.0451	0.0084	0.0297	0.0296
keel_abalone9-18	0.3175	0.3636	0.3382	0.2959	0.2220	0.3077	0.3027	0.3324	0.2584	0.2233	0.2236
keel_cleveland-0_vs_4	0.4737	0.4684	0.5243	0.5445	0.3744	0.5551	0.5239	0.4451	0.4677	0.3786	0.3840
keel_ecoli-0-1-3-7_vs_2-6	0.5194	0.4853	0.4764	0.4714	0.1639	0.6382	0.1965	0.4443	0.4767	0.1633	0.1675
keel_ecoli-0-1-4-6_vs_5	0.7296	0.7431	0.7169	0.6806	0.4749	0.6883	0.6602	0.7167	0.7061	0.4937	0.4948
keel_ecoli-0-1-4-7_vs_2-3	0.6560	0.6983	0.6259	0.6156	0.4845	0.6390	0.6738	0.6842	0.6443	0.4742	0.4807
keel_ecoli-0-1-4-7_vs_5-6	0.6627	0.6931	0.6871	0.6999	0.4873	0.7227	0.6148	0.6786	0.6113	0.4780	0.4907
keel_ecoli-0-1_vs_2-3-5	0.7151	0.6918	0.7003	0.6923	0.5559	0.6878	0.6714	0.6836	0.6654	0.5597	0.5724
keel_ecoli-0-1_vs_5	0.7233	0.7032	0.6860	0.6673	0.5243	0.6755	0.5845	0.6973	0.6342	0.5135	0.5117
keel_ecoli-0-2-3-4_vs_5	0.7166	0.6904	0.7086	0.7038	0.5914	0.6741	0.7077	0.7096	0.7109	0.5785	0.5809
keel_ecoli-0-2-6-7_vs_3-5	0.7757	0.7508	0.7330	0.7042	0.5924	0.7111	0.6660	0.7191	0.7637	0.5890	0.5856
keel_ecoli-0-3-4-6_vs_5	0.6845	0.6838	0.7167	0.7384	0.5375	0.7124	0.6801	0.6761	0.6295	0.5301	0.5444
keel_ecoli-0-3-4-7_vs_5-6	0.7472	0.7368	0.6996	0.7031	0.5386	0.7236	0.6573	0.6992	0.7197	0.5408	0.5315
keel_ecoli-0-3-4_vs_5	0.7337	0.7192	0.6912	0.6789	0.5793	0.7103	0.6992	0.7079	0.7033	0.5622	0.5763

Continued on next page

Table 2: F-Measure for ensembles in the the Data-processing family.

Dataset	ESM100	ESM200	ESM500	ESM	ERUS	E-RB	EopB	EopS	EopU	ERUSR	EPart
keel_ecoli-0-4-6_vs_5	0.7274	0.7264	0.7175	0.6703	0.5544	0.7450	0.7093	0.7174	0.6907	0.5441	0.5670
keel_ecoli-0-6-7_vs_3-5	0.7058	0.7189	0.7019	0.6845	0.6094	0.6796	0.6707	0.6909	0.7125	0.6011	0.6108
keel_ecoli-0-6-7_vs_5	0.7949	0.7887	0.7532	0.7521	0.6359	0.7534	0.7989	0.7882	0.8023	0.6258	0.6248
keel_ecoli-0_vs_1	0.9778	0.9728	0.9618	0.9778	0.9642	0.9765	0.9778	0.9766	0.9601	0.9522	0.9644
keel_ecoli1	0.7767	0.7699	0.7679	0.7665	0.7766	0.7876	0.7779	0.7692	0.7738	0.7767	0.7780
keel_ecoli2	0.7982	0.7987	0.7857	0.7864	0.6790	0.7915	0.7826	0.7924	0.7524	0.6743	0.6794
keel_ecoli3	0.5676	0.5762	0.5956	0.5892	0.5415	0.6214	0.5843	0.5753	0.5623	0.5282	0.5294
keel_ecoli4	0.6888	0.6868	0.6890	0.6535	0.5165	0.6585	0.6703	0.6752	0.6831	0.5078	0.4979
keel_glass-0-1-2-3_vs_4-5	0.8375	0.8260	0.8355	0.8305	0.8119	0.8412	0.8407	0.8399	0.8343	0.8110	0.8142
keel_glass-0-1-4-6_vs_2	0.2302	0.2553	0.3265	0.3450	0.2121	0.2970	0.2778	0.2236	0.1828	0.2199	0.2268
keel_glass-0-1-5_vs_2	0.2972	0.3217	0.3312	0.3091	0.2353	0.3464	0.2505	0.3075	0.1940	0.2271	0.2412
keel_glass-0-1-6_vs_2	0.2419	0.2797	0.2606	0.2236	0.2065	0.2650	0.2215	0.2522	0.1384	0.2071	0.2159
keel_glass-0-1-6_vs_5	0.7390	0.7985	0.8283	0.7928	0.4820	0.7913	0.8400	0.8115	0.7405	0.4820	0.4820
keel_glass-0-4_vs_5	0.9505	0.9505	0.9505	0.9505	0.9505	0.9505	0.9505	0.9505	0.9505	0.9505	0.9505
keel_glass-0-6_vs_5	0.8863	0.8863	0.8863	0.8863	0.5257	0.8946	0.9013	0.8863	0.8485	0.5257	0.5178
keel_glass0	0.7013	0.6920	0.7017	0.7017	0.7105	0.7216	0.6955	0.6699	0.6876	0.6980	0.7090
keel_glass1	0.6551	0.6543	0.6354	0.6303	0.6539	0.6354	0.6565	0.6248	0.6079	0.6641	0.6520
keel_glass2	0.1898	0.2824	0.3305	0.3171	0.2181	0.2984	0.2620	0.3122	0.2412	0.2266	0.2390
keel_glass4	0.4384	0.4587	0.5332	0.5083	0.3509	0.4748	0.4300	0.4643	0.4110	0.3746	0.3654
keel_glass5	0.8325	0.7971	0.8325	0.7772	0.4689	0.7606	0.7949	0.7772	0.8025	0.4689	0.4689
keel_glass6	0.8153	0.8205	0.8198	0.8162	0.7312	0.8239	0.8263	0.8185	0.7906	0.7274	0.7350
keel_haberman	0.4875	0.4756	0.4877	0.4733	0.4983	0.5002	0.4937	0.4897	0.4208	0.4930	0.4971
keel_iris0	0.9813	0.9813	0.9813	0.9813	0.9813	0.9813	0.9813	0.9813	0.9813	0.9813	0.9813
keel_led7digit-0-2-4-5-6-	0.7422	0.7374	0.7656	0.7672	0.5524	0.7541	0.6704	0.7527	0.7123	0.5327	0.5300
keel_new-thyroid1	0.8843	0.8870	0.9084	0.8946	0.8133	0.9077	0.8606	0.8843	0.8795	0.8190	0.8187
keel_new-thyroid2	0.9117	0.9055	0.9125	0.9154	0.8487	0.8960	0.9111	0.9006	0.8865	0.8278	0.8370
keel_page-blocks-1-3_vs_4	0.9320	0.9325	0.9325	0.9325	0.4926	0.9284	0.9443	0.9325	0.9059	0.4867	0.4900
keel_page-blocks0	0.8665	0.8655	0.8481	0.8430	0.7807	0.8455	0.8425	0.8519	0.8599	0.7793	0.7806
keel_pima	0.6601	0.6564	0.6546	0.6608	0.6632	0.6654	0.6561	0.6427	0.6396	0.6631	0.6648
keel_segment0	0.9716	0.9739	0.9696	0.9719	0.9324	0.9683	0.9702	0.9730	0.9611	0.9361	0.9342
keel_shuttle-c0-vs-c4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9984	0.9984	0.9984	1.0000	1.0000
keel_shuttle-c2-vs-c4	1.0000	1.0000	1.0000	1.0000	0.9000	1.0000	0.9238	0.9238	0.9238	0.8500	0.9000
keel_vehicle0	0.8637	0.8616	0.8673	0.8604	0.8607	0.8803	0.8646	0.8586	0.8649	0.8562	0.8633
keel_vehicle1	0.5822	0.5955	0.6161	0.5912	0.6352	0.6243	0.6006	0.5762	0.5540	0.6377	0.6340
keel_vehicle2	0.9166	0.9166	0.9124	0.9156	0.9204	0.9329	0.9235	0.9099	0.9212	0.9127	0.9169
keel_vehicle3	0.5665	0.5782	0.5886	0.5766	0.6164	0.6162	0.5920	0.5627	0.5559	0.6133	0.6160
keel_vowel0	0.9009	0.8909	0.9027	0.8829	0.7779	0.8733	0.8789	0.8781	0.8615	0.7743	0.7712
keel_wisconsin	0.9380	0.9365	0.9366	0.9380	0.9467	0.9521	0.9425	0.9352	0.9363	0.9494	0.9462
keel_yeast-0-2-5-6_vs_3-7	0.5403	0.5653	0.5718	0.5470	0.5567	0.5531	0.5398	0.5494	0.5626	0.5470	0.5574
keel_yeast-0-2-5-7-9_vs_3	0.7622	0.7780	0.7636	0.7452	0.7117	0.7434	0.7171	0.7506	0.7286	0.7068	0.7185
keel_yeast-0-3-5-9_vs_7-8	0.3768	0.4072	0.3722	0.3574	0.3334	0.3717	0.3514	0.3687	0.3602	0.3275	0.3386
keel_yeast-0-5-6-7-9_vs_4	0.4546	0.4726	0.4853	0.4689	0.4489	0.4982	0.4837	0.4721	0.5145	0.4423	0.4447
keel_yeast-1-2-8-9_vs_7	0.2349	0.2574	0.2300	0.2036	0.1243	0.1868	0.2377	0.2204	0.2242	0.1301	0.1346
keel_yeast-1-4-5-8_vs_7	0.0578	0.0830	0.1446	0.1532	0.1262	0.1644	0.1294	0.1464	0.0809	0.1213	0.1255
keel_yeast-1_vs_7	0.3838	0.3545	0.3387	0.2769	0.2584	0.3310	0.3288	0.3238	0.3825	0.2462	0.2572
keel_yeast-2_vs_4	0.7337	0.7295	0.7344	0.7271	0.6837	0.7149	0.7386	0.7171	0.7212	0.6806	0.6791
keel_yeast-2_vs_8	0.4860	0.5736	0.5510	0.4263	0.2422	0.4098	0.4292	0.4921	0.5109	0.2557	0.2509
keel_yeast1	0.5794	0.5793	0.5697	0.5783	0.5927	0.5920	0.5714	0.5418	0.5531	0.5935	0.5912
keel_yeast3	0.7732	0.7821	0.7850	0.7775	0.7505	0.7788	0.7674	0.7769	0.7664	0.7418	0.7442
keel_yeast4	0.4164	0.4121	0.4169	0.3565	0.2219	0.3336	0.3844	0.3792	0.3493	0.2198	0.2204
keel_yeast5	0.7323	0.7346	0.7456	0.7168	0.4392	0.7311	0.6569	0.7289	0.6482	0.4445	0.4460
keel_yeast6	0.5449	0.5305	0.5304	0.3889	0.2248	0.3685	0.3610	0.4066	0.4092	0.2280	0.2240

Table 3: Geometric Mean for ensembles in the the Data-processing family.

Dataset	ESM100	ESM200	ESM500	ESM	ERUS	E-RB	EopB	EopS	EopU	ERUSR	EPart
hddt_boundary	0.3064	0.3060	0.3107	0.3482	0.6516	0.3552	0.3109	0.2999	0.2619	0.6493	0.6480
hddt_breast-y	0.5525	0.5664	0.5710	0.5462	0.6076	0.5805	0.5665	0.5592	0.5697	0.6005	0.6035
hddt_cam	0.4044	0.4192	0.4073	0.4137	0.6995	0.3715	0.5171	0.4053	0.6563	0.7024	0.6987
hddt_compustat	0.4509	0.5399	0.6410	0.7509	0.8048	0.7924	0.7358	0.7259	0.4144	0.8028	0.8040
hddt_covtype	0.9242	0.9323	0.9408	0.9460	0.9508	0.9587	0.9468	0.9460	0.9142	0.9508	0.9506
hddt_credit-g	0.6209	0.6204	0.6231	0.6170	0.6719	0.6723	0.6478	0.6240	0.6396	0.6690	0.6737
hddt_estate	0.1905	0.3182	0.4667	0.5030	0.6046	0.5320	0.3089	0.2094	0.3612	0.6047	0.6088
hddt_german-numer	0.6374	0.6341	0.6386	0.6434	0.7009	0.6965	0.6533	0.6374	0.6596	0.6894	0.6959
hddt_heart-v	0.5542	0.5540	0.5523	0.5553	0.6146	0.5822	0.5743	0.5228	0.5323	0.6094	0.6181
hddt_hypo	0.9349	0.9356	0.9406	0.9329	0.9615	0.9610	0.9642	0.9330	0.9467	0.9612	0.9612
hddt_ism	0.7749	0.7949	0.8275	0.8709	0.8870	0.8860	0.8758	0.8390	0.7893	0.8886	0.8892
hddt_letter	0.9685	0.9688	0.9681	0.9664	0.9802	0.9747	0.9708	0.9690	0.9715	0.9801	0.9795

Continued on next page

Table 3: Geometric Mean for ensembles in the the Data-processing family.

Dataset	ESM100	ESM200	ESM500	ESM	ERUS	E-RB	EopB	EopS	EopU	ERUSR	EPart
hddt_oil	0.6591	0.6796	0.6794	0.6819	0.8127	0.7642	0.7528	0.6778	0.7465	0.8206	0.8149
hddt_optdigits	0.9844	0.9858	0.9834	0.9854	0.9869	0.9901	0.9871	0.9858	0.9860	0.9862	0.9871
hddt_page	0.9340	0.9401	0.9434	0.9468	0.9550	0.9581	0.9491	0.9431	0.9366	0.9547	0.9548
hddt PENDIGITS	0.9732	0.9779	0.9788	0.9799	0.9809	0.9859	0.9796	0.9776	0.9706	0.9809	0.9806
hddt_phoneme	0.8552	0.8627	0.8577	0.8613	0.8484	0.8636	0.8560	0.8528	0.8227	0.8521	0.8480
hddt_PhosS	0.2953	0.3294	0.3543	0.3153	0.6987	0.3432	0.6119	0.3362	0.6453	0.6955	0.6961
hddt_satimage	0.7701	0.7886	0.8074	0.8174	0.8718	0.8513	0.8193	0.8050	0.7753	0.8703	0.8714
hddt_segment	0.9845	0.9844	0.9853	0.9853	0.9827	0.9873	0.9839	0.9868	0.9835	0.9821	0.9826
keel_abalone19	0.0250	0.0500	0.1349	0.3596	0.6774	0.4729	0.5147	0.3280	0.2034	0.6953	0.6915
keel_abalone9-18	0.5072	0.5655	0.5915	0.6103	0.6983	0.6512	0.6073	0.5744	0.5731	0.7039	0.6984
keel_cleveland-0_vs_4	0.5855	0.6030	0.6441	0.7143	0.7803	0.7246	0.7349	0.5833	0.6494	0.7772	0.7760
keel_ecoli-0-1-3-7_vs_2-6	0.6679	0.6668	0.6664	0.6534	0.8049	0.8256	0.7989	0.6302	0.7462	0.8047	0.8103
keel_ecoli-0-1-4-6_vs_5	0.8418	0.8601	0.8427	0.8063	0.8412	0.8336	0.8429	0.8246	0.8550	0.8538	0.8421
keel_ecoli-0-1-4-7_vs_2-3	0.7693	0.8205	0.8106	0.8156	0.8279	0.8355	0.8482	0.8183	0.8148	0.8216	0.8253
keel_ecoli-0-1-4-7_vs_5-6	0.7788	0.8151	0.8165	0.8533	0.8412	0.8634	0.8210	0.8118	0.7847	0.8369	0.8446
keel_ecoli-0-1_vs_2-3-5	0.8438	0.8343	0.8451	0.8515	0.8624	0.8726	0.8573	0.8428	0.8514	0.8618	0.8696
keel_ecoli-0-1_vs_5	0.8460	0.8229	0.8105	0.8037	0.8469	0.8287	0.8138	0.8182	0.8340	0.8409	0.8322
keel_ecoli-0-2-3-4_vs_5	0.8516	0.8418	0.8736	0.8644	0.8705	0.8717	0.8765	0.8507	0.8683	0.8671	0.8671
keel_ecoli-0-2-6-7_vs_3-5	0.8526	0.8489	0.8558	0.8427	0.8521	0.8573	0.8352	0.8444	0.8655	0.8529	0.8507
keel_ecoli-0-3-4-6_vs_5	0.8373	0.8225	0.8500	0.8596	0.8387	0.8683	0.8475	0.8320	0.8273	0.8358	0.8409
keel_ecoli-0-3-4-7_vs_5-6	0.8448	0.8508	0.8456	0.8506	0.8287	0.8718	0.8141	0.8253	0.8485	0.8361	0.8279
keel_ecoli-0-3-4_vs_5	0.8479	0.8348	0.8139	0.7942	0.8367	0.8441	0.8280	0.8354	0.8327	0.8314	0.8345
keel_ecoli-0-4-6_vs_5	0.8553	0.8442	0.8390	0.8150	0.8553	0.8824	0.8753	0.8428	0.8717	0.8456	0.8634
keel_ecoli-0-6-7_vs_3-5	0.8152	0.8269	0.8339	0.8358	0.8561	0.8402	0.8428	0.8316	0.8410	0.8475	0.8541
keel_ecoli-0-6-7_vs_5	0.8890	0.8881	0.8769	0.8969	0.8933	0.9023	0.9035	0.9021	0.8896	0.8871	0.8871
keel_ecoli-0_vs_1	0.9820	0.9792	0.9729	0.9820	0.9733	0.9814	0.9820	0.9813	0.9702	0.9663	0.9732
keel_ecoli1	0.8643	0.8683	0.8793	0.8693	0.8962	0.8936	0.8871	0.8571	0.8811	0.8977	0.8971
keel_ecoli2	0.8657	0.8743	0.8824	0.8812	0.8734	0.8825	0.8725	0.8710	0.8721	0.8729	0.8738
keel_ecoli3	0.7461	0.7765	0.8055	0.8086	0.8787	0.8574	0.8102	0.7732	0.7764	0.8654	0.8688
keel_ecoli4	0.8166	0.8261	0.8316	0.8020	0.8811	0.8196	0.8022	0.8027	0.8260	0.8678	0.8733
keel_glass-0-1-2-3_vs_4-5	0.8908	0.8808	0.8980	0.8849	0.9046	0.9135	0.9078	0.8941	0.8973	0.9048	0.9060
keel_glass-0-1-4-6_vs_2	0.3307	0.3876	0.5152	0.5652	0.6170	0.5575	0.5712	0.3675	0.4036	0.6299	0.6394
keel_glass-0-1-5_vs_2	0.4614	0.5199	0.5715	0.5817	0.6014	0.6330	0.5539	0.5449	0.4646	0.5857	0.6091
keel_glass-0-1-6_vs_2	0.3964	0.4673	0.4608	0.4431	0.5923	0.5334	0.5225	0.4522	0.3223	0.5921	0.6066
keel_glass-0-1-6_vs_5	0.8617	0.9105	0.9521	0.9227	0.9410	0.9856	0.9896	0.9402	0.9889	0.9410	0.9410
keel_glass-0-4_vs_5	0.9939	0.9939	0.9939	0.9939	0.9939	0.9939	0.9939	0.9939	0.9939	0.9939	0.9939
keel_glass-0-6_vs_5	0.9485	0.9485	0.9485	0.9485	0.9122	0.9493	0.9501	0.9485	0.9407	0.9122	0.9100
keel_glass0	0.7791	0.7723	0.7802	0.7794	0.7872	0.7976	0.7761	0.7521	0.7689	0.7763	0.7870
keel_glass1	0.7255	0.7230	0.7017	0.7057	0.7253	0.7105	0.7279	0.7017	0.6870	0.7312	0.7238
keel_glass2	0.3575	0.4899	0.5784	0.6042	0.6384	0.6008	0.5780	0.5088	0.4960	0.6496	0.6700
keel_glass4	0.6524	0.6639	0.7401	0.7379	0.8208	0.7349	0.7109	0.6805	0.7314	0.8403	0.8276
keel_glass5	0.9690	0.9655	0.9690	0.9454	0.9473	0.9759	0.9670	0.9454	0.9675	0.9473	0.9473
keel_glass6	0.8973	0.8984	0.9106	0.9070	0.8960	0.9167	0.9144	0.8951	0.8893	0.8949	0.8971
keel_haberman	0.6370	0.6291	0.6338	0.6265	0.6494	0.6518	0.6319	0.6418	0.6538	0.6434	0.6474
keel_iris0	0.9816	0.9816	0.9816	0.9816	0.9816	0.9816	0.9816	0.9816	0.9816	0.9816	0.9816
keel_led7digit-0-2-4-5-6-	0.8685	0.8678	0.8997	0.9025	0.8644	0.8925	0.8744	0.8857	0.8627	0.8655	0.8640
keel_new_thyroid1	0.9360	0.9366	0.9439	0.9332	0.9299	0.9413	0.9254	0.9353	0.9297	0.9329	0.9335
keel_new_thyroid2	0.9427	0.9391	0.9475	0.9481	0.9464	0.9482	0.9496	0.9451	0.9373	0.9430	0.9451
keel_page-blocks-1-3_vs_4	0.9600	0.9634	0.9634	0.9634	0.9267	0.9700	0.9892	0.9634	0.9611	0.9268	0.9280
keel_page-blocks0	0.9292	0.9354	0.9364	0.9384	0.9508	0.9519	0.9410	0.9363	0.9266	0.9520	0.9501
keel_pima	0.7339	0.7283	0.7198	0.7349	0.7330	0.7387	0.7316	0.7206	0.7161	0.7297	0.7345
keel_segment0	0.9822	0.9857	0.9849	0.9856	0.9782	0.9847	0.9856	0.9845	0.9801	0.9794	0.9786
keel_shuttle-c0-vs-c4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999	0.9999	0.9999	1.0000	1.0000
keel_shuttle-c2-vs-c4	1.0000	1.0000	1.0000	1.0000	0.9000	1.0000	0.9613	0.9613	0.9613	0.8577	0.9000
keel_vehicle0	0.9164	0.9161	0.9274	0.9150	0.9399	0.9391	0.9224	0.9144	0.9245	0.9392	0.9410
keel_vehicle1	0.7164	0.7332	0.7562	0.7301	0.7794	0.7643	0.7388	0.7129	0.6875	0.7828	0.7781
keel_vehicle2	0.9487	0.9518	0.9490	0.9508	0.9638	0.9653	0.9567	0.9453	0.9506	0.9605	0.9611
keel_vehicle3	0.7064	0.7235	0.7382	0.7218	0.7682	0.7626	0.7349	0.7018	0.6984	0.7663	0.7677
keel_vowel0	0.9457	0.9486	0.9600	0.9575	0.9540	0.9623	0.9624	0.9491	0.9386	0.9514	0.9501
keel_wisconsin	0.9545	0.9530	0.9546	0.9549	0.9628	0.9661	0.9579	0.9524	0.9524	0.9653	0.9622
keel_yeast-0-2-5-6_vs_3-7	0.6672	0.7057	0.7467	0.7574	0.8030	0.7745	0.7668	0.7429	0.7842	0.7999	0.8006
keel_yeast-0-2-5-7-9_vs_3	0.8472	0.8704	0.8891	0.8978	0.9037	0.8956	0.8981	0.8959	0.8976	0.9062	0.9100
keel_yeast-0-3-5-9_vs_7-8	0.5359	0.5975	0.6083	0.6212	0.6894	0.6575	0.6363	0.5887	0.5562	0.6860	0.6992
keel_yeast-0-5-6-7-9_vs_4	0.6386	0.6633	0.7126	0.7308	0.8070	0.7714	0.7309	0.6758	0.7270	0.7983	0.8035
keel_yeast-1-2-8-9_vs_7	0.3992	0.4151	0.4382	0.5713	0.6744	0.6400	0.5408	0.4298	0.4540	0.6871	0.6897
keel_yeast-1-4-5-8_vs_7	0.1336	0.1929	0.3624	0.4955	0.6271	0.5561	0.4511	0.4200	0.3575	0.6162	0.6266
keel_yeast-1_vs_7	0.5617	0.5618	0.6151	0.5953	0.7323	0.6851	0.6581	0.6156	0.6021	0.7173	0.7309
keel_yeast-2_vs_4	0.8507	0.8685	0.8838	0.8933	0.9297	0.9104	0.8920	0.8698	0.8717	0.9320	0.9272
keel_yeast-2_vs_8	0.5706	0.6939	0.7284	0.7117	0.6759	0.7089	0.7095	0.6996	0.7232	0.6984	0.6859
keel_yeast1	0.6981	0.7010	0.6927	0.6988	0.7119	0.7107	0.6890	0.6606	0.6716	0.7128	0.7110
keel_yeast3	0.8843	0.8979	0.9129	0.9148	0.9317	0.9320	0.9186	0.9056	0.9036	0.9309	0.9308
keel_yeast4	0.5903	0.6178	0.7016	0.7564	0.8453	0.8075	0.7664	0.7084	0.7679	0.8441	0.8453

Continued on next page

Table 3: Geometric Mean for ensembles in the the Data-processing family.

Dataset	ESM100	ESM200	ESM500	ESM	ERUS	E-RB	EopB	EopS	EopU	ERUSR	EPart
keel_yeast5	0.8589	0.8765	0.9044	0.9269	0.9600	0.9461	0.9356	0.9154	0.9343	0.9531	0.9572
keel_yeast6	0.7062	0.7019	0.7411	0.7510	0.8599	0.7823	0.7659	0.7377	0.7313	0.8634	0.8569

Table 4: AUC for ensembles in the Bagging family.

Dataset	SMBAG	BAG	BAGSM100	BAGSM200	BAGSM500	BAGSM	BAGRUS	BAG-RB	BAGopB	BAGopS	BAGopU	RbB:IC+ BAGSM	RbB:IC+ BAGSM	RbB:IC+ BAGSM
hddt_boundary	0.6569	0.6349	0.6621	0.6747	0.6873	0.6746	0.7278	0.6945	0.6589	0.6567	0.6594	0.6341	0.6341	0.6297
hddt_breast-y	0.6471	0.6557	0.6438	0.6385	0.6275	0.6405	0.6619	0.6460	0.6481	0.6483	0.6604	0.6612	0.6612	0.6524
hddt_cam	0.7132	0.7289	0.7466	0.7436	0.7438	0.7465	0.7820	0.7631	0.7651	0.7443	0.7825	0.7255	0.7255	0.7237
hddt_compustat	0.9105	0.9009	0.9152	0.9173	0.9181	0.9144	0.8844	0.9107	0.9158	0.9156	0.8963	0.8962	0.8962	0.9009
hddt_covtype	0.9929	0.9924	0.9938	0.9938	0.9938	0.9932	0.9932	0.9934	0.9934	0.9925	0.9925	0.9901	0.9901	0.9921
hddt_credit-g	0.7581	0.7503	0.7614	0.7594	0.7567	0.7609	0.7595	0.7695	0.7604	0.7583	0.7529	0.7470	0.7470	0.7475
hddt_estate	0.6148	0.6520	0.6366	0.6252	0.6095	0.6055	0.6517	0.6239	0.6465	0.6418	0.6539	0.6506	0.6506	0.6054
hddt_german-numer	0.7761	0.7724	0.7742	0.7693	0.7616	0.7726	0.7766	0.7856	0.7752	0.7720	0.7749	0.7685	0.7685	0.7711
hddt_heart-v	0.7026	0.6765	0.7066	0.7022	0.6944	0.7005	0.6910	0.7067	0.6925	0.6932	0.6783	0.6682	0.6682	0.6693
hddt_hypo	0.9889	0.9820	0.9883	0.9898	0.9897	0.9888	0.9881	0.9905	0.9903	0.9899	0.9831	0.9819	0.9819	0.9822
hddt_ism	0.9367	0.9326	0.9392	0.9427	0.9445	0.9440	0.9359	0.9421	0.9436	0.9423	0.9345	0.9310	0.9310	0.9328
hddt_letter	0.9977	0.9991	0.9991	0.9991	0.9992	0.9993	0.9986	0.9994	0.9990	0.9991	0.9991	0.9991	0.9991	0.9991
hddt_oil	0.9055	0.9038	0.9051	0.9104	0.9135	0.9148	0.9130	0.9201	0.9124	0.9115	0.9101	0.9048	0.9048	0.9068
hddt_optdigits	0.9969	0.9961	0.9964	0.9969	0.9966	0.9970	0.9971	0.9980	0.9970	0.9970	0.9963	0.9961	0.9961	0.9962
hddt_page	0.9908	0.9910	0.9916	0.9915	0.9913	0.9912	0.9902	0.9918	0.9909	0.9912	0.9910	0.9903	0.9903	0.9902
hddt_pendigits	0.9993	0.9991	0.9994	0.9995	0.9995	0.9995	0.9986	0.9996	0.9994	0.9994	0.9991	0.9990	0.9990	0.9991
hddt_phoneme	0.9409	0.9361	0.9398	0.9406	0.9396	0.9406	0.9327	0.9379	0.9399	0.9399	0.9353	0.9354	0.9354	0.9370
hddt_PhosS	0.7397	0.7305	0.7296	0.7310	0.7274	0.7436	0.7613	0.7502	0.7567	0.7362	0.7582	0.7212	0.7212	0.7210
hddt_satimage	0.9495	0.9486	0.9506	0.9511	0.9520	0.9516	0.9475	0.9517	0.9510	0.9522	0.9485	0.9434	0.9434	0.9464
hddt_segment	0.9948	0.9972	0.9973	0.9968	0.9966	0.9971	0.9986	0.9989	0.9967	0.9974	0.9971	0.9966	0.9966	0.9966
keel_abalone19	0.7571	0.7617	0.7732	0.7841	0.7860	0.7698	0.7885	0.7853	0.7776	0.7758	0.7773	0.7600	0.7600	0.7605
keel_abalone9-18	0.7967	0.7855	0.8142	0.8128	0.8169	0.8108	0.7873	0.8081	0.8142	0.8168	0.7931	0.7805	0.7805	0.7820
keel_cleaveland-0.vs.4	0.9339	0.9379	0.9371	0.9311	0.9316	0.9542	0.9217	0.9539	0.9429	0.9463	0.9438	0.9423	0.9423	0.9421
keel_ecoli-0-1-3-7.vs.2-6	0.8718	0.8577	0.8682	0.8599	0.8514	0.8844	0.9529	0.9321	0.9224	0.8284	0.9085	0.8565	0.8565	0.8552
keel_ecoli-0-1-4-6.vs.5	0.9517	0.9578	0.9649	0.9663	0.9598	0.9534	0.9538	0.9637	0.9623	0.9606	0.9688	0.9564	0.9564	0.9568
keel_ecoli-0-1-4-7.vs.2-3	0.9182	0.9023	0.9190	0.9162	0.9252	0.9339	0.9218	0.9333	0.9230	0.9134	0.9188	0.9081	0.9081	0.8998
keel_ecoli-0-1-4-7.vs.5-6	0.9222	0.9088	0.9416	0.9483	0.9498	0.9453	0.9346	0.9603	0.9302	0.9427	0.9270	0.9069	0.9069	0.9016
keel_ecoli-0-1-4-7.vs.5-6	0.9442	0.9514	0.9531	0.9553	0.9641	0.9527	0.9403	0.9507	0.9495	0.9560	0.9583	0.9505	0.9505	0.9536
keel_ecoli-0-1-4-7.vs.5-6	0.9280	0.9757	0.9719	0.9704	0.9575	0.9535	0.9564	0.9709	0.9531	0.9692	0.9551	0.9703	0.9703	0.9708
keel_ecoli-0-2-3-4.vs.5	0.9479	0.9556	0.9510	0.9500	0.9533	0.9532	0.9664	0.9729	0.9572	0.9499	0.9635	0.9510	0.9510	0.9503
keel_ecoli-0-2-6-7.vs.3-5	0.9190	0.9181	0.9235	0.9203	0.9225	0.9237	0.9248	0.9285	0.9183	0.9190	0.9280	0.9127	0.9127	0.9126
keel_ecoli-0-3-4-6.vs.5	0.9376	0.9557	0.9546	0.9545	0.9479	0.9451	0.9387	0.9667	0.9557	0.9539	0.9602	0.9564	0.9564	0.9563
keel_ecoli-0-3-4-7.vs.5-6	0.9277	0.9285	0.9316	0.9317	0.9348	0.9378	0.9363	0.9497	0.9317	0.9396	0.9348	0.9267	0.9267	0.9266
keel_ecoli-0-3-4-7.vs.5-6	0.9139	0.9592	0.9538	0.9493	0.9474	0.9362	0.9567	0.9671	0.9525	0.9532	0.9585	0.9453	0.9453	0.9462
keel_ecoli-0-4-6.vs.5	0.9406	0.9594	0.9621	0.9623	0.9631	0.9621	0.9682	0.9721	0.9644	0.9659	0.9662	0.9593	0.9593	0.9592
keel_ecoli-0-6-7.vs.3-5	0.9032	0.9050	0.9135	0.9104	0.9170	0.9320	0.9309	0.9346	0.9221	0.9219	0.9162	0.9031	0.9031	0.9028
keel_ecoli-0-6-7.vs.5	0.9499	0.9198	0.9364	0.9441	0.9510	0.9576	0.9624	0.9610	0.9264	0.9347	0.9220	0.9211	0.9211	0.9205
keel_ecoli-0-6-7.vs.5	0.9855	0.9812	0.9835	0.9857	0.9893	0.9838	0.9890	0.9925	0.9852	0.9814	0.9848	0.9804	0.9804	0.9804
keel_ecoli1	0.9522	0.9504	0.9541	0.9531	0.9514	0.9529	0.9574	0.9573	0.9570	0.9535	0.9551	0.9496	0.9496	0.9492
keel_ecoli2	0.9414	0.9181	0.9347	0.9398	0.9461	0.9448	0.9366	0.9473	0.9385	0.9439	0.9280	0.9173	0.9173	0.9187
keel_ecoli3	0.9273	0.9230	0.9253	0.9281	0.9296	0.9299	0.9349	0.9379	0.9274	0.9265	0.9267	0.9176	0.9176	0.9198
keel_ecoli4	0.9132	0.9348	0.9446	0.9407	0.9388	0.9408	0.9709	0.9724	0.9474	0.9494	0.9407	0.9343	0.9343	0.9322
keel_glass-0-1-2-3.vs.4-5	0.9582	0.9665	0.9592	0.9596	0.9640	0.9600	0.9687	0.9747	0.9578	0.9597	0.9677	0.9665	0.9665	0.9660
keel_glass-0-1-4-6.vs.2	0.7431	0.7071	0.7332	0.7367	0.7380	0.7533	0.7155	0.7510	0.7380	0.7416	0.7051	0.7044	0.7044	0.7128
keel_glass-0-1-5.vs.2	0.7416	0.6458	0.7032	0.7199	0.7379	0.7379	0.6714	0.7466	0.7368	0.7381	0.6672	0.6484	0.6484	0.6562
keel_glass-0-1-6.vs.2	0.7374	0.6841	0.7250	0.7229	0.7324	0.7252	0.6756	0.7148	0.7100	0.7381	0.6672	0.6749	0.6749	0.6782
keel_glass-0-1-6.vs.2	0.9958	0.9937	0.9953	0.9949	0.9958	0.9947	0.9768	0.9938	0.9937	0.9954	0.9930	0.9916	0.9916	0.9927
keel_glass-0-4-6.vs.5	0.9940	0.9988	0.9952	0.9940	0.9940	0.9940	0.9975	0.9964	0.9988	0.9988	0.9976	0.9976	0.9976	0.9976
keel_glass-0-4-6.vs.5	0.9872	0.9831	0.9810	0.9813	0.9831	0.9828	0.9736	0.9837	0.9848	0.9825	0.9820	0.9807	0.9807	0.9824
keel_glass0	0.8673	0.8606	0.8595	0.8628	0.8730	0.8628	0.8653	0.8694	0.8605	0.8590	0.8651	0.8566	0.8566	0.8562
keel_glass1	0.8266	0.8212	0.8212	0.8265	0.8265	0.8265	0.8183	0.8265	0.8265	0.8178	0.8178	0.8198	0.8198	0.8197
keel_glass2	0.8073	0.7097	0.7756	0.7904	0.7976	0.7926	0.7429	0.8020	0.7628	0.7690	0.7148	0.7042	0.7042	0.7042
keel_glass4	0.8861	0.9011	0.9149	0.8983	0.9197	0.8945	0.9066	0.9322	0.9299	0.8885	0.9240	0.8980	0.8980	0.8983

Continued on next page

Table 4: AUC for ensembles in the Bagging family.

Dataset	SMBAG	BAG	BAGSM100	BAGSM200	BAGSM500	BAGSM	BAGRUS	BAG-RB	BAGopB	BAGopS	BAGopU	RbB:IC+ BAGRUS	RbB:IC+ RBAGSM
keel_glass5	0.9921	0.9916	0.9923	0.9922	0.9922	0.9910	0.9661	0.9905	0.9902	0.9912	0.9893	0.9903	0.9903
keel_glass6	0.9513	0.9551	0.9568	0.9541	0.9559	0.9507	0.9540	0.9602	0.9554	0.9528	0.9535	0.9537	0.9539
keel_haberman	0.7021	0.7062	0.7052	0.7031	0.7041	0.7019	0.7143	0.7130	0.7081	0.7038	0.7130	0.7086	0.7003
keel_iris0	0.9820	0.9820	0.9820	0.9860	0.9900	0.9820	0.9840	1.0000	0.9820	0.9820	0.9820	0.9820	0.9820
keel_led7digit-0-2-4-5-6-	0.9528	0.9574	0.9574	0.9570	0.9588	0.9581	0.9550	0.9605	0.9578	0.9575	0.9581	0.9569	0.9562
keel_new-thyroid1	0.9919	0.9889	0.9919	0.9922	0.9920	0.9892	0.9941	0.9949	0.9905	0.9913	0.9914	0.9874	0.9866
keel_new-thyroid2	0.9936	0.9907	0.9914	0.9914	0.9913	0.9886	0.9937	0.9953	0.9925	0.9915	0.9931	0.9912	0.9912
keel_page-blocks-1-3-vs_4	0.9988	0.9982	0.9985	0.9994	0.9993	0.9991	0.9974	0.9984	0.9984	0.9990	0.9982	0.9981	0.9981
keel_page-blocks0	0.9902	0.9905	0.9908	0.9909	0.9907	0.9905	0.9894	0.9912	0.9908	0.9907	0.9906	0.9898	0.9895
keel_pima	0.8143	0.8160	0.8144	0.8147	0.8099	0.8157	0.8185	0.8214	0.8175	0.8156	0.8172	0.8166	0.8145
keel_segment0	0.9953	0.9945	0.9960	0.9970	0.9968	0.9957	0.9965	0.9965	0.9972	0.9970	0.9953	0.9932	0.9933
keel_shuttle-c0-vs-c4	1.0000	0.9996	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9999	0.9999	0.9999	0.9996	0.9996
keel_shuttle-c2-vs-c4	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
keel_vehicle0	0.9887	0.9878	0.9887	0.9884	0.9880	0.9888	0.9887	0.9896	0.9889	0.9884	0.9877	0.9869	0.9867
keel_vehicle1	0.8464	0.8425	0.8477	0.8486	0.8482	0.8481	0.8462	0.8510	0.8493	0.8486	0.8450	0.8410	0.8404
keel_vehicle2	0.9930	0.9946	0.9921	0.9909	0.9911	0.9910	0.9923	0.9945	0.9925	0.9929	0.9940	0.9944	0.9942
keel_vehicle3	0.8423	0.8403	0.8431	0.8435	0.8406	0.8433	0.8415	0.8475	0.8446	0.8426	0.8411	0.8360	0.8362
keel_vowel0	0.9969	0.9928	0.9962	0.9962	0.9972	0.9975	0.9917	0.9965	0.9969	0.9972	0.9923	0.9913	0.9915
keel_wisconsin	0.9912	0.9917	0.9911	0.9911	0.9911	0.9910	0.9915	0.9924	0.9915	0.9914	0.9916	0.9915	0.9915
keel_yeast-0-2-5-6-vs-3-7	0.8475	0.8112	0.8368	0.8394	0.8487	0.8496	0.8592	0.8533	0.8503	0.8488	0.8491	0.8068	0.8122
keel_yeast-0-2-5-7-vs-3	0.9421	0.9082	0.9366	0.9432	0.9413	0.9441	0.9454	0.9444	0.9400	0.9419	0.9455	0.9023	0.9058
keel_yeast-0-3-5-9-vs-7-8	0.7473	0.7653	0.7721	0.7646	0.7617	0.7536	0.7702	0.7638	0.7612	0.7597	0.7660	0.7637	0.7650
keel_yeast-0-5-6-7-9-vs-4	0.8826	0.8782	0.8906	0.8937	0.8931	0.8905	0.8898	0.8963	0.8940	0.8958	0.8967	0.8688	0.8713
keel_yeast-1-2-8-9-vs-7	0.7513	0.7919	0.7975	0.7952	0.7794	0.7470	0.7749	0.7592	0.7613	0.7683	0.7947	0.7836	0.7727
keel_yeast-1-4-5-8-vs-7	0.6480	0.6793	0.6806	0.6739	0.6751	0.6586	0.6786	0.6617	0.6585	0.6676	0.6788	0.6803	0.6805
keel_yeast-1-vs-7	0.7946	0.8478	0.8426	0.8332	0.8247	0.7995	0.8186	0.8184	0.8129	0.8150	0.8411	0.8397	0.8282
keel_yeast-2-vs-4	0.9781	0.9803	0.9809	0.9810	0.9770	0.9796	0.9790	0.9799	0.9796	0.9790	0.9806	0.9792	0.9797
keel_yeast-2-vs-8	0.8107	0.7518	0.8231	0.8282	0.8251	0.8213	0.8085	0.8204	0.7863	0.8056	0.8028	0.7397	0.7401
keel_yeast1	0.7903	0.7922	0.7912	0.7903	0.7899	0.7920	0.7991	0.7992	0.7940	0.7919	0.7948	0.7905	0.7900
keel_yeast3	0.9719	0.9721	0.9724	0.9730	0.9728	0.9738	0.9736	0.9745	0.9737	0.9732	0.9737	0.9713	0.9715
keel_yeast4	0.9373	0.9306	0.9374	0.9357	0.9379	0.9358	0.9317	0.9381	0.9414	0.9353	0.9312	0.9298	0.9313
keel_yeast5	0.9817	0.9826	0.9836	0.9834	0.9838	0.9831	0.9912	0.9901	0.9858	0.9826	0.9883	0.9721	0.9733
keel_yeast6	0.8986	0.9034	0.9097	0.9095	0.9060	0.9050	0.9343	0.9168	0.9086	0.9099	0.9089	0.9043	0.9064

Table 5: F-Measure for ensembles in the Bagging family.

Dataset	SMBAG	BAG	BAGSM100	BAGSM200	BAGSM500	BAGSM	BAGRUS	BAG-RB	BAGopB	BAGopS	BAGopU	RbB:IC+ BAGRUS	RbB:IC+ RBAGSM
hddt_boundary	0.1230	0.0064	0.0258	0.0419	0.0512	0.0680	0.1281	0.1132	0.0892	0.0389	0.0377	0.0218	0.0000
hddt_breast-y	0.4105	0.3807	0.4118	0.4249	0.4104	0.4102	0.4726	0.4496	0.4335	0.4075	0.4437	0.4284	0.4112
hddt_cam	0.1511	0.0261	0.0990	0.1097	0.1166	0.1282	0.2538	0.1916	0.2313	0.1205	0.2775	0.1350	0.0171
hddt_compustat	0.4131	0.0913	0.2561	0.3310	0.4064	0.4006	0.2318	0.3632	0.4074	0.4114	0.2031	0.3918	0.3947
hddt_covtype	0.8679	0.8651	0.8756	0.8783	0.8803	0.8772	0.7199	0.8586	0.8772	0.8785	0.8651	0.8633	0.8760
hddt_credit-g	0.5458	0.5088	0.5475	0.5580	0.5492	0.5518	0.5757	0.5790	0.5570	0.5441	0.5294	0.5284	0.5193
hddt_estate	0.2220	0.0129	0.0771	0.1376	0.1958	0.2026	0.2725	0.2373	0.1514	0.0674	0.1627	0.2100	0.1972
hddt_german-numer	0.5563	0.5115	0.5435	0.5448	0.5448	0.5501	0.5963	0.6002	0.5604	0.5391	0.5540	0.5465	0.5218
hddt_heart-v	0.4102	0.3498	0.4007	0.4002	0.4182	0.4009	0.4416	0.4350	0.4340	0.3875	0.3934	0.3959	0.3631
hddt_hypo	0.8655	0.9109	0.9121	0.9112	0.9003	0.8838	0.7371	0.8793	0.8690	0.8997	0.8909	0.9059	0.9127
hddt_ism	0.5866	0.6250	0.6681	0.6845	0.6735	0.6191	0.3581	0.5660	0.5762	0.6661	0.6132	0.6275	0.6451
hddt_letter	0.9474	0.9540	0.9537	0.9543	0.9547	0.9489	0.8206	0.9618	0.9488	0.9551	0.9423	0.9555	0.9563
hddt_oil	0.4729	0.4416	0.5069	0.5223	0.5406	0.5144	0.2933	0.5254	0.4976	0.5390	0.4654	0.5074	0.5041
hddt_optdigits	0.9795	0.9794	0.9787	0.9791	0.9817	0.9835	0.9483	0.9811	0.9787	0.9806	0.9771	0.9778	0.9791
hddt_page	0.8515	0.8780	0.8795	0.8756	0.8673	0.8585	0.8037	0.8568	0.8631	0.8659	0.8748	0.8779	0.8771
hddt_pendigits	0.9682	0.9619	0.9687	0.9744	0.9720	0.9726	0.9414	0.9775	0.9717	0.9699	0.9597	0.9654	0.9685
hddt_phoneme	0.7932	0.7838	0.7970	0.7951	0.7845	0.7974	0.7719	0.7905	0.7988	0.7983	0.7839	0.7851	0.7921
hddt_PhosS	0.1697	0.1015	0.1264	0.1350	0.1428	0.0545	0.2101	0.1204	0.2145	0.1038	0.2099	0.1445	0.0868
hddt_satimage	0.6485	0.6312	0.6541	0.6631	0.6614	0.6566	0.5635	0.6427	0.6423	0.6569	0.6257	0.6480	0.6499
hddt_segment	0.9710	0.9765	0.9790	0.9758	0.9723	0.9723	0.9426	0.9753	0.9669	0.9764	0.9733	0.9774	0.9783
keel_abalone19	0.0501	0.0000	0.0000	0.0105	0.0222	0.0528	0.0343	0.0607	0.0509	0.0568	0.0104	0.0427	0.0189
keel_abalone9-18	0.3478	0.2037	0.3236	0.3563	0.3619	0.3557	0.2554	0.3487	0.3124	0.3535	0.2716	0.3469	0.3752
keel_cleveland-0-vs.4	0.5530	0.3818	0.5291	0.5580	0.6014	0.5778	0.5491	0.6396	0.5280	0.5667	0.4734	0.4328	0.3578
keel_ecoli-0-1-3-7-vs.2-6	0.4168	0.2867	0.4067	0.4214	0.3769	0.5687	0.2029	0.6226	0.1519	0.4765	0.4630	0.5300	0.2367
keel_ecoli-0-1-4-6-vs.5	0.7108	0.7412	0.8036	0.7892	0.7688	0.7268	0.5404	0.7310	0.6940	0.7562	0.7281	0.7470	0.7585
keel_ecoli-0-1-4-7-vs.2-3	0.6187	0.6762	0.6929	0.7092	0.6987	0.6954	0.5330	0.6721	0.7061	0.7008	0.6508	0.6693	0.7033
keel_ecoli-0-1-4-7-vs.5-6	0.7071	0.6397	0.6761	0.6865	0.7199	0.7330	0.5042	0.7195	0.6822	0.6852	0.6321	0.6677	0.6629
keel_ecoli-0-1-vs.2-3-5	0.7056	0.7370	0.7199	0.7075	0.7474	0.7583	0.5886	0.7247	0.7061	0.7318	0.7282	0.7070	0.7513
keel_ecoli-0-1-vs.5	0.6579	0.7678	0.7329	0.7408	0.7154	0.6924	0.5603	0.7272	0.6206	0.7170	0.6406	0.7272	0.7412
keel_ecoli-0-2-3-4-vs.5	0.7015	0.7532	0.7456	0.7353	0.7543	0.7540	0.6004	0.7135	0.7250	0.7467	0.7432	0.7424	0.7463
keel_ecoli-0-2-6-7-vs.3-5	0.7169	0.7795	0.7928	0.7802	0.7592	0.7427	0.6466	0.7537	0.7226	0.7669	0.7673	0.7887	0.7849
keel_ecoli-0-3-4-7-vs.5-6	0.7214	0.7405	0.7550	0.7614	0.7350	0.7108	0.6961	0.7103	0.6932	0.7327	0.7476	0.7232	0.7500
keel_ecoli-0-3-4-vs.5	0.6821	0.7377	0.7484	0.7419	0.7412	0.7444	0.6055	0.7475	0.7190	0.7438	0.7396	0.7489	0.7637
keel_ecoli-0-4-6-vs.5	0.6837	0.8057	0.7380	0.7736	0.7528	0.7309	0.6082	0.7638	0.7628	0.7798	0.7028	0.7853	0.8028
keel_ecoli-0-6-7-vs.3-5	0.6742	0.7537	0.7347	0.7277	0.7105	0.6961	0.6167	0.7124	0.7038	0.7055	0.7271	0.7161	0.7180
keel_ecoli-0-6-7-vs.5	0.7690	0.8260	0.8254	0.8136	0.8058	0.7932	0.6766	0.7614	0.8119	0.8143	0.8194	0.8149	0.8217
keel_ecoli-0-vs.1	0.9753	0.9778	0.9765	0.9740	0.9715	0.9765	0.9716	0.9728	0.9716	0.9765	0.9729	0.9765	0.9765
keel_ecoli1	0.7841	0.7670	0.7793	0.7809	0.7795	0.7834	0.7827	0.7847	0.7838	0.7810	0.7862	0.7754	0.7829
keel_ecoli2	0.7794	0.8090	0.7961	0.7933	0.7897	0.7890	0.6994	0.7910	0.7977	0.7912	0.7687	0.8001	0.8012
keel_ecoli3	0.5852	0.5421	0.5799	0.6035	0.6263	0.6169	0.5582	0.6174	0.5900	0.5874	0.5731	0.5836	0.5915
keel_ecoli4	0.6875	0.7258	0.7284	0.7287	0.7159	0.7094	0.6587	0.6947	0.6804	0.7005	0.7156	0.7109	0.7225
keel_glass-0-1-2-3-vs.4-5	0.8469	0.8619	0.8539	0.8545	0.8535	0.8473	0.8223	0.8508	0.8642	0.8580	0.8630	0.8618	0.8575
keel_glass-0-1-4-6-vs.2	0.2984	0.0200	0.1242	0.1785	0.2555	0.2671	0.2176	0.3398	0.2317	0.2159	0.1475	0.2100	0.2215
keel_glass-0-1-5-vs.2	0.3228	0.0376	0.1516	0.1793	0.2849	0.2598	0.2324	0.2671	0.2368	0.2323	0.1834	0.1753	0.1764
keel_glass-0-1-6-vs.2	0.2573	0.0222	0.1402	0.1889	0.2202	0.2354	0.2311	0.2425	0.2416	0.2311	0.1164	0.1560	0.1356
keel_glass-0-1-6-vs.5	0.8041	0.5638	0.6664	0.6734	0.7846	0.7924	0.4820	0.7882	0.8034	0.7507	0.6008	0.6189	0.6189
keel_glass-0-4-vs.5	0.9505	0.9505	0.9505	0.9505	0.9505	0.9505	0.9505	0.9505	0.9505	0.9505	0.9505	0.9505	0.9505
keel_glass-0-6-vs.5	0.8946	0.7917	0.8279	0.8279	0.8946	0.8946	0.4965	0.8946	0.8891	0.8251	0.8223	0.7834	0.7834
keel_glass0	0.7273	0.7172	0.7280	0.7184	0.7227	0.7275	0.7126	0.7206	0.7229	0.7213	0.7279	0.7226	0.7257
keel_glass1	0.6767	0.5940	0.6765	0.6871	0.6679	0.6599	0.6695	0.6791	0.6643	0.6466	0.6074	0.6332	0.6272
keel_glass2	0.3022	0.0530	0.0866	0.1594	0.2029	0.2358	0.2445	0.2500	0.2194	0.1640	0.1699	0.1608	0.1680
keel_glass4	0.5029	0.4618	0.4996	0.4992	0.5229	0.4944	0.3791	0.5512	0.4351	0.5059	0.3945	0.4958	0.4958

Continued on next page

Table 5: F-Measure for ensembles in the Bagging family.

Dataset	SMBAG	BAG	BAGSM100	BAGSM200	BAGSM500	BAGSM	BAGRUS	BAG-RB	BAGopB	BAGopS	BAGopU	RbB:IC+ BAGRUS	RbB:IC+ BAGSM
keel_glass5	0.7650	0.7470	0.7859	0.7785	0.7941	0.7557	0.4689	0.7571	0.7745	0.7550	0.7499	0.7353	0.7353
keel_glass6	0.8332	0.8401	0.8495	0.8429	0.8362	0.8373	0.7607	0.8423	0.8380	0.8369	0.8310	0.8415	0.8415
keel_haberman	0.4888	0.3189	0.4875	0.4962	0.4979	0.4924	0.5018	0.4943	0.4962	0.4750	0.4509	0.4635	0.4711
keel_iris0	0.9813	0.9813	0.9813	0.9813	0.9813	0.9813	0.9813	0.9813	0.9813	0.9813	0.9813	0.9813	0.9813
keel_led7digit-0-2-4-5-6-	0.6920	0.7789	0.7788	0.7953	0.7875	0.7792	0.5933	0.7779	0.6997	0.7928	0.7325	0.7760	0.7676
keel_new-thyroid1	0.9190	0.8931	0.8997	0.8945	0.9051	0.9077	0.8453	0.9124	0.8793	0.9066	0.8957	0.9059	0.9059
keel_new-thyroid2	0.9134	0.9054	0.9036	0.9175	0.9055	0.9157	0.8353	0.8993	0.9137	0.9255	0.8935	0.9223	0.9223
keel_page-blocks-1-3-vs_4	0.9325	0.9335	0.9231	0.9325	0.9325	0.9325	0.5009	0.9271	0.9215	0.9365	0.8910	0.9284	0.9284
keel_page-blocks0	0.8487	0.8704	0.8706	0.8697	0.8628	0.8559	0.8002	0.8530	0.8571	0.8644	0.8695	0.8726	0.8744
keel_pima	0.6663	0.6422	0.6620	0.6696	0.6645	0.6642	0.6683	0.6721	0.6715	0.6498	0.6583	0.6587	0.6578
keel_segment0	0.9689	0.9726	0.9753	0.9741	0.9724	0.9726	0.9346	0.9700	0.9712	0.9747	0.9652	0.9727	0.9751
keel_shuttle-c0-vs-c4	1.0000	0.9943	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9945	0.9984	0.9945	0.9943	0.9943
keel_shuttle-c2-vs-c4	1.0000	0.9200	1.0000	1.0000	1.0000	1.0000	0.7900	1.0000	0.9800	0.9800	0.9800	0.9000	0.9000
keel_vehicle0	0.8775	0.8851	0.8846	0.8823	0.8819	0.8828	0.8701	0.8803	0.8838	0.8812	0.8841	0.8848	0.8791
keel_vehicle1	0.6119	0.5112	0.5900	0.6005	0.6183	0.5903	0.6304	0.6197	0.6048	0.5848	0.5371	0.5492	0.5385
keel_vehicle2	0.9320	0.9469	0.9248	0.9206	0.9240	0.9227	0.9186	0.9404	0.9266	0.9354	0.9427	0.9437	0.9437
keel_vehicle3	0.6014	0.5018	0.5570	0.5837	0.6006	0.5839	0.6160	0.6140	0.5878	0.5489	0.5369	0.5241	0.5198
keel_vowel0	0.8906	0.9150	0.8972	0.9028	0.9083	0.9024	0.7928	0.8787	0.8946	0.9001	0.8798	0.9086	0.9086
keel_wisconsin	0.9480	0.9436	0.9481	0.9478	0.9478	0.9460	0.9488	0.9501	0.9467	0.9463	0.9484	0.9449	0.9449
keel_yeast-0-2-5-6-vs-3-7	0.5692	0.5214	0.5466	0.5722	0.5960	0.6011	0.5521	0.5802	0.5802	0.5943	0.5640	0.5326	0.5697
keel_yeast-0-2-5-7-9-vs-3	0.7612	0.7619	0.7661	0.7752	0.7899	0.7966	0.7311	0.7775	0.7635	0.7909	0.7380	0.7272	0.7670
keel_yeast-0-3-5-9-vs-7-8	0.4050	0.2270	0.3471	0.4047	0.4106	0.4094	0.3652	0.3869	0.3607	0.3810	0.3331	0.3573	0.3934
keel_yeast-0-5-6-7-9-vs-4	0.4906	0.4698	0.4885	0.4856	0.5007	0.5064	0.4778	0.5246	0.5148	0.4991	0.5125	0.4910	0.4980
keel_yeast-1-2-8-9-vs-7	0.2068	0.1035	0.1997	0.2214	0.2554	0.1654	0.1544	0.1785	0.2061	0.1759	0.1744	0.2637	0.1870
keel_yeast-1-4-5-8-vs-7	0.1518	0.0095	0.0083	0.0198	0.0899	0.1534	0.1339	0.1565	0.1258	0.1267	0.0686	0.1790	0.1485
keel_yeast-1-vs-7	0.3287	0.3097	0.3396	0.3451	0.3213	0.2724	0.2940	0.3350	0.3348	0.3073	0.3465	0.3597	0.3003
keel_yeast-2-vs-4	0.7196	0.7570	0.7394	0.7304	0.7336	0.7282	0.6910	0.7292	0.7453	0.7294	0.7404	0.7497	0.7506
keel_yeast-2-vs-8	0.4588	0.0000	0.4389	0.6385	0.6421	0.5919	0.3764	0.5572	0.5511	0.6194	0.6345	0.2787	0.3452
keel_yeast1	0.5952	0.5493	0.5938	0.5910	0.5931	0.5953	0.6004	0.6027	0.5887	0.5790	0.5746	0.5749	0.5924
keel_yeast3	0.7851	0.7697	0.7892	0.7933	0.7904	0.7903	0.7566	0.7811	0.7833	0.7942	0.7805	0.7715	0.7832
keel_yeast4	0.3830	0.3396	0.4075	0.4109	0.4299	0.4286	0.2516	0.3884	0.4079	0.4160	0.3814	0.4205	0.4472
keel_yeast5	0.7252	0.7154	0.7238	0.7295	0.7332	0.7236	0.4614	0.7269	0.6643	0.7256	0.6738	0.7241	0.7119
keel_yeast6	0.4342	0.4476	0.5551	0.5443	0.5600	0.4968	0.2570	0.4575	0.4433	0.5256	0.4480	0.4876	0.5546

Table 6: Geometric Mean for ensembles in the Bagging family.

Dataset	SMBAG	BAG	BAGSM100	BAGSM200	BAGSM500	BAGSM	BAGRUS	BAG-RB	BAGopB	BAGopS	BAGopU	RbB:IC+ BAGRU	RbB:IC+ BAGSM
hddt_boundary	0.3028	0.0255	0.0834	0.1362	0.1592	0.1819	0.6608	0.2730	0.2418	0.1128	0.1832	0.0707	0.0000
hddt_breast-y	0.5481	0.5197	0.5526	0.5658	0.5543	0.5526	0.6053	0.5872	0.5687	0.5471	0.5789	0.5662	0.5498
hddt_cam	0.3296	0.1144	0.2411	0.2550	0.2655	0.2805	0.6870	0.3610	0.4943	0.2701	0.6291	0.2877	0.0903
hddt_compustat	0.7477	0.2173	0.3955	0.4769	0.5858	0.7224	0.8088	0.7780	0.6979	0.6879	0.3943	0.6711	0.7079
hddt_covtype	0.9547	0.9086	0.9547	0.9332	0.9427	0.9489	0.9555	0.9555	0.9470	0.9519	0.9165	0.9406	0.9434
hddt_credit-g	0.6617	0.6221	0.6621	0.6719	0.6647	0.6662	0.6918	0.6941	0.6720	0.6577	0.6455	0.6439	0.6338
hddt_estate	0.4883	0.0706	0.2091	0.3008	0.4203	0.4467	0.6028	0.5266	0.3384	0.1781	0.3657	0.4332	0.4418
hddt_german-numeric	0.6700	0.6224	0.6626	0.6581	0.6627	0.6617	0.7102	0.7134	0.6722	0.6507	0.6661	0.6593	0.6323
hddt_heart-v	0.5601	0.4915	0.5413	0.5461	0.5701	0.5463	0.6080	0.5871	0.5829	0.5280	0.5445	0.5543	0.5055
hddt_hypo	0.9550	0.9471	0.9472	0.9490	0.9498	0.9547	0.9605	0.9635	0.9644	0.9497	0.9538	0.9580	0.9511
hddt_isr	0.8744	0.7123	0.7653	0.7952	0.8197	0.8701	0.8915	0.8836	0.8724	0.8351	0.7819	0.8378	0.8494
hddt_letter	0.9747	0.9653	0.9656	0.9656	0.9654	0.9629	0.9807	0.9719	0.9695	0.9663	0.9696	0.9721	0.9667
hddt_oil	0.7283	0.5747	0.6362	0.6571	0.6669	0.6855	0.8226	0.7454	0.7560	0.6767	0.7403	0.6983	0.6323
hddt_optdigits	0.9890	0.9845	0.9854	0.9862	0.9866	0.9895	0.9868	0.9902	0.9881	0.9875	0.9863	0.9846	0.9851
hddt_page	0.9515	0.9237	0.9378	0.9423	0.9487	0.9507	0.9571	0.9569	0.9502	0.9453	0.9362	0.9371	0.9373
hddt_pendigits	0.9813	0.9697	0.9760	0.9810	0.9808	0.9824	0.9813	0.9869	0.9817	0.9794	0.9746	0.9745	0.9754
hddt_phoneme	0.8693	0.8434	0.8668	0.8707	0.8686	0.8693	0.8588	0.8663	0.8676	0.8659	0.8489	0.8461	0.8590
hddt_PhosS	0.3658	0.2330	0.2670	0.2786	0.2896	0.1580	0.7059	0.2598	0.5699	0.2426	0.6287	0.2905	0.2141
hddt_satimage	0.8341	0.7228	0.7655	0.7859	0.8041	0.8147	0.8696	0.8440	0.8141	0.8041	0.7726	0.7768	0.7642
hddt_segment	0.9872	0.9836	0.9866	0.9863	0.9858	0.9857	0.9824	0.9880	0.9852	0.9864	0.9838	0.9848	0.9847
keel_abalone19	0.3784	0.0000	0.0000	0.0250	0.0500	0.2229	0.7165	0.3001	0.4378	0.1950	0.2190	0.2786	0.0747
keel_abalone9-18	0.6503	0.3497	0.4806	0.5236	0.5649	0.5966	0.7133	0.6237	0.5680	0.5505	0.5747	0.6245	0.5895
keel_cleaveland-0-vs.4	0.7115	0.4921	0.6318	0.6620	0.6895	0.6681	0.8377	0.7622	0.7172	0.6700	0.6249	0.5544	0.4698
keel_ecoli-0-1-3-7-vs.2-6	0.6323	0.3619	0.5292	0.6014	0.7605	0.7397	0.8188	0.7971	0.7213	0.6299	0.7329	0.6657	0.3041
keel_ecoli-0-1-4-6-vs.5	0.8470	0.8050	0.8758	0.8741	0.8577	0.8325	0.8512	0.8442	0.8474	0.8396	0.8524	0.8377	0.8281
keel_ecoli-0-1-4-7-vs.2-3	0.7986	0.7497	0.7907	0.8152	0.8270	0.8255	0.8391	0.8236	0.8180	0.8217	0.8003	0.7909	0.8085
keel_ecoli-0-1-4-7-vs.5-6	0.8506	0.7312	0.7735	0.7871	0.8202	0.8374	0.8374	0.8359	0.8116	0.7814	0.7621	0.7659	0.7513
keel_ecoli-0-1-vs.2-3-5	0.8760	0.8166	0.8333	0.8276	0.8673	0.8784	0.8621	0.8763	0.8460	0.8486	0.8461	0.8452	0.8568
keel_ecoli-0-1-vs.5	0.8121	0.8405	0.8503	0.8426	0.8191	0.8060	0.8500	0.8547	0.8250	0.8201	0.8348	0.8355	0.8371
keel_ecoli-0-2-3-4-vs.5	0.8716	0.8471	0.8554	0.8590	0.8803	0.8798	0.8670	0.8830	0.8704	0.8561	0.8700	0.8596	0.8599
keel_ecoli-0-2-6-7-vs.3-5	0.8577	0.8530	0.8644	0.8626	0.8646	0.8576	0.8651	0.8636	0.8554	0.8654	0.8659	0.8685	0.8681
keel_ecoli-0-3-4-6-vs.5	0.8504	0.8783	0.8672	0.8682	0.8619	0.8641	0.8497	0.8700	0.8530	0.8710	0.8701	0.8586	0.8558
keel_ecoli-0-3-4-7-vs.5-6	0.8599	0.8130	0.8422	0.8590	0.8429	0.8357	0.8249	0.8405	0.8166	0.8339	0.8528	0.8382	0.8255
keel_ecoli-0-3-4-7-vs.5-6	0.8052	0.8413	0.8633	0.8622	0.8486	0.8446	0.8391	0.8495	0.8210	0.8450	0.8376	0.8593	0.8474
keel_ecoli-0-3-4-vs.5	0.8450	0.8579	0.8651	0.8630	0.8567	0.8452	0.8678	0.8804	0.8764	0.8695	0.8713	0.8743	0.8674
keel_ecoli-0-4-6-vs.2	0.8302	0.8211	0.8189	0.8327	0.8351	0.8285	0.8414	0.8405	0.8439	0.8297	0.8358	0.8218	0.8265
keel_ecoli-0-6-7-vs.3-5	0.9042	0.8924	0.9021	0.9007	0.9045	0.9074	0.8968	0.9034	0.9098	0.9103	0.9108	0.9103	0.9113
keel_ecoli-0-6-7-vs.5	0.9807	0.9820	0.9814	0.9800	0.9786	0.9814	0.9785	0.9793	0.9785	0.9814	0.9792	0.9814	0.9814
keel_ecoli1	0.8853	0.8422	0.8663	0.8732	0.8807	0.8772	0.8975	0.8886	0.8858	0.8658	0.8825	0.8556	0.8622
keel_ecoli2	0.8796	0.8649	0.8702	0.8697	0.8725	0.8723	0.8789	0.8839	0.8817	0.8693	0.8789	0.8729	0.8734
keel_ecoli3	0.8090	0.6900	0.7394	0.7725	0.8113	0.8242	0.8759	0.8519	0.7968	0.7666	0.7554	0.7497	0.7563
keel_ecoli4	0.8220	0.8252	0.8422	0.8492	0.8526	0.8348	0.9036	0.8385	0.8241	0.8232	0.8479	0.8466	0.8298
keel_glass-0-1-2-3-vs.4-5	0.9081	0.9085	0.9068	0.9106	0.9174	0.9046	0.9100	0.9183	0.9215	0.9125	0.9199	0.9097	0.9056
keel_glass-0-1-2-3-vs.4-5	0.5311	0.0333	0.1953	0.2646	0.4008	0.4573	0.6165	0.5606	0.4887	0.3382	0.3003	0.3563	0.3169
keel_glass-0-1-4-6-vs.2	0.5894	0.0680	0.2450	0.2823	0.4868	0.4567	0.5862	0.4768	0.4941	0.4092	0.4060	0.3294	0.3027
keel_glass-0-1-5-vs.2	0.4944	0.0354	0.2515	0.3236	0.3840	0.4257	0.6103	0.4649	0.5077	0.3965	0.2618	0.2228	0.2228
keel_glass-0-1-6-vs.2	0.9603	0.6623	0.7805	0.7934	0.9154	0.9165	0.9410	0.9756	0.9645	0.8838	0.7281	0.7397	0.7397
keel_glass-0-1-6-vs.5	0.9939	0.9939	0.9939	0.9939	0.9939	0.9939	0.9939	0.9939	0.9939	0.9939	0.9939	0.9939	0.9939
keel_glass-0-4-vs.5	0.9493	0.8521	0.8940	0.8940	0.9493	0.9493	0.8702	0.9493	0.9484	0.8814	0.9133	0.8513	0.8513
keel_glass-0-6-vs.5	0.8012	0.7875	0.7994	0.7934	0.7991	0.7987	0.7916	0.7967	0.7969	0.7924	0.7992	0.7924	0.7948
keel_glass1	0.7438	0.6757	0.7444	0.7546	0.7355	0.7307	0.7386	0.7466	0.7388	0.7188	0.6873	0.7032	0.7032
keel_glass2	0.5798	0.0820	0.1498	0.2773	0.3411	0.4446	0.6610	0.5043	0.4965	0.3102	0.3591	0.2896	0.2918
keel_glass4	0.7470	0.5959	0.6602	0.6800	0.6974	0.7136	0.8259	0.7836	0.6804	0.6773	0.7042	0.6334	0.6334

Continued on next page

Table 6: Geometric Mean for ensembles in the Bagging family.

Dataset	SMBAG	BAG	BAGSM100	BAGSM200	BAGSM500	BAGSM	BAGRUS	BAG-RB	BAGopB	BAGopS	BAGopU	RbB:IC+ BAGRUS	RbB:IC+ BAGSM
keel_glass5	0.9556	0.8595	0.9025	0.9233	0.9671	0.9315	0.9473	0.9754	0.9531	0.9166	0.9002	0.8292	0.8292
keel_glass6	0.9190	0.9021	0.9130	0.9179	0.9137	0.9169	0.9036	0.9235	0.9198	0.9076	0.9138	0.9142	0.9054
keel_haberman	0.6413	0.4590	0.6365	0.6488	0.6483	0.6457	0.6528	0.6454	0.6401	0.6273	0.5957	0.6076	0.6215
keel_iris0	0.9816	0.9816	0.9816	0.9816	0.9816	0.9816	0.9816	0.9816	0.9816	0.9816	0.9816	0.9816	0.9816
keel_led7digit-0-2-4-5-6-	0.8864	0.8729	0.8781	0.8930	0.9025	0.9016	0.8741	0.8960	0.8776	0.8956	0.8716	0.8855	0.8767
keel_new-thyroid1	0.9505	0.9329	0.9366	0.9337	0.9410	0.9413	0.9375	0.9494	0.9302	0.9435	0.9335	0.9383	0.9383
keel_new-thyroid2	0.9500	0.9340	0.9368	0.9464	0.9437	0.9483	0.9437	0.9420	0.9503	0.9527	0.9363	0.9497	0.9497
keel_page-blocks-1-3-vs_4	0.9634	0.9559	0.9519	0.9634	0.9634	0.9634	0.9634	0.9698	0.9766	0.9672	0.9491	0.9516	0.9516
keel_page-blocks0	0.9462	0.9196	0.9321	0.9379	0.9448	0.9453	0.9525	0.9537	0.9472	0.9416	0.9287	0.9323	0.9380
keel_pima	0.7402	0.7180	0.7370	0.7415	0.7307	0.7390	0.7401	0.7451	0.7450	0.7263	0.7319	0.7324	0.7324
keel_segment0	0.9853	0.9793	0.9854	0.9854	0.9854	0.9855	0.9789	0.9847	0.9852	0.9853	0.9811	0.9811	0.9815
keel_shuttle-c0-vs-c4	1.0000	0.9996	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.9996	0.9999	0.9996	0.9996	0.9996
keel_shuttle-c2-vs-c4	1.0000	0.9266	1.0000	1.0000	1.0000	1.0000	0.8027	1.0000	0.9816	0.9816	0.9816	0.9821	0.9082
keel_vehicle0	0.9355	0.9288	0.9332	0.9329	0.9359	0.9350	0.9436	0.9394	0.9383	0.9310	0.9324	0.9281	0.9247
keel_vehicle1	0.7487	0.6362	0.7172	0.7326	0.7552	0.7236	0.7722	0.7541	0.7354	0.7148	0.6653	0.6758	0.6648
keel_vehicle2	0.9614	0.9631	0.9530	0.9528	0.9560	0.9536	0.9611	0.9665	0.9570	0.9589	0.9630	0.9611	0.9608
keel_vehicle3	0.7420	0.6221	0.6885	0.7186	0.7434	0.7197	0.7637	0.7524	0.7216	0.6793	0.6615	0.6484	0.6425
keel_vowel0	0.9667	0.9432	0.9474	0.9511	0.9636	0.9700	0.9545	0.9681	0.9673	0.9611	0.9485	0.9415	0.9415
keel_wisconsin	0.9616	0.9570	0.9616	0.9622	0.9631	0.9601	0.9636	0.9635	0.9605	0.9599	0.9620	0.9585	0.9583
keel_yeast-0-2-5-6-vs-3-7	0.7666	0.6301	0.6692	0.7045	0.7466	0.7655	0.7994	0.7731	0.7714	0.7544	0.7853	0.7233	0.7329
keel_yeast-0-2-5-7-9-vs-3	0.9025	0.8333	0.8499	0.8641	0.8940	0.9070	0.9057	0.9022	0.9072	0.9034	0.8971	0.8623	0.8745
keel_yeast-0-3-5-9-vs-7-8	0.6536	0.3363	0.4963	0.5703	0.6028	0.6174	0.7023	0.6894	0.6110	0.5558	0.5148	0.5618	0.5853
keel_yeast-0-5-6-7-9-vs-4	0.7346	0.6141	0.6553	0.6701	0.7061	0.7295	0.8004	0.7433	0.7293	0.6843	0.7103	0.7022	0.6975
keel_yeast-1-2-8-9-vs-7	0.5552	0.1947	0.3282	0.3501	0.4204	0.4163	0.7062	0.4947	0.4324	0.3296	0.3651	0.5941	0.4043
keel_yeast-1-4-5-8-vs-7	0.4614	0.0256	0.0255	0.0513	0.2109	0.3842	0.6277	0.4222	0.4057	0.2971	0.3186	0.4648	0.3029
keel_yeast-1-vs-7	0.6384	0.4431	0.4944	0.5148	0.5475	0.5337	0.7354	0.6455	0.6072	0.5271	0.5358	0.6328	0.5115
keel_yeast-2-vs-4	0.9002	0.8549	0.8639	0.8685	0.8853	0.8934	0.9226	0.9070	0.8972	0.8863	0.8750	0.8634	0.8597
keel_yeast-2-vs-8	0.7089	0.0000	0.5009	0.7162	0.7344	0.7369	0.7136	0.7286	0.7146	0.7329	0.7340	0.4470	0.4511
keel_yeast1	0.7135	0.6536	0.7074	0.7093	0.7149	0.7110	0.7199	0.7212	0.7021	0.6894	0.6839	0.6864	0.7072
keel_yeast3	0.9225	0.8705	0.8963	0.9052	0.9144	0.9175	0.9311	0.9294	0.9259	0.9128	0.9116	0.8962	0.8962
keel_yeast4	0.7684	0.4765	0.5575	0.5810	0.6484	0.7385	0.8570	0.8055	0.7438	0.6749	0.7512	0.7441	0.6845
keel_yeast5	0.9370	0.8249	0.8546	0.8643	0.8845	0.9179	0.9555	0.9391	0.9313	0.8879	0.9292	0.8651	0.8406
keel_yeast6	0.7722	0.5959	0.6980	0.7057	0.7343	0.7687	0.8691	0.7869	0.7834	0.7630	0.7355	0.7717	0.7635

Table 7: AUC for ensembles in the Boosting Family.

Dataset	AdaM1W	AdaM1S	RUSB	MultiW	MultiS	SB100	SB200	SB500	RB-B
hddt_boundary	0.7246	0.7096	0.6975	0.7126	0.6729	0.6791	0.6788	0.6821	0.7085
hddt_breast-y	0.6283	0.6173	0.6441	0.6249	0.6297	0.6125	0.6023	0.5988	0.6223
hddt_cam	0.7601	0.7615	0.8074	0.7576	0.7732	0.7738	0.7697	0.7324	0.7665
hddt_compustat	0.9224	0.9244	0.8915	0.9294	0.9290	0.9331	0.9345	0.9336	0.9320
hddt_covtype	0.9949	0.9948	0.9929	0.9948	0.9948	0.9963	0.9960	0.9962	0.9959
hddt_credit-g	0.7593	0.7527	0.7468	0.7615	0.7607	0.7348	0.7245	0.7152	0.7546
hddt_estate	0.5812	0.5803	0.6388	0.5904	0.6092	0.6158	0.6087	0.5916	0.6138
hddt_german-numer	0.7575	0.7650	0.7523	0.7662	0.7730	0.7583	0.7607	0.7514	0.7626
hddt_heart-v	0.6480	0.6476	0.6708	0.6624	0.6650	0.6771	0.6705	0.6697	0.7056
hddt_hypo	0.9899	0.9900	0.9902	0.9905	0.9894	0.9900	0.9899	0.9903	0.9925
hddt_ism	0.8672	0.8742	0.9382	0.8867	0.8966	0.8915	0.9043	0.9107	0.9130
hddt_letter	0.9999	0.9999	0.9998	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999
hddt_oil	0.9212	0.8962	0.9135	0.9144	0.9063	0.9179	0.9088	0.9125	0.9281
hddt_optdigits	1.0000	0.9999	0.9999	0.9997	0.9997	0.9999	0.9999	0.9999	0.9999
hddt_page	0.9870	0.9880	0.9908	0.9902	0.9897	0.9915	0.9913	0.9909	0.9911
hddt PENDIGITS	0.9997	0.9997	0.9999	0.9997	0.9997	0.9999	0.9999	0.9999	1.0000
hddt_phoneme	0.9428	0.9434	0.9449	0.9437	0.9436	0.9461	0.9505	0.9494	0.9502
hddt_PhosS	0.7211	0.7204	0.7641	0.7345	0.7467	0.7299	0.7331	0.7324	0.7276
hddt_satimage	0.9581	0.9571	0.9528	0.9574	0.9577	0.9596	0.9607	0.9599	0.9620
hddt_segment	0.9974	0.9999	0.9998	0.9973	0.9997	0.9998	0.9999	0.9999	0.9999
keel_abalone19	0.6609	0.6934	0.7682	0.6741	0.6938	0.7035	0.7195	0.7255	0.7154
keel_abalone9-18	0.8070	0.8089	0.7802	0.8149	0.8091	0.8089	0.8088	0.8059	0.8070
keel_cleveland-0-vs_4	0.8840	0.9526	0.9503	0.8836	0.9642	0.9448	0.9385	0.9524	0.9572
keel_ecoli-0-1-3-7-vs_2-6	0.8624	0.9067	0.9224	0.8816	0.9121	0.9220	0.9128	0.9100	0.9204
keel_ecoli-0-1-4-6-vs_5	0.9497	0.9856	0.9868	0.9508	0.9848	0.9841	0.9862	0.9851	0.9892
keel_ecoli-0-1-4-7-vs_2-3	0.9199	0.9259	0.9220	0.9081	0.9280	0.9334	0.9241	0.9300	0.9325
keel_ecoli-0-1-4-7-vs_5-6	0.9282	0.9726	0.9630	0.9266	0.9714	0.9630	0.9659	0.9675	0.9668
keel_ecoli-0-1-vs_2-3-5	0.9406	0.9400	0.9411	0.9416	0.9363	0.9312	0.9389	0.9423	0.9495
keel_ecoli-0-1-vs_5	0.9312	0.9820	0.9820	0.9318	0.9809	0.9760	0.9748	0.9755	0.9853
keel_ecoli-0-2-3-4-vs_5	0.9183	0.9726	0.9819	0.9195	0.9732	0.9715	0.9787	0.9804	0.9833
keel_ecoli-0-2-6-7-vs_3-5	0.9202	0.9309	0.9049	0.9248	0.9280	0.9305	0.9320	0.9351	0.9305
keel_ecoli-0-3-4-6-vs_5	0.9431	0.9626	0.9678	0.9409	0.9647	0.9762	0.9781	0.9772	0.9789
keel_ecoli-0-3-4-7-vs_5-6	0.9448	0.9607	0.9589	0.9435	0.9639	0.9558	0.9578	0.9552	0.9622
keel_ecoli-0-3-4-vs_5	0.9574	0.9746	0.9802	0.9556	0.9679	0.9729	0.9761	0.9772	0.9815
keel_ecoli-0-4-6-vs_5	0.9415	0.9809	0.9769	0.9481	0.9806	0.9806	0.9790	0.9712	0.9840
keel_ecoli-0-2-3-4-vs_5	0.8781	0.9203	0.8985	0.8850	0.9251	0.9033	0.9102	0.9150	0.9237
keel_ecoli-0-6-7-vs_5	0.9288	0.9569	0.9582	0.9347	0.9614	0.9587	0.9620	0.9633	0.9612
keel_ecoli-0-vs_1	0.9823	0.9771	0.9889	0.9827	0.9790	0.9881	0.9888	0.9859	0.9909
keel_ecoli1	0.9310	0.9332	0.9498	0.9383	0.9375	0.9409	0.9390	0.9437	0.9456
keel_ecoli2	0.9506	0.9653	0.9668	0.9491	0.9614	0.9538	0.9607	0.9600	0.9639
keel_ecoli3	0.9049	0.9190	0.9192	0.9230	0.9265	0.9180	0.9194	0.9210	0.9209
keel_ecoli4	0.9508	0.9768	0.9882	0.9511	0.9799	0.9811	0.9798	0.9810	0.9855
keel_glass-0-1-2-3-vs_4-5	0.9683	0.9695	0.9734	0.9601	0.9684	0.9723	0.9728	0.9705	0.9767
keel_glass-0-1-4-6-vs_2	0.6906	0.7160	0.7255	0.6964	0.7293	0.7279	0.7323	0.7561	0.7737
keel_glass-0-1-5-vs_2	0.6097	0.7205	0.7230	0.6312	0.7277	0.7205	0.7470	0.7732	0.7489
keel_glass-0-1-6-vs_2	0.7076	0.6740	0.6967	0.7112	0.7068	0.7296	0.7340	0.7693	0.7582
keel_glass-0-1-6-vs_5	0.9781	0.9871	0.9951	0.9814	0.9902	0.9886	0.9876	0.9880	0.9909
keel_glass-0-4-vs_5	0.9940	0.9914	0.9940	0.9940	0.9914	0.9940	0.9940	0.9940	0.9956
keel_glass-0-6-vs_5	0.9745	0.9621	0.9932	0.9737	0.9621	0.9886	0.9912	0.9915	0.9907
keel_glass0	0.8742	0.8777	0.8890	0.8796	0.8821	0.8661	0.8646	0.8743	0.8833
keel_glass1	0.8283	0.8467	0.8470	0.8311	0.8448	0.8440	0.8460	0.8399	0.8592
keel_glass2	0.6928	0.7078	0.7470	0.7252	0.7374	0.7730	0.7910	0.8155	0.7502
keel_glass4	0.8673	0.9568	0.9147	0.8760	0.9703	0.9436	0.9435	0.9463	0.9628
keel_glass5	0.9714	0.9840	0.9931	0.9714	0.9850	0.9737	0.9748	0.9806	0.9864
keel_glass6	0.9637	0.9654	0.9573	0.9618	0.9617	0.9551	0.9548	0.9541	0.9565
keel_haberman	0.6390	0.6426	0.6989	0.6390	0.6486	0.6821	0.6832	0.6824	0.6735
keel_iris0	0.9820	0.9800	0.9820	0.9820	0.9800	0.9820	0.9820	0.9820	1.0000
keel_led7digit-0-2-4-5-6-	0.9578	0.9546	0.9590	0.9619	0.9589	0.9564	0.9540	0.9610	0.9653
keel_new-thyroid1	0.9692	0.9944	0.9963	0.9688	0.9939	0.9961	0.9970	0.9971	0.9971
keel_new-thyroid2	0.9734	0.9960	0.9974	0.9734	0.9954	0.9970	0.9973	0.9978	0.9983
keel_page-blocks-1-3-vs_4	0.9702	0.9995	0.9996	0.9702	0.9995	0.9986	0.9982	0.9990	0.9998
keel_page-blocks0	0.9865	0.9862	0.9903	0.9893	0.9888	0.9903	0.9904	0.9901	0.9904
keel_pima	0.7783	0.7947	0.8006	0.7974	0.8001	0.7965	0.7990	0.7957	0.8018
keel_segment0	0.9950	0.9996	0.9999	0.9948	0.9995	0.9996	0.9999	0.9998	0.9999
keel_shuttle-c0-vs-c4	0.9996	0.9990	1.0000	0.9996	0.9990	1.0000	1.0000	1.0000	1.0000
keel_shuttle-c2-vs-c4	0.9427	0.9173	1.0000	0.9427	0.9173	1.0000	1.0000	1.0000	1.0000
keel_vehicle0	0.9899	0.9914	0.9959	0.9886	0.9891	0.9933	0.9930	0.9915	0.9958
keel_vehicle1	0.8438	0.8427	0.8523	0.8516	0.8479	0.8494	0.8519	0.8450	0.8511
keel_vehicle2	0.9890	0.9944	0.9972	0.9889	0.9944	0.9969	0.9964	0.9951	0.9981
keel_vehicle3	0.8388	0.8404	0.8462	0.8511	0.8441	0.8423	0.8451	0.8410	0.8458
keel_vowel0	0.9849	0.9988	0.9993	0.9873	0.9984	0.9988	0.9989	0.9990	0.9997
keel_wisconsin	0.9858	0.9869	0.9918	0.9858	0.9863	0.9930	0.9925	0.9920	0.9931
keel_yeast-0-2-5-6-vs_3-7	0.8305	0.8464	0.8477	0.8426	0.8484	0.8418	0.8402	0.8346	0.8427

Continued on next page

Table 7: AUC for ensembles in the Boosting Family.

Dataset	AdaM1W	AdaM1S	RUSB	MultiW	MultiS	SB100	SB200	SB500	RB-B
keel_yeast-0-2-5-7-9_vs_3	0.9454	0.9435	0.9469	0.9397	0.9463	0.9463	0.9454	0.9447	0.9436
keel_yeast-0-3-5-9_vs_7-8	0.7657	0.7578	0.7664	0.7727	0.7646	0.7599	0.7514	0.7558	0.7565
keel_yeast-0-5-6-7-9_vs_4	0.8741	0.8809	0.8934	0.8791	0.8912	0.8788	0.8877	0.8830	0.8795
keel_yeast-1-2-8-9_vs_7	0.7419	0.7405	0.7785	0.7596	0.7502	0.7674	0.7626	0.7600	0.7477
keel_yeast-1-4-5-8_vs_7	0.6720	0.6670	0.6809	0.6897	0.7032	0.6907	0.6854	0.6756	0.6655
keel_yeast-1_vs_7	0.7946	0.8048	0.8179	0.8157	0.8121	0.7985	0.7998	0.7943	0.8059
keel_yeast-2_vs_4	0.9619	0.9631	0.9695	0.9665	0.9718	0.9688	0.9696	0.9737	0.9705
keel_yeast-2_vs_8	0.8206	0.8668	0.8099	0.8417	0.8518	0.8268	0.8257	0.8225	0.8216
keel_yeast1	0.7564	0.7644	0.7873	0.7702	0.7778	0.7769	0.7766	0.7715	0.7768
keel_yeast3	0.9603	0.9616	0.9671	0.9673	0.9661	0.9641	0.9650	0.9647	0.9641
keel_yeast4	0.8974	0.9034	0.9242	0.9209	0.9172	0.9107	0.9150	0.9203	0.9148
keel_yeast5	0.9805	0.9849	0.9878	0.9826	0.9878	0.9843	0.9840	0.9848	0.9766
keel_yeast6	0.8852	0.8970	0.9303	0.8882	0.8989	0.8851	0.9023	0.9025	0.8965

Table 8: F-Measure for ensembles in the Boosting family.

Dataset	AdaM1W	AdaM1S	RUSB	MultiW	MultiS	SB100	SB200	SB500	RB-B
hddt_boundary	0.0127	0.0063	0.1378	0.0095	0.0031	0.0668	0.0649	0.0643	0.0388
hddt_breast-y	0.4122	0.3823	0.4605	0.3944	0.3944	0.4068	0.3920	0.4029	0.4023
hddt_cam	0.0928	0.0980	0.2463	0.0700	0.0973	0.1523	0.1527	0.1639	0.1356
hddt_compustat	0.2309	0.2535	0.2966	0.1772	0.2121	0.3074	0.3778	0.4576	0.4538
hddt_covtype	0.8996	0.8994	0.8095	0.8951	0.8974	0.9027	0.9041	0.9037	0.9055
hddt_credit-g	0.5020	0.5121	0.5126	0.4869	0.5156	0.5221	0.5173	0.5227	0.5173
hddt_estate	0.0906	0.1171	0.2679	0.0643	0.0886	0.0400	0.1274	0.1928	0.0813
hddt_german-numer	0.5233	0.5370	0.5358	0.5198	0.5486	0.5185	0.5261	0.5270	0.5334
hddt_heart-v	0.3638	0.3755	0.4137	0.3681	0.3475	0.4261	0.4201	0.4073	0.4107
hddt_hypo	0.8937	0.8985	0.7998	0.9014	0.8981	0.8883	0.8933	0.8846	0.8863
hddt_ism	0.6404	0.6264	0.4463	0.6623	0.6538	0.6615	0.6702	0.6829	0.6804
hddt_letter	0.9738	0.9762	0.9669	0.9726	0.9732	0.9780	0.9778	0.9767	0.9768
hddt_oil	0.4427	0.4771	0.4303	0.4463	0.4657	0.4372	0.4222	0.4650	0.5504
hddt_optdigits	0.9929	0.9924	0.9928	0.9898	0.9900	0.9920	0.9898	0.9896	0.9925
hddt_page	0.8686	0.8594	0.8506	0.8801	0.8790	0.8733	0.8698	0.8589	0.8792
hddt_pendigits	0.9877	0.9890	0.9866	0.9849	0.9862	0.9862	0.9848	0.9851	0.9892
hddt_phoneme	0.8110	0.8156	0.8040	0.8163	0.8163	0.8086	0.8144	0.8073	0.8149
hddt_PhosS	0.0013	0.0019	0.2476	0.0020	0.0198	0.0482	0.0516	0.0482	0.0045
hddt_satimage	0.6690	0.6779	0.6330	0.6604	0.6653	0.6838	0.6804	0.6823	0.6916
hddt_segment	0.9834	0.9936	0.9909	0.9831	0.9914	0.9854	0.9860	0.9873	0.9912
keel_abalone19	0.0118	0.0000	0.0429	0.0000	0.0000	0.0223	0.0105	0.0274	0.0284
keel_abalone9-18	0.3047	0.3129	0.2869	0.2835	0.3312	0.3604	0.3648	0.3677	0.3769
keel_cleveland-0_vs_4	0.4372	0.5098	0.5863	0.4144	0.4795	0.4493	0.4161	0.4574	0.5681
keel_ecoli-0-1-3-7_vs_2-6	0.4755	0.4319	0.3508	0.4450	0.4438	0.2744	0.3338	0.3805	0.5110
keel_ecoli-0-1-4-6_vs_5	0.7474	0.7952	0.7613	0.7452	0.8090	0.7836	0.7748	0.7794	0.8031
keel_ecoli-0-1-4-7_vs_2-3	0.6918	0.7117	0.6932	0.6904	0.7291	0.6666	0.6622	0.6691	0.6978
keel_ecoli-0-1-4-7_vs_5-6	0.6764	0.7689	0.7341	0.6623	0.7741	0.6984	0.7154	0.7539	0.8016
keel_ecoli-0-1_vs_2-3-5	0.7350	0.7495	0.7156	0.7237	0.6885	0.6932	0.6938	0.7116	0.7508
keel_ecoli-0-1_vs_5	0.7453	0.7925	0.7749	0.7376	0.7760	0.7300	0.7438	0.7684	0.7602
keel_ecoli-0-2-3-4_vs_5	0.7645	0.7964	0.7503	0.7699	0.7833	0.7323	0.7536	0.7555	0.7529
keel_ecoli-0-2-6-7_vs_3-5	0.7459	0.7684	0.7126	0.7451	0.7604	0.6949	0.7261	0.7280	0.7589
keel_ecoli-0-3-4-6_vs_5	0.7892	0.7954	0.7388	0.7600	0.8082	0.7072	0.7190	0.7611	0.7791
keel_ecoli-0-3-4-7_vs_5-6	0.7844	0.8207	0.7618	0.7716	0.8189	0.7710	0.7777	0.7767	0.7983
keel_ecoli-0-3-4_vs_5	0.7384	0.8057	0.7917	0.7669	0.8159	0.7471	0.7534	0.7467	0.7433
keel_ecoli-0-4-6_vs_5	0.7234	0.7803	0.7193	0.7215	0.7700	0.7258	0.7168	0.6972	0.7453
keel_ecoli-0-6-7_vs_3-5	0.7244	0.7328	0.6930	0.7143	0.7153	0.6936	0.6857	0.6649	0.6996
keel_ecoli-0-6-7_vs_5	0.7992	0.8108	0.7607	0.7987	0.8168	0.7822	0.7927	0.7628	0.8079
keel_ecoli-0_vs_1	0.9766	0.9605	0.9691	0.9741	0.9580	0.9631	0.9631	0.9654	0.9691
keel_ecoli1	0.7492	0.7670	0.7623	0.7555	0.7563	0.7495	0.7468	0.7531	0.7650
keel_ecoli2	0.8174	0.8152	0.8241	0.8175	0.8218	0.7811	0.7992	0.8063	0.8128
keel_ecoli3	0.5242	0.5178	0.5969	0.5310	0.5316	0.5441	0.5214	0.5316	0.5567
keel_ecoli4	0.7768	0.7712	0.7820	0.7353	0.7665	0.6729	0.7156	0.7275	0.7911
keel_glass-0-1-2-3_vs_4-5	0.8547	0.8498	0.8419	0.8555	0.8529	0.8309	0.8385	0.8494	0.8363
keel_glass-0-1-4-6_vs_2	0.2199	0.2357	0.2466	0.2172	0.1978	0.2440	0.2476	0.2776	0.2646
keel_glass-0-1-5_vs_2	0.1302	0.1742	0.2635	0.1217	0.1958	0.2812	0.2373	0.3045	0.2688
keel_glass-0-1-6_vs_2	0.1727	0.1848	0.2203	0.1551	0.1997	0.2078	0.2113	0.2667	0.1841
keel_glass-0-1-6_vs_5	0.6681	0.7167	0.8338	0.6919	0.6412	0.6099	0.7027	0.7160	0.6867
keel_glass-0-4_vs_5	0.9505	0.8041	0.9251	0.9505	0.7898	0.9394	0.9394	0.9394	0.8519
keel_glass-0-6_vs_5	0.8413	0.5966	0.8355	0.8163	0.6423	0.7322	0.7322	0.7988	0.7988
keel_glass0	0.7056	0.7227	0.7334	0.7071	0.7220	0.6892	0.6863	0.7099	0.7172
keel_glass1	0.6778	0.6921	0.6909	0.6719	0.6833	0.6936	0.6872	0.6841	0.6997
keel_glass2	0.1797	0.1829	0.2404	0.1530	0.1541	0.2220	0.2148	0.2618	0.2469
keel_glass4	0.5206	0.5424	0.5888	0.5145	0.5678	0.4967	0.5066	0.4811	0.5128

Continued on next page

Table 8: F-Measure for ensembles in the Boosting family.

Dataset	AdaM1W	AdaM1S	RUSB	MultiW	MultiS	SB100	SB200	SB500	RB-B
keel_glass5	0.8210	0.6293	0.8034	0.8210	0.6029	0.6325	0.6683	0.6565	0.6602
keel_glass6	0.8433	0.8694	0.8658	0.8404	0.8675	0.8171	0.8237	0.8108	0.8551
keel_haberman	0.2752	0.3656	0.4829	0.2752	0.3719	0.4632	0.4644	0.4719	0.3409
keel_iris0	0.9813	0.9772	0.9813	0.9813	0.9772	0.9813	0.9813	0.9813	0.9813
keel_led7digit-0-2-4-5-6-	0.7695	0.7642	0.7054	0.7724	0.7487	0.7620	0.7562	0.7754	0.7667
keel_new-thyroid1	0.8917	0.9409	0.9211	0.8886	0.9325	0.9037	0.9175	0.9133	0.9270
keel_new-thyroid2	0.8949	0.9466	0.9390	0.8949	0.9305	0.9233	0.9267	0.9392	0.9455
keel_page-blocks-1-3_vs_4	0.9115	0.9441	0.9337	0.9115	0.9515	0.8980	0.9135	0.9355	0.9610
keel_page-blocks0	0.8532	0.8602	0.8493	0.8709	0.8695	0.8651	0.8608	0.8512	0.8692
keel_pima	0.5922	0.6123	0.6327	0.6209	0.6259	0.6357	0.6437	0.6525	0.6225
keel_segment0	0.9852	0.9921	0.9894	0.9842	0.9884	0.9825	0.9798	0.9831	0.9881
keel_shuttle-c0-vs-c4	0.9943	0.9865	1.0000	0.9943	0.9865	1.0000	1.0000	1.0000	1.0000
keel_shuttle-c2-vs-c4	0.7005	0.5421	0.7900	0.7005	0.5421	1.0000	1.0000	1.0000	1.0000
keel_vehicle0	0.9389	0.9366	0.9299	0.9242	0.9292	0.9172	0.9147	0.9034	0.9335
keel_vehicle1	0.5419	0.5311	0.5910	0.5331	0.5327	0.5813	0.5982	0.6125	0.5608
keel_vehicle2	0.9495	0.9656	0.9645	0.9483	0.9679	0.9602	0.9572	0.9539	0.9665
keel_vehicle3	0.5339	0.5220	0.5807	0.5236	0.5110	0.5424	0.5673	0.5881	0.5442
keel_vowel0	0.9306	0.9679	0.9592	0.9334	0.9581	0.9565	0.9592	0.9546	0.9697
keel_wisconsin	0.9500	0.9541	0.9513	0.9525	0.9495	0.9444	0.9479	0.9477	0.9526
keel_yeast-0-2-5-6_vs_3-7	0.5633	0.5771	0.5487	0.5650	0.5667	0.5689	0.5788	0.5645	0.5896
keel_yeast-0-2-5-7-9_vs_3	0.8053	0.8029	0.7736	0.8012	0.8101	0.7985	0.7969	0.7827	0.8049
keel_yeast-0-3-5-9_vs_7-8	0.3257	0.3325	0.4118	0.3166	0.3113	0.3418	0.3461	0.3540	0.3635
keel_yeast-0-5-6-7-9_vs_4	0.4785	0.4743	0.5301	0.4773	0.4748	0.4624	0.4716	0.4334	0.4876
keel_yeast-1-2-8-9_vs_7	0.1875	0.1727	0.2187	0.2064	0.1815	0.2471	0.2620	0.2573	0.2663
keel_yeast-1-4-5-8_vs_7	0.0427	0.0569	0.1860	0.0562	0.0471	0.0512	0.0566	0.1050	0.1135
keel_yeast-1_vs_7	0.3549	0.3442	0.3908	0.3417	0.3258	0.3538	0.3771	0.3336	0.3824
keel_yeast-2_vs_4	0.7320	0.7376	0.7221	0.7546	0.7582	0.7300	0.7568	0.7489	0.7514
keel_yeast-2_vs_8	0.5731	0.5864	0.5227	0.5957	0.5936	0.5536	0.5360	0.5470	0.5942
keel_yeast1	0.5151	0.5277	0.5910	0.5259	0.5332	0.5616	0.5694	0.5756	0.5309
keel_yeast3	0.7458	0.7478	0.7734	0.7580	0.7531	0.7572	0.7678	0.7624	0.7649
keel_yeast4	0.2417	0.2826	0.3485	0.2736	0.2877	0.3069	0.3396	0.3731	0.3790
keel_yeast5	0.6706	0.6845	0.5870	0.6752	0.7018	0.6871	0.7042	0.7100	0.6899
keel_yeast6	0.4250	0.4478	0.3576	0.4296	0.4236	0.4373	0.4625	0.4635	0.4997

Table 9: Geometric Mean for ensembles in the Boosting family.

Dataset	AdaM1W	AdaM1S	RUSB	MultiW	MultiS	SB100	SB200	SB500	RB-B
hddt_boundary	0.0509	0.0255	0.5805	0.0382	0.0127	0.1982	0.1948	0.1701	0.1320
hddt_breast-y	0.5519	0.5279	0.5959	0.5360	0.5358	0.5510	0.5377	0.5446	0.5454
hddt_cam	0.2243	0.2307	0.7201	0.1906	0.2286	0.3108	0.3179	0.3627	0.2916
hddt_compustat	0.3637	0.3835	0.7773	0.3130	0.3468	0.4340	0.4985	0.6024	0.5965
hddt_covtype	0.9293	0.9318	0.9607	0.9253	0.9302	0.9378	0.9413	0.9457	0.9439
hddt_credit-g	0.6126	0.6239	0.6328	0.6001	0.6269	0.6430	0.6409	0.6467	0.6334
hddt_estate	0.2350	0.2837	0.5980	0.1901	0.2326	0.1460	0.2856	0.4131	0.2176
hddt_german-numer	0.6336	0.6446	0.6528	0.6284	0.6542	0.6328	0.6397	0.6445	0.6438
hddt_heart-v	0.5251	0.5337	0.5796	0.5262	0.5066	0.5837	0.5788	0.5691	0.5617
hddt_hypo	0.9342	0.9386	0.9636	0.9414	0.9372	0.9440	0.9488	0.9451	0.9432
hddt_ism	0.7381	0.7319	0.8929	0.7349	0.7335	0.7694	0.7963	0.8313	0.8308
hddt_letter	0.9749	0.9773	0.9904	0.9739	0.9747	0.9788	0.9792	0.9785	0.9779
hddt_oil	0.5589	0.5962	0.7755	0.5641	0.5843	0.5773	0.5714	0.6145	0.6679
hddt_optdigits	0.9933	0.9934	0.9952	0.9911	0.9911	0.9927	0.9905	0.9905	0.9937
hddt_page	0.9171	0.9135	0.9541	0.9230	0.9242	0.9321	0.9367	0.9391	0.9340
hddt_pendigits	0.9902	0.9915	0.9937	0.9870	0.9888	0.9886	0.9879	0.9882	0.9921
hddt_phoneme	0.8609	0.8647	0.8667	0.8651	0.8655	0.8680	0.8763	0.8776	0.8675
hddt_PhosS	0.0081	0.0099	0.6565	0.0171	0.0913	0.1564	0.1617	0.1550	0.0300
hddt_satimage	0.7495	0.7605	0.8596	0.7451	0.7521	0.7791	0.7857	0.8054	0.7929
hddt_segment	0.9899	0.9946	0.9944	0.9896	0.9927	0.9905	0.9911	0.9933	0.9932
keel_abalone19	0.0250	0.0000	0.6201	0.0000	0.0000	0.0500	0.0250	0.0749	0.1099
keel_abalone9-18	0.4542	0.4719	0.6382	0.4438	0.4822	0.5377	0.5559	0.5872	0.5716
keel_cleveland-0_vs_4	0.5506	0.6095	0.7473	0.5247	0.5879	0.5783	0.5606	0.5883	0.6754
keel_ecoli-0-1-3-7_vs_2-6	0.6055	0.6075	0.7268	0.5558	0.5791	0.4558	0.5261	0.5979	0.6880
keel_ecoli-0-1-4-6_vs_5	0.8454	0.8548	0.8566	0.8400	0.8668	0.8782	0.8825	0.8935	0.8912
keel_ecoli-0-1-4-7_vs_2-3	0.7936	0.8094	0.8477	0.7872	0.8171	0.7886	0.7930	0.8134	0.8243
keel_ecoli-0-1-4-7_vs_5-6	0.7621	0.8239	0.8412	0.7474	0.8318	0.7984	0.8179	0.8504	0.8635
keel_ecoli-0-1_vs_2-3-5	0.8353	0.8341	0.8490	0.8257	0.7882	0.8312	0.8407	0.8545	0.8544
keel_ecoli-0-1_vs_5	0.8276	0.8683	0.8669	0.8211	0.8468	0.8410	0.8443	0.8668	0.8506
keel_ecoli-0-2-3-4_vs_5	0.8765	0.8806	0.8841	0.8687	0.8683	0.8631	0.8751	0.8750	0.8746
keel_ecoli-0-2-6-7_vs_3-5	0.8350	0.8470	0.8355	0.8338	0.8505	0.8215	0.8457	0.8507	0.8553
keel_ecoli-0-3-4-6_vs_5	0.8639	0.8848	0.8549	0.8502	0.8778	0.8531	0.8590	0.8899	0.8841
keel_ecoli-0-3-4-7_vs_5-6	0.8538	0.8775	0.8745	0.8360	0.8738	0.8587	0.8645	0.8681	0.8706

Continued on next page

Table 9: Geometric Mean for ensembles in the Boosting family.

Dataset	AdaM1W	AdaM1S	RUSB	MultiW	MultiS	SB100	SB200	SB500	RB-B
keel_ecoli-0-3-4_vs_5	0.8269	0.8819	0.8716	0.8315	0.8778	0.8391	0.8447	0.8523	0.8495
keel_ecoli-0-4-6_vs_5	0.8154	0.8475	0.8272	0.8102	0.8396	0.8332	0.8319	0.8248	0.8254
keel_ecoli-0-6-7_vs_3-5	0.7948	0.8136	0.8279	0.7888	0.8066	0.7906	0.7901	0.7923	0.8059
keel_ecoli-0-6-7_vs_5	0.8843	0.8909	0.8844	0.8746	0.8966	0.8679	0.8838	0.8642	0.8953
keel_ecoli-0_vs_1	0.9813	0.9723	0.9771	0.9799	0.9709	0.9736	0.9736	0.9750	0.9771
keel_ecoli1	0.8391	0.8491	0.8548	0.8364	0.8408	0.8391	0.8414	0.8552	0.8538
keel_ecoli2	0.8648	0.8616	0.8897	0.8615	0.8690	0.8444	0.8592	0.8761	0.8694
keel_ecoli3	0.6684	0.6656	0.7973	0.6716	0.6730	0.7110	0.6912	0.7138	0.7162
keel_ecoli4	0.8533	0.8579	0.9057	0.8213	0.8571	0.7899	0.8296	0.8463	0.8860
keel_glass-0-1-2-3_vs_4-5	0.8972	0.8943	0.8918	0.8964	0.8977	0.8823	0.8900	0.8967	0.8867
keel_glass-0-1-4-6_vs_2	0.3327	0.3581	0.4346	0.3477	0.3009	0.3959	0.4151	0.4698	0.4106
keel_glass-0-1-5_vs_2	0.2266	0.2809	0.4764	0.1985	0.2959	0.4548	0.4196	0.5173	0.4377
keel_glass-0-1-6_vs_2	0.3287	0.2934	0.4080	0.2851	0.3461	0.3779	0.3816	0.4467	0.3315
keel_glass-0-1-6_vs_5	0.7905	0.8163	0.9429	0.8090	0.7703	0.7613	0.8519	0.8603	0.8161
keel_glass-0-4_vs_5	0.9939	0.8717	0.9700	0.9939	0.8583	0.9834	0.9834	0.9834	0.9185
keel_glass-0-6_vs_5	0.9001	0.6740	0.9074	0.8775	0.7106	0.8166	0.8166	0.8719	0.8719
keel_glass0	0.7763	0.7905	0.8033	0.7774	0.7904	0.7660	0.7656	0.7858	0.7868
keel_glass1	0.7407	0.7555	0.7545	0.7364	0.7463	0.7571	0.7535	0.7495	0.7602
keel_glass2	0.3126	0.2945	0.4679	0.2666	0.2482	0.3984	0.3941	0.4499	0.3848
keel_glass4	0.6980	0.6657	0.7681	0.6874	0.6829	0.6626	0.6741	0.6505	0.6551
keel_glass5	0.9477	0.7416	0.9347	0.9477	0.6907	0.7756	0.8048	0.7769	0.7761
keel_glass6	0.9022	0.9102	0.9129	0.9017	0.9130	0.8949	0.8991	0.8939	0.9109
keel_haberman	0.3901	0.5167	0.6365	0.3901	0.5209	0.6129	0.6193	0.6265	0.4957
keel_iris0	0.9816	0.9776	0.9816	0.9816	0.9776	0.9816	0.9816	0.9816	0.9816
keel_led7digit-0-2-4-5-6-	0.8717	0.8706	0.8887	0.8747	0.8643	0.8682	0.8673	0.8827	0.8714
keel_new-thyroid1	0.9347	0.9556	0.9464	0.9318	0.9517	0.9424	0.9528	0.9515	0.9546
keel_new-thyroid2	0.9272	0.9685	0.9577	0.9272	0.9536	0.9451	0.9482	0.9600	0.9637
keel_page-blocks-1-3_vs_4	0.9586	0.9858	0.9918	0.9586	0.9898	0.9454	0.9513	0.9602	0.9837
keel_page-blocks0	0.9100	0.9127	0.9513	0.9175	0.9189	0.9253	0.9300	0.9333	0.9302
keel_pima	0.6792	0.6948	0.7132	0.7011	0.7058	0.7157	0.7221	0.7269	0.7025
keel_segment0	0.9893	0.9946	0.9941	0.9879	0.9922	0.9909	0.9892	0.9910	0.9919
keel_shuttle-c0-vs-c4	0.9996	0.9990	1.0000	0.9996	0.9990	1.0000	1.0000	1.0000	1.0000
keel_shuttle-c2-vs-c4	0.7633	0.5997	0.8027	0.7633	0.5997	1.0000	1.0000	1.0000	1.0000
keel_vehicle0	0.9612	0.9585	0.9626	0.9516	0.9543	0.9505	0.9503	0.9440	0.9588
keel_vehicle1	0.6640	0.6551	0.7175	0.6548	0.6557	0.7058	0.7256	0.7440	0.6830
keel_vehicle2	0.9679	0.9769	0.9783	0.9655	0.9783	0.9740	0.9729	0.9706	0.9772
keel_vehicle3	0.6533	0.6434	0.7061	0.6419	0.6344	0.6729	0.6977	0.7244	0.6647
keel_vowel0	0.9492	0.9753	0.9816	0.9498	0.9679	0.9783	0.9786	0.9812	0.9817
keel_wisconsin	0.9620	0.9650	0.9636	0.9641	0.9615	0.9571	0.9601	0.9609	0.9646
keel_yeast-0-2-5-6_vs_3-7	0.6767	0.6894	0.7752	0.6719	0.6807	0.7004	0.7126	0.7205	0.7195
keel_yeast-0-2-5-7-9_vs_3	0.8731	0.8736	0.8999	0.8705	0.8755	0.8741	0.8759	0.8732	0.8799
keel_yeast-0-3-5-9_vs_7-8	0.4743	0.4856	0.6736	0.4639	0.4597	0.5038	0.5219	0.5481	0.5319
keel_yeast-0-5-6-7-9_vs_4	0.6086	0.6130	0.7502	0.6036	0.6102	0.6303	0.6456	0.6334	0.6452
keel_yeast-1-2-8-9_vs_7	0.3246	0.2791	0.6528	0.3239	0.3015	0.3833	0.4085	0.4268	0.4452
keel_yeast-1-4-5-8_vs_7	0.0878	0.1138	0.6008	0.0987	0.0881	0.1134	0.1238	0.2259	0.2365
keel_yeast-1_vs_7	0.5068	0.5044	0.7202	0.4914	0.4755	0.5388	0.5733	0.5625	0.5663
keel_yeast-2_vs_4	0.8268	0.8349	0.8703	0.8430	0.8494	0.8368	0.8651	0.8680	0.8547
keel_yeast-2_vs_8	0.6786	0.6979	0.7273	0.6908	0.6971	0.7003	0.6993	0.7208	0.7238
keel_yeast1	0.6341	0.6432	0.7101	0.6387	0.6473	0.6799	0.6902	0.6987	0.6461
keel_yeast3	0.8398	0.8418	0.9094	0.8480	0.8460	0.8631	0.8688	0.8742	0.8603
keel_yeast4	0.3964	0.4353	0.8210	0.4293	0.4439	0.4814	0.5145	0.5854	0.5807
keel_yeast5	0.7830	0.8034	0.9376	0.7801	0.8075	0.8200	0.8365	0.8598	0.8438
keel_yeast6	0.5800	0.5951	0.8352	0.5779	0.5766	0.5981	0.6307	0.6486	0.6878

Table 10: Accuracy for ensembles in the Data-processing family.

Dataset	ESM100	ESM200	ESM500	ESM	ERUS	E-RB	EopB	EopS	EopU	ERUSR	EPart
hddt_boundary	91.77	92.19	92.68	93.15	59.51	94.43	93.37	92.53	87.87	59.59	59.94
hddt_breast-y	61.05	61.33	59.93	62.03	61.68	64.27	62.52	64.06	64.48	59.51	61.26
hddt_cam	90.35	90.38	90.44	90.46	74.72	94.12	87.58	90.92	80.99	74.29	74.91
hddt_compustat	96.36	96.21	95.35	91.97	75.34	89.73	92.61	93.08	93.94	75.08	75.14
hddt_covtype	98.10	98.16	98.04	97.92	93.96	97.67	97.91	97.92	97.79	93.91	93.94
hddt_credit-g	67.70	67.24	66.72	67.58	65.46	71.30	68.66	68.34	68.68	63.96	65.62
hddt_estate	86.78	84.91	76.26	72.58	62.92	72.27	66.49	84.59	76.92	62.82	62.98
hddt_german-numer	70.82	69.96	69.08	71.14	68.96	72.46	70.46	71.10	70.32	66.30	68.40
hddt_heart-v	74.00	71.00	68.80	70.90	62.10	70.60	67.10	71.60	68.70	59.80	62.00
hddt_hypo	99.01	98.90	98.83	98.37	96.41	98.64	98.40	98.77	98.71	96.35	96.36
hddt_ism	98.57	98.45	98.26	97.03	91.41	96.74	96.23	98.01	97.89	91.26	91.47
hddt_letter	99.57	99.61	99.57	99.44	97.79	99.66	99.51	99.54	99.45	97.75	97.77
hddt_oil	95.80	95.94	95.65	94.26	78.10	93.34	91.12	95.16	89.80	78.25	78.42

Continued on next page

Table 10: Accuracy for ensembles in the Data-processing family.

Dataset	ESM100	ESM200	ESM500	ESM	ERUS	E-RB	EopB	EopS	EopU	ERUSR	EPart
hddt_optdigits	99.49	99.51	99.44	99.44	98.86	99.59	99.46	99.46	99.44	98.77	98.90
hddt_page	97.35	97.24	96.66	96.41	94.46	96.56	96.75	96.82	97.23	94.27	94.46
hddt_pendigits	99.19	99.31	99.26	99.25	98.54	99.43	99.27	99.21	98.87	98.43	98.50
hddt_phoneme	85.84	85.65	84.04	86.00	83.01	85.74	85.98	85.93	84.50	82.89	82.85
hddt_PhosS	94.13	93.85	93.22	92.68	65.35	93.95	80.96	93.32	73.14	64.65	65.31
hddt_satimage	93.43	93.25	92.53	92.01	84.96	91.24	91.31	92.32	90.62	84.49	84.83
hddt_segment	99.30	99.20	99.18	99.18	98.16	99.21	98.85	99.30	99.18	98.03	98.15
keel_abalone19	99.18	99.10	98.60	95.34	57.18	93.38	82.32	96.05	86.08	57.77	57.82
keel_abalone9-18	93.30	93.30	91.65	88.76	72.80	87.80	85.89	91.76	83.25	72.28	72.97
keel_cleveland-0_vs_4	94.12	93.79	94.35	93.11	80.68	93.56	91.17	93.10	92.65	81.25	82.37
keel_ecoli-0-1-3-7_vs_2-6	98.01	97.72	97.65	97.65	72.62	98.08	76.89	97.58	90.98	72.54	73.47
keel_ecoli-0-1-4-6_vs_5	96.07	96.14	95.71	95.50	87.14	95.29	94.07	95.93	95.50	87.79	88.21
keel_ecoli-0-1-4-7_vs_2-3	94.58	94.82	92.74	92.26	84.70	92.68	93.57	94.40	92.98	84.23	84.76
keel_ecoli-0-1-4-7_vs_5-6	95.48	95.60	95.42	95.18	86.87	95.54	93.25	95.18	93.67	86.08	86.81
keel_ecoli-0-1_vs_2-3-5	94.10	93.69	93.69	93.36	85.98	92.46	92.54	93.28	92.13	85.90	86.48
keel_ecoli-0-1_vs_5	95.17	95.00	94.67	94.33	87.42	93.92	90.75	95.00	92.08	87.08	87.25
keel_ecoli-0-2-3-4_vs_5	94.06	93.27	93.37	93.27	87.72	91.98	93.27	93.86	93.56	87.13	87.13
keel_ecoli-0-2-6-7_vs_3-5	95.80	95.09	94.38	93.75	88.48	93.66	91.52	94.20	95.27	87.95	88.21
keel_ecoli-0-3-4-6_vs_5	93.17	93.36	93.96	94.63	85.37	93.37	92.30	92.88	90.94	84.89	85.76
keel_ecoli-0-3-4-7_vs_5-6	95.25	94.86	93.77	93.77	86.30	93.85	92.68	94.16	94.24	86.30	86.14
keel_ecoli-0-3-4_vs_5	94.70	94.50	94.00	93.90	88.20	94.00	93.70	94.10	93.80	87.30	87.90
keel_ecoli-0-4-6_vs_5	94.18	94.38	94.28	93.20	84.52	94.09	93.00	94.08	91.53	84.41	85.10
keel_ecoli-0-6-7_vs_3-5	94.41	94.50	93.87	93.24	89.10	93.06	92.52	93.51	93.87	89.01	89.46
keel_ecoli-0-6-7_vs_5	96.18	96.00	95.27	94.82	90.55	94.91	96.09	95.82	96.36	90.27	90.27
keel_ecoli-0_vs_1	98.45	98.09	97.27	98.45	97.36	98.36	98.45	98.36	97.00	96.45	97.36
keel_ecoli1	89.23	88.51	87.68	88.15	87.50	88.75	88.15	88.93	88.10	87.44	87.62
keel_ecoli2	93.99	93.81	93.04	93.10	86.96	93.33	92.92	93.63	91.37	86.61	87.02
keel_ecoli3	90.77	90.12	90.00	89.52	82.98	89.58	89.29	90.18	89.29	81.73	81.85
keel_ecoli4	96.37	96.19	96.13	95.89	89.82	95.71	96.19	96.31	95.95	89.17	89.17
keel_glass-0-1-2-3_vs_4-5	92.24	91.78	91.87	91.96	89.63	91.68	91.87	92.34	91.68	89.63	89.81
keel_glass-0-1-4-6_vs_2	89.75	89.17	88.48	87.21	56.29	84.48	74.77	88.19	81.44	57.08	57.85
keel_glass-0-1-5_vs_2	88.60	86.98	83.84	81.63	54.53	81.63	67.21	83.72	70.70	51.28	55.00
keel_glass-0-1-6_vs_2	88.44	86.98	84.79	82.71	54.06	81.88	71.56	85.52	80.94	52.92	55.31
keel_glass-0-1-6_vs_5	97.50	97.93	98.15	97.83	89.13	97.28	98.04	97.93	97.07	89.13	89.13
keel_glass-0-4_vs_5	98.91	98.91	98.91	98.91	98.91	98.91	98.91	98.91	98.91	98.91	98.91
keel_glass-0-6_vs_5	97.96	97.96	97.96	97.96	84.63	98.15	98.33	97.96	96.67	84.63	84.26
keel_glass0	78.50	77.85	76.92	78.41	77.20	79.53	78.04	77.01	77.66	75.70	77.29
keel_glass1	74.95	72.43	69.16	73.93	73.93	74.67	75.14	74.21	73.55	72.62	73.93
keel_glass2	89.53	89.35	87.85	85.23	58.04	83.64	70.75	89.53	81.87	57.48	59.53
keel_glass4	92.99	93.27	93.93	92.99	80.37	92.15	91.22	92.80	88.50	81.50	81.78
keel_glass5	98.13	97.48	98.13	97.66	90.19	97.29	97.76	97.66	97.85	90.19	90.19
keel_glass6	94.86	95.05	94.86	94.77	90.65	94.86	95.05	95.05	93.46	90.47	90.84
keel_haberman	69.02	64.12	62.09	64.90	67.52	67.97	63.07	68.10	71.44	66.41	67.91
keel_iris0	98.80	98.80	98.80	98.80	98.80	98.80	98.80	98.80	98.80	98.80	98.80
keel_led7digit-0-2-4-5-6-	95.44	95.30	95.62	95.62	87.28	95.35	91.34	95.49	94.00	86.51	86.24
keel_new-thyroid1	96.09	96.19	97.02	96.65	93.02	97.02	95.17	96.00	95.91	93.11	93.21
keel_new-thyroid2	97.12	96.93	97.12	97.21	94.13	96.37	97.03	96.65	96.19	93.20	93.57
keel_page-blocks-1-3_vs_4	99.24	99.24	99.24	99.24	86.78	99.15	99.28	99.24	98.81	86.78	86.99
keel_page-blocks0	97.24	97.17	96.71	96.55	94.48	96.51	96.51	96.80	97.09	94.42	94.49
keel_pima	73.18	71.80	69.84	73.57	72.32	74.35	73.72	74.09	73.15	71.25	72.53
keel_segment0	99.19	99.25	99.12	99.19	97.98	99.09	99.14	99.23	98.87	98.09	98.04
keel_shuttle-c0-vs-c4	100.00	100.00	100.00	100.00	100.00	100.00	99.98	99.98	99.98	100.00	100.00
keel_shuttle-c2-vs-c4	100.00	100.00	100.00	100.00	99.53	100.00	99.23	99.23	99.23	99.22	99.53
keel_vehicle0	93.45	93.36	93.45	93.31	92.62	94.02	93.38	93.17	93.33	92.32	92.79
keel_vehicle1	76.86	76.38	76.15	76.03	74.85	76.22	76.31	76.36	76.55	74.30	74.94
keel_vehicle2	95.63	95.58	95.34	95.53	95.63	96.41	95.93	95.25	95.86	95.15	95.44
keel_vehicle3	76.57	75.70	74.82	75.72	74.04	75.96	76.24	76.71	75.84	73.17	74.04
keel_vowel0	98.22	98.00	98.16	97.73	94.96	97.49	97.61	97.71	97.41	94.88	94.80
keel_wisconsin	95.61	95.52	95.49	95.61	96.19	96.60	95.93	95.40	95.49	96.37	96.16
keel_yeast-0-2-5-6_vs_3-7	92.31	92.11	91.29	89.92	88.84	89.56	89.12	90.48	89.74	88.41	88.96
keel_yeast-0-2-5-7-9_vs_3	95.48	95.60	94.90	94.14	92.89	94.06	93.13	94.36	93.53	92.65	93.05
keel_yeast-0-3-5-9_vs_7-8	90.20	89.05	86.40	84.51	74.62	83.28	81.11	87.23	87.00	73.83	74.43
keel_yeast-0-5-6-7-9_vs_4	90.11	89.92	88.48	86.63	80.64	86.89	87.31	89.36	89.13	80.38	80.38
keel_yeast-1-2-8-9_vs_7	96.64	96.56	95.25	90.88	69.43	85.80	92.08	95.10	93.77	69.46	69.92
keel_yeast-1-4-5-8_vs_7	94.54	94.03	92.41	86.49	57.44	83.38	72.11	89.41	77.52	56.28	56.86
keel_yeast-1_vs_7	93.07	92.11	89.37	86.01	69.49	85.40	85.22	88.24	91.68	68.92	70.19
keel_yeast-2_vs_4	94.55	94.12	94.05	93.66	90.93	92.84	94.05	93.70	93.70	90.74	90.82
keel_yeast-2_vs_8	96.76	96.72	96.06	93.53	82.70	92.61	91.29	95.02	94.40	83.07	83.28
keel_yeast1	73.85	72.09	67.70	73.01	70.96	71.64	72.56	74.31	73.50	70.19	70.67
keel_yeast3	94.77	94.87	94.76	94.47	93.14	94.26	94.00	94.60	94.23	92.80	92.90
keel_yeast4	96.60	96.16	95.07	92.32	77.25	89.97	91.90	93.71	88.37	77.04	76.97
keel_yeast5	98.41	98.36	98.33	97.94	92.39	97.99	96.55	98.10	96.60	92.71	92.67
keel_yeast6	98.01	97.92	97.64	95.62	85.71	94.73	94.02	96.05	95.22	85.85	85.69

Table 11: Accuracy for ensembles in the Bagging Family.

Dataset	SMBAG	BAG	BAGSM100	BAGSM200	BAGSM500	BAGSM	BAGRUS	BAG-RB	BAGOpB	BAGOpS	BAGOpU	RbB:IC+ BAGRUS	RbB:IC+ BAGSM
hddt_boundary	95.27	96.45	96.18	96.09	96.05	96.19	69.97	95.77	95.04	96.17	91.18	96.10	96.47
hddt_breast-y	68.32	68.88	66.57	65.80	63.57	65.87	63.29	64.27	64.48	67.48	67.55	67.55	67.90
hddt_cam	93.80	94.97	94.66	94.69	94.63	94.61	83.78	94.45	90.89	94.64	87.63	94.62	95.03
hddt_compustat	93.63	96.33	96.53	96.48	96.13	93.76	79.04	91.21	94.36	94.63	94.64	94.43	93.87
hddt_covtype	97.99	98.15	98.24	98.26	98.18	98.24	94.08	98.24	98.26	98.21	98.11	97.97	98.18
hddt_credit-g	72.96	74.08	73.30	73.50	73.16	73.36	69.12	71.94	72.92	73.82	72.96	73.24	73.68
hddt_estate	75.57	87.97	87.20	85.89	80.36	77.96	64.77	72.31	70.62	85.84	78.09	81.03	77.60
hddt_german-numer	73.68	74.78	74.62	73.46	72.46	74.32	71.22	72.02	73.38	74.40	73.88	74.12	74.80
hddt_heart-v	72.70	74.90	74.80	73.70	72.40	73.80	65.60	72.50	70.00	75.00	72.50	70.70	74.50
hddt_hypo	98.62	99.16	99.17	99.16	99.04	98.84	96.71	98.76	98.57	99.03	98.90	99.08	99.17
hddt_isl	97.44	98.58	98.64	98.63	98.47	98.84	92.81	97.15	97.05	98.13	98.13	98.01	98.13
hddt_letter	99.58	99.65	99.64	99.65	99.65	99.61	98.30	99.70	99.60	99.65	99.54	99.65	99.66
hddt_oil	94.58	96.33	96.50	96.50	96.65	96.05	82.24	95.43	93.60	96.54	91.85	95.71	96.54
hddt_optdigits	99.59	99.60	99.58	99.59	99.64	99.68	98.94	99.63	99.58	99.62	99.55	99.57	99.59
hddt_page	96.67	97.54	97.49	97.37	97.11	96.86	95.18	96.77	96.99	97.10	97.38	97.46	97.44
hddt_pendigits	99.34	99.22	99.36	99.47	99.42	99.43	98.74	99.53	99.42	99.38	99.16	99.29	99.36
hddt_phoneme	86.56	87.40	87.24	86.69	85.36	87.09	84.46	86.46	87.38	87.46	87.01	87.35	87.22
hddt_PhosS	92.75	94.70	94.67	94.62	94.55	94.35	72.09	94.68	84.03	94.31	78.05	94.59	94.67
hddt_satimage	92.21	93.97	93.82	93.70	93.30	92.93	86.88	91.75	92.28	93.14	92.35	93.41	93.71
hddt_segment	99.16	99.33	99.40	99.31	99.21	99.20	98.29	99.29	99.03	99.32	99.24	99.36	99.39
keel_abalone19	95.57	99.23	99.23	99.23	99.16	98.17	66.52	97.58	85.93	98.62	88.69	96.84	98.81
keel_abalone9-18	90.12	94.36	94.25	94.14	93.24	92.20	77.84	91.08	88.13	93.32	86.43	90.67	93.05
keel_cleveland-0 vs. 4	94.01	93.90	94.80	94.91	95.37	95.25	87.12	95.14	92.19	93.91	93.67	94.01	93.78
keel_ecoli-0-1-3-7 vs. 2-6	96.94	97.80	97.79	97.93	97.93	98.01	80.45	98.08	66.09	97.86	92.62	98.08	97.72
keel_ecoli-0-1-4-6 vs. 5	95.64	96.79	97.21	96.93	96.64	96.14	90.00	96.14	95.00	96.57	96.00	96.57	96.86
keel_ecoli-0-1-4-7 vs. 2-3	92.68	95.36	95.12	95.12	94.64	94.64	87.38	93.99	94.64	95.06	93.69	94.52	95.18
keel_ecoli-0-1-4-7 vs. 5-6	95.36	95.48	95.72	95.72	96.08	96.08	87.71	95.84	95.18	95.78	94.76	95.60	95.66
keel_ecoli-0-1 vs. 2-3-5	93.11	95.25	94.59	94.34	94.84	94.92	87.87	93.77	93.93	94.75	94.59	93.93	95.16
keel_ecoli-0-1 vs. 5	93.75	96.33	96.08	95.75	95.33	94.92	89.08	94.92	91.92	95.42	92.17	95.42	95.75
keel_ecoli-0-2-3-4 vs. 5	92.97	95.25	94.95	94.55	94.85	94.75	88.61	93.37	93.86	94.95	94.55	94.65	94.75
keel_ecoli-0-2-6-7 vs. 3-5	93.75	95.89	96.07	95.71	95.09	94.64	90.89	94.91	93.39	95.27	95.36	95.89	95.80
keel_ecoli-0-3-4-6 vs. 5	93.85	95.51	94.34	94.44	94.24	95.51	87.22	94.53	93.27	94.92	93.47	94.83	95.42
keel_ecoli-0-3-4-7 vs. 5-6	94.08	95.49	95.49	95.41	94.86	94.24	87.55	94.08	94.01	95.02	95.10	94.47	95.57
keel_ecoli-0-3-4 vs. 5	93.70	94.90	94.90	94.70	94.90	95.00	89.70	95.00	94.50	95.00	94.80	94.90	95.50
keel_ecoli-0-4-6 vs. 5	93.10	96.45	95.96	95.56	95.07	94.68	88.06	94.87	94.87	95.66	92.81	95.76	96.26
keel_ecoli-0-6-7 vs. 3-5	93.06	95.68	95.23	94.77	94.23	93.87	90.36	94.14	93.78	94.14	94.50	94.59	94.59
keel_ecoli-0-6-7 vs. 5	95.27	96.91	96.82	96.55	96.27	95.91	92.09	95.09	96.36	96.45	96.55	96.45	96.64
keel_ecoli-0 vs. 1	88.27	98.45	98.36	98.18	98.00	98.36	98.00	98.09	98.00	98.36	98.09	98.36	98.36
keel_ecoli1	88.87	89.40	89.35	89.17	88.69	89.17	88.04	88.69	88.75	89.46	89.05	89.46	89.76
keel_ecoli2	92.86	94.46	93.81	93.69	93.45	93.45	88.15	93.27	93.57	93.63	92.20	93.93	93.99
keel_ecoli3	89.35	91.49	91.43	91.37	91.19	90.48	84.52	89.58	90.06	90.89	90.48	91.37	91.43
keel_ecoli4	96.25	96.96	96.79	96.73	96.73	96.55	91.07	96.19	96.13	96.49	96.43	96.49	96.85
keel_glass-0-1-2-3 vs. 4-5	86.14	90.92	90.53	90.24	89.26	88.29	63.42	88.48	78.20	89.56	86.13	87.60	90.73
keel_glass-0-1-4-6 vs. 2	83.02	89.88	88.95	87.67	86.63	84.88	64.86	86.05	73.60	86.40	78.37	84.53	87.56
keel_glass-0-1-5 vs. 2	84.06	90.83	90.10	89.69	87.81	85.73	64.06	85.10	78.33	87.60	85.00	87.92	89.06
keel_glass-0-1-6 vs. 2	97.72	96.74	97.17	97.17	97.83	97.83	89.13	97.28	97.61	97.61	96.74	96.85	96.85
keel_glass-0-4 vs. 5	98.91	98.91	98.91	98.91	98.91	98.91	98.91	98.91	98.91	98.91	98.91	98.91	98.91
keel_glass-0-6 vs. 5	98.15	97.22	97.41	97.41	98.15	98.15	84.07	98.15	97.96	97.59	96.48	97.04	97.04
keel_glass0	80.19	80.65	80.75	79.72	78.79	80.84	78.22	79.44	80.00	80.65	80.75	80.75	81.12
keel_glass1	75.98	73.46	76.64	76.82	72.99	76.26	75.89	77.48	76.36	75.61	74.77	74.67	75.61
keel_glass2	85.33	91.12	90.84	90.93	89.53	87.57	67.94	85.70	74.30	89.44	85.79	89.72	90.28
keel_glass4	92.80	94.67	94.30	93.83	94.30	93.18	82.43	93.46	91.78	93.83	88.50	94.77	94.77

Continued on next page

Table 11: Accuracy for ensembles in the Bagging Family.

Dataset	SMBAG	BAG	BAGSM100	BAGSM200	BAGSM500	BAGSM	BAGRUS	BAG-RB	BAGOpB	BAGOpS	BAGOpU	RbB:IC+ BAGRUS	RbB:IC+ BAGSM
keel_glass5	97.48	97.85	98.04	97.85	97.76	97.48	90.19	97.20	97.57	97.57	97.57	97.85	97.85
keel_glass6	95.23	95.70	95.89	95.61	95.42	95.42	91.96	95.51	95.42	95.51	94.95	95.70	95.70
keel_haberman	65.82	74.12	70.39	67.65	63.99	67.65	67.91	69.54	65.03	69.48	72.16	71.83	69.54
keel_iris0	98.80	98.80	98.80	98.80	98.80	98.80	98.80	98.80	98.80	98.80	98.80	98.80	98.80
keel_led7digit-0-2-4-5-6-	93.63	96.30	96.25	96.48	96.16	95.98	89.58	96.03	92.47	96.39	94.63	95.57	95.98
keel_new-thyroid1	97.40	96.47	96.65	96.56	96.93	97.02	94.33	97.12	96.00	96.93	96.56	96.93	96.93
keel_new-thyroid2	97.12	97.02	96.84	97.31	96.84	97.21	93.67	96.56	97.12	97.58	96.47	97.49	97.49
keel_page-blocks-1-3-vs_4	99.24	99.28	99.15	99.24	99.24	99.24	87.50	99.11	98.98	99.28	98.64	99.24	99.24
keel_page-blocks0	96.64	97.40	97.32	97.26	97.03	96.84	95.12	96.70	96.85	97.09	97.31	97.36	97.37
keel_pima	74.09	76.20	74.17	73.31	71.09	74.56	73.62	74.90	75.36	75.05	74.90	76.15	76.07
keel_segment0	99.11	99.23	99.30	99.26	99.21	99.22	98.05	99.14	99.18	99.28	98.99	99.23	99.30
keel_shuttle-c0-vs-c4	100.00	99.92	100.00	100.00	100.00	100.00	100.00	100.00	99.92	99.98	99.92	99.92	99.92
keel_shuttle-c2-vs-c4	100.00	99.38	100.00	100.00	100.00	100.00	98.75	100.00	99.84	99.84	99.84	99.22	99.22
keel_vehicle0	93.92	94.52	94.30	94.30	94.21	94.28	93.22	94.02	94.26	94.26	94.40	94.52	94.23
keel_vehicle1	76.83	77.57	78.13	77.52	76.90	77.12	75.79	77.40	77.80	77.61	77.23	77.66	77.61
keel_vehicle2	96.41	97.28	96.08	95.82	95.98	95.93	95.53	96.86	96.12	96.64	97.02	97.12	97.12
keel_vehicle3	77.14	78.84	77.83	77.73	76.60	77.57	75.56	77.73	77.99	77.92	78.63	78.51	78.70
keel_vowel0	97.85	98.52	98.14	98.24	98.26	98.10	95.43	97.55	97.94	98.12	97.73	98.40	98.40
keel_wisconsin	96.34	96.05	96.34	96.31	96.28	96.19	96.37	96.49	96.25	96.22	96.37	96.14	96.14
keel_yeast-0-2-5-6-vs-3-7	90.64	92.65	92.47	92.41	92.21	91.95	88.73	91.53	90.92	91.99	89.74	90.30	91.61
keel_yeast-0-2-5-7-9-vs-3	94.64	95.64	95.56	95.62	95.64	95.68	93.61	95.12	94.62	95.56	93.94	94.20	95.24
keel_yeast-0-3-5-9-vs-7-8	86.17	90.75	90.63	90.16	89.01	88.22	78.18	83.68	83.87	89.53	88.06	87.94	88.89
keel_yeast-0-5-6-7-9-vs-4	87.92	91.52	90.98	90.38	89.77	89.05	83.64	89.39	89.32	90.42	89.96	89.43	89.96
keel_yeast-1-2-8-9-vs-7	91.55	96.77	96.79	96.81	96.49	93.85	76.87	91.70	94.23	95.99	94.34	93.22	95.33
keel_yeast-1-4-5-8-vs-7	88.28	95.56	95.21	94.89	94.29	92.27	66.70	90.19	78.89	93.59	81.21	90.39	94.26
keel_yeast-1-vs-7	87.58	93.81	93.38	92.94	91.11	88.19	77.56	87.41	88.15	90.46	92.42	89.72	91.37
keel_yeast-2-vs-4	93.27	95.21	94.55	94.20	94.05	93.74	91.48	93.50	94.20	93.85	94.28	94.86	94.94
keel_yeast-2-vs-8	94.36	95.73	96.97	97.59	97.51	96.68	89.34	96.14	95.56	97.14	97.34	94.85	96.47
keel_yeast1	73.99	77.29	75.66	74.11	71.78	75.07	72.43	73.49	74.43	76.28	76.02	76.05	75.32
keel_yeast3	94.62	94.87	95.11	95.12	94.91	94.87	93.41	94.38	94.47	95.05	94.60	94.76	94.93
keel_yeast4	92.97	96.93	96.86	96.64	96.06	94.74	81.20	92.40	93.44	95.40	91.15	94.38	95.89
keel_yeast5	97.98	98.41	98.34	98.36	98.30	98.06	93.17	97.99	96.60	98.22	97.01	98.30	98.32
keel_yeast6	96.19	97.95	98.14	98.01	97.97	97.09	88.09	96.25	95.69	97.45	95.84	96.77	97.72

Table 12: Accuracy for ensembles in the Boosting Family.

Dataset	AdaM1W	AdaM1S	RUSB	MultiW	MultiS	SB100	SB200	SB500	RB-B
hddt_boundary	96.51	96.47	82.14	96.49	96.43	95.87	95.93	96.09	96.14
hddt_breast-y	67.34	65.59	65.45	66.85	66.92	63.71	60.42	59.37	65.38
hddt_cam	95.06	95.07	80.57	95.05	95.11	94.58	94.33	93.11	94.54
hddt_compustat	96.64	96.69	87.65	96.53	96.59	96.76	96.87	96.69	96.71
hddt_covtype	98.62	98.61	96.80	98.56	98.58	98.64	98.65	98.63	98.66
hddt_credit-g	74.84	74.50	72.16	74.38	74.62	71.74	70.78	70.34	73.44
hddt_estate	86.24	84.58	63.97	87.07	86.20	87.41	86.11	80.80	86.71
hddt_german-numer	74.82	75.38	72.96	75.20	75.78	73.88	74.00	72.76	74.72
hddt_heart-v	69.80	70.90	66.40	71.10	70.80	70.90	70.60	69.50	72.80
hddt_hypo	99.01	99.05	97.67	99.07	99.05	98.92	98.96	98.87	98.90
hddt_ism	98.57	98.51	95.16	98.72	98.67	98.58	98.54	98.50	98.48
hddt_letter	99.80	99.82	99.73	99.79	99.80	99.83	99.83	99.82	99.82
hddt_oil	96.54	96.59	92.45	96.54	96.59	96.20	96.03	96.18	96.80
hddt_optdigits	99.86	99.85	99.86	99.80	99.80	99.84	99.80	99.80	99.85
hddt_page	97.37	97.17	96.62	97.60	97.57	97.38	97.26	96.97	97.51
hddt PENDIGITS	99.75	99.77	99.72	99.69	99.72	99.72	99.69	99.69	99.78
hddt_phoneme	89.10	89.34	88.05	89.39	89.37	88.45	88.56	87.67	89.13
hddt_PhosS	94.63	94.63	83.51	94.63	94.65	94.63	94.64	94.64	94.62
hddt_satimage	94.52	94.58	90.95	94.36	94.37	94.43	94.22	93.93	94.42
hddt_segment	99.52	99.82	99.74	99.52	99.76	99.58	99.60	99.64	99.75
keel_abalone19	99.23	99.20	84.40	99.23	99.22	99.20	99.18	99.02	98.52
keel_abalone9-18	94.42	94.31	86.81	94.12	94.39	93.93	93.65	92.89	93.57
keel_cleveland-0-vs_4	93.67	94.92	94.13	93.44	94.47	93.45	93.22	93.22	95.14
keel_ecoli-0-1-3-7-vs_2-6	97.94	97.58	94.73	97.94	97.86	96.66	96.72	96.80	97.79
keel_ecoli-0-1-4-6-vs_5	96.43	97.29	96.64	96.43	97.43	96.71	96.50	96.50	97.07
keel_ecoli-0-1-4-7-vs_2-3	95.12	95.42	94.17	95.24	95.65	94.58	94.35	94.11	94.76
keel_ecoli-0-1-4-7-vs_5-6	95.84	96.93	96.08	95.72	96.99	95.78	95.90	96.39	97.23
keel_ecoli-0-1-vs_2-3-5	95.00	95.41	94.10	94.84	94.51	93.61	93.61	93.93	95.16
keel_ecoli-0-1-vs_5	96.00	96.67	96.25	95.92	96.50	95.50	95.75	96.08	96.08
keel_ecoli-0-2-3-4-vs_5	95.15	96.04	94.65	95.45	95.84	94.36	94.85	94.85	94.85
keel_ecoli-0-2-6-7-vs_3-5	95.18	95.63	94.11	95.27	95.36	93.84	94.29	94.20	95.18
keel_ecoli-0-3-4-6-vs_5	96.00	95.81	94.63	95.32	96.29	93.66	93.95	94.73	95.32
keel_ecoli-0-3-4-7-vs_5-6	96.11	96.73	95.25	95.96	96.73	95.72	95.80	95.72	96.26
keel_ecoli-0-3-4-vs_5	95.00	96.20	95.90	95.80	96.50	95.10	95.20	95.00	95.00
keel_ecoli-0-4-6-vs_5	94.98	96.26	94.88	94.98	95.96	94.88	94.49	93.80	95.67
keel_ecoli-0-6-7-vs_3-5	95.23	95.23	93.78	95.05	94.86	94.41	94.23	93.51	94.41
keel_ecoli-0-6-7-vs_5	96.36	96.55	95.27	96.45	96.64	96.09	96.18	95.73	96.45
keel_ecoli-0-vs_1	98.36	97.18	97.82	98.18	97.00	97.36	97.36	97.55	97.82
keel_ecoli1	88.15	89.11	88.51	88.81	88.63	88.21	87.86	87.68	88.69
keel_ecoli2	94.76	94.70	94.58	94.82	94.88	93.75	94.17	94.11	94.46
keel_ecoli3	91.31	91.19	90.36	91.49	91.43	90.54	90.36	90.12	91.13
keel_ecoli4	97.50	97.38	97.20	97.14	97.32	96.49	96.79	96.85	97.50
keel_glass-0-1-2-3-vs_4-5	93.27	93.08	92.52	93.36	93.18	92.06	92.34	92.90	92.34
keel_glass-0-1-4-6-vs_2	90.25	91.12	87.51	90.44	90.93	88.87	87.90	88.09	89.85
keel_glass-0-1-5-vs_2	87.67	88.49	83.84	88.26	89.53	87.21	86.05	86.05	87.09
keel_glass-0-1-6-vs_2	89.58	89.79	85.83	89.58	89.79	88.54	88.13	87.29	88.44
keel_glass-0-1-6-vs_5	97.17	97.50	98.26	97.28	96.85	96.41	96.96	97.07	97.17
keel_glass-0-4-vs_5	98.91	96.74	98.48	98.91	96.52	98.70	98.70	98.70	97.17
keel_glass-0-6-vs_5	97.78	95.37	97.59	97.41	95.74	96.67	96.67	97.41	97.41
keel_glass0	80.93	81.78	81.87	81.03	81.87	79.25	78.32	79.16	81.22
keel_glass1	78.97	78.88	78.41	78.41	78.88	78.32	77.01	74.67	79.35
keel_glass2	90.75	90.65	86.54	90.93	91.12	89.25	88.69	88.79	90.47
keel_glass4	94.67	95.42	94.67	94.67	95.70	93.93	93.74	93.83	94.86
keel_glass5	98.13	97.38	98.04	98.13	97.29	96.26	96.54	96.54	97.38
keel_glass6	95.79	96.54	96.45	95.70	96.45	94.95	95.14	94.77	96.07
keel_haberman	71.76	70.52	67.32	71.76	71.24	70.39	66.86	65.95	70.39
keel_iris0	98.80	98.53	98.80	98.80	98.53	98.80	98.80	98.80	98.80
keel_led7digit-0-2-4-5-6-	96.07	95.89	94.08	96.12	95.67	95.94	95.76	96.07	95.98
keel_new-thyroid1	96.38	98.14	97.49	96.28	97.86	96.75	97.30	97.12	97.58
keel_new-thyroid2	96.66	98.23	98.05	96.66	97.77	97.58	97.68	98.05	98.23
keel_page-blocks-1-3-vs_4	98.94	99.28	99.11	98.94	99.36	98.86	99.03	99.28	99.53
keel_page-blocks0	97.05	97.20	96.62	97.42	97.38	97.23	97.09	96.82	97.30
keel_pima	72.63	74.14	73.91	74.77	74.87	73.54	73.02	71.98	74.84
keel_segment0	99.58	99.77	99.70	99.56	99.67	99.50	99.42	99.51	99.66
keel_shuttle-c0-vs-c4	99.92	99.81	100.00	99.92	99.81	100.00	100.00	100.00	100.00
keel_shuttle-c2-vs-c4	97.83	97.21	98.75	97.83	97.21	100.00	100.00	100.00	100.00
keel_vehicle0	97.12	97.02	96.60	96.43	96.67	96.05	95.91	95.34	96.86
keel_vehicle1	78.16	77.87	78.18	78.20	78.04	78.37	78.27	77.90	78.44
keel_vehicle2	97.35	98.23	98.16	97.31	98.35	97.94	97.78	97.61	98.27
keel_vehicle3	79.22	78.87	78.98	79.24	78.51	77.78	78.13	77.45	79.15
keel_vowel0	98.81	99.43	99.25	98.85	99.27	99.19	99.25	99.15	99.45
keel_wisconsin	96.49	96.78	96.57	96.66	96.46	96.11	96.34	96.31	96.66
keel_yeast-0-2-5-6-vs_3-7	92.83	92.97	89.40	93.01	92.87	92.41	92.45	91.77	92.67

Continued on next page

Table 12: Accuracy for ensembles in the Boosting Family.

Dataset	AdaM1W	AdaM1S	RUSB	MultiW	MultiS	SB100	SB200	SB500	RB-B
keel_yeast-0-2-5-7-9_vs_3	96.29	96.24	95.06	96.24	96.39	96.12	96.06	95.70	96.22
keel_yeast-0-3-5-9_vs_7-8	90.55	90.28	85.38	90.43	90.43	89.88	89.25	88.46	89.76
keel_yeast-0-5-6-7-9_vs_4	92.12	91.82	89.55	92.20	91.97	90.87	90.68	89.47	91.36
keel_yeast-1-2-8-9_vs_7	96.64	96.68	89.25	96.83	96.75	96.73	96.60	96.22	96.35
keel_yeast-1-4-5-8_vs_7	95.30	95.44	83.67	95.47	95.35	94.86	94.52	94.17	94.52
keel_yeast-1_vs_7	93.42	93.29	88.02	93.38	93.33	92.51	92.24	90.68	92.46
keel_yeast-2_vs_4	94.86	94.94	93.93	95.25	95.29	94.63	95.02	94.75	95.02
keel_yeast-2_vs_8	97.10	97.14	95.73	97.34	97.26	96.56	96.31	96.14	96.93
keel_yeast1	74.37	75.18	73.87	75.70	75.46	74.42	73.68	72.28	75.24
keel_yeast3	94.57	94.61	94.41	94.82	94.72	94.58	94.82	94.57	94.85
keel_yeast4	96.54	96.62	90.42	96.59	96.60	96.29	96.36	95.93	96.08
keel_yeast5	98.22	98.23	96.16	98.27	98.36	98.17	98.25	98.18	98.09
keel_yeast6	97.86	97.94	93.54	97.92	97.88	97.82	97.83	97.71	97.74

Table 13: AUC for Ensemble-RB and different fusion rules.

Dataset	Average	Product	Majority	Dataset	Average	Product	Majority
hddt_boundary	0.6748	0.6685	0.5415	keel_glass-0-1-4-6_vs_2	0.7662	0.7477	0.6361
hddt_breast-y	0.6414	0.6426	0.6017	keel_glass-0-1-5_vs_2	0.7551	0.7480	0.6628
hddt_cam	0.7277	0.7251	0.5608	keel_glass-0-1-6_vs_2	0.7335	0.7147	0.6205
hddt_compustat	0.9072	0.8914	0.7981	keel_glass-0-1-6_vs_5	0.9948	0.9817	0.9891
hddt_covtype	0.9933	0.9849	0.9592	keel_glass-0-4_vs_5	0.9957	0.9940	0.9940
hddt_credit-g	0.7508	0.7520	0.6698	keel_glass-0-6_vs_5	0.9843	0.9849	0.9539
hddt_estate	0.6239	0.6269	0.5641	keel_glass0	0.8593	0.8455	0.7966
hddt_german-numer	0.7750	0.7653	0.6977	keel_glass1	0.8146	0.7967	0.7267
hddt_heart-v	0.6907	0.6880	0.6223	keel_glass2	0.8214	0.8154	0.6582
hddt_hypo	0.9911	0.9875	0.9580	keel_glass4	0.9117	0.8979	0.7863
hddt_ism	0.9394	0.9282	0.8892	keel_glass5	0.9922	0.9858	0.9668
hddt_letter	0.9990	0.9979	0.9749	keel_glass6	0.9530	0.9424	0.9101
hddt_oil	0.9128	0.9036	0.7745	keel_haberman	0.7090	0.7042	0.6575
hddt_optdigits	0.9986	0.9961	0.9906	keel_iris0	1.0000	1.0000	0.9820
hddt_page	0.9918	0.9826	0.9560	keel_led7digit-0-2-4-5-6-	0.9577	0.9512	0.8986
hddt_pendigits	0.9995	0.9973	0.9866	keel_new-thyroid1	0.9936	0.9862	0.9400
hddt_phoneme	0.9339	0.9070	0.8635	keel_new-thyroid2	0.9950	0.9787	0.9541
hddt_PhosS	0.7183	0.7366	0.5487	keel_page-blocks-1-3_vs_4	0.9997	0.9974	0.9723
hddt_satimage	0.9513	0.9331	0.8527	keel_page-blocks0	0.9913	0.9822	0.9507
hddt_segment	0.9991	0.9940	0.9880	keel_pima	0.8185	0.8018	0.7403
keel_abalone19	0.7427	0.7421	0.5875	keel_segment0	0.9983	0.9923	0.9851
keel_abalone9-18	0.7919	0.7788	0.6828	keel_shuttle-c0-vs-c4	1.0000	1.0000	1.0000
keel_cleveland-0_vs_4	0.9377	0.9342	0.7752	keel_shuttle-c2-vs-c4	1.0000	1.0000	1.0000
keel_ecoli-0-1-3-7_vs_2-6	0.9278	0.9257	0.8438	keel_vehicle0	0.9885	0.9673	0.9372
keel_ecoli-0-1-4-6_vs_5	0.9654	0.9543	0.8458	keel_vehicle1	0.8452	0.8283	0.7679
keel_ecoli-0-1-4-7_vs_2-3	0.9308	0.9134	0.8486	keel_vehicle2	0.9936	0.9775	0.9658
keel_ecoli-0-1-4-7_vs_5-6	0.9521	0.9384	0.8655	keel_vehicle3	0.8478	0.8339	0.7688
keel_ecoli-0-1_vs_2-3-5	0.9480	0.9284	0.8802	keel_vowel0	0.9965	0.9866	0.9651
keel_ecoli-0-1_vs_5	0.9579	0.9424	0.8459	keel_wisconsin	0.9921	0.9825	0.9645
keel_ecoli-0-2-3-4_vs_5	0.9690	0.9446	0.8731	keel_yeast-0-2-5-6_vs_3-7	0.8449	0.8367	0.7827
keel_ecoli-0-2-6-7_vs_3-5	0.9261	0.9117	0.8610	keel_yeast-0-2-5-7-9_vs_3	0.9483	0.9325	0.9005
keel_ecoli-0-3-4-6_vs_5	0.9568	0.9405	0.8791	keel_yeast-0-3-5-9_vs_7-8	0.7573	0.7503	0.6853
keel_ecoli-0-3-4-7_vs_5-6	0.9474	0.9285	0.8777	keel_yeast-0-5-6-7-9_vs_4	0.8931	0.8798	0.7818
keel_ecoli-0-3-4_vs_5	0.9619	0.9509	0.8567	keel_yeast-1-2-8-9_vs_7	0.7373	0.7351	0.6659
keel_ecoli-0-4-6_vs_5	0.9677	0.9526	0.8876	keel_yeast-1-4-5-8_vs_7	0.6477	0.6469	0.6134
keel_ecoli-0-6-7_vs_3-5	0.9213	0.9065	0.8477	keel_yeast-1_vs_7	0.8096	0.8074	0.7208
keel_ecoli-0-6-7_vs_5	0.9541	0.9421	0.9050	keel_yeast-2_vs_4	0.9799	0.9619	0.9064
keel_ecoli-0_vs_1	0.9954	0.9909	0.9814	keel_yeast-2_vs_8	0.8167	0.8083	0.7438
keel_ecoli1	0.9543	0.9305	0.8884	keel_yeast1	0.7949	0.7763	0.7107
keel_ecoli2	0.9429	0.9270	0.8799	keel_yeast3	0.9741	0.9628	0.9294
keel_ecoli3	0.9391	0.9233	0.8536	keel_yeast4	0.9335	0.9183	0.8117
keel_ecoli4	0.9630	0.9547	0.8327	keel_yeast5	0.9897	0.9851	0.9437
keel_glass-0-1-2-3_vs_4-5	0.9724	0.9461	0.9152	keel_yeast6	0.9137	0.9047	0.7971

Table 14: F-Measure for Ensemble-RB and different fusion rules.

Dataset	Average	Product	Majority	Dataset	Average	Product	Majority
hddt_boundary	0.1421	0.1723	0.1256	keel_glass-0-1-4-6_vs_2	0.2970	0.3154	0.2960
hddt_breast-y	0.4417	0.4438	0.4455	keel_glass-0-1-5_vs_2	0.3464	0.3340	0.3434
hddt_cam	0.1922	0.2013	0.1856	keel_glass-0-1-6_vs_2	0.2650	0.2688	0.2766
hddt_compustat	0.3404	0.3237	0.3512	keel_glass-0-1-6_vs_5	0.7913	0.7297	0.8324
hddt_covtype	0.8517	0.8311	0.8589	keel_glass-0-4_vs_5	0.9505	0.9505	0.9505
hddt_credit-g	0.5536	0.5607	0.5411	keel_glass-0-6_vs_5	0.8946	0.8672	0.8946
hddt_estate	0.2425	0.2490	0.2338	keel_glass0	0.7216	0.7099	0.7183
hddt_german-numer	0.5819	0.5854	0.5781	keel_glass1	0.6354	0.6261	0.6428
hddt_heart-v	0.4250	0.4265	0.4341	keel_glass2	0.2984	0.3044	0.3108
hddt_hypo	0.8685	0.8466	0.8727	keel_glass4	0.4748	0.4913	0.5069
hddt_ism	0.5359	0.5214	0.5432	keel_glass5	0.7606	0.6677	0.7567
hddt_letter	0.9569	0.9476	0.9589	keel_glass6	0.8239	0.8296	0.8125
hddt_oil	0.4510	0.4435	0.4612	keel_haberman	0.5002	0.4992	0.5011
hddt_optdigits	0.9793	0.9736	0.9814	keel_iris0	0.9813	0.9813	0.9813
hddt_page	0.8498	0.8491	0.8523	keel_led7digit-0-2-4-5-6-	0.7541	0.7384	0.7730
hddt_pendigits	0.9725	0.9671	0.9748	keel_new-thyroid1	0.9077	0.8932	0.9047
hddt_phoneme	0.7837	0.7781	0.7843	keel_new-thyroid2	0.8960	0.8788	0.9168
hddt_PhosS	0.1753	0.2042	0.1646	keel_page-blocks-1-3_vs_4	0.9284	0.9241	0.9312
hddt_satimage	0.6354	0.6180	0.6429	keel_page-blocks0	0.8455	0.8428	0.8466
hddt_segment	0.9727	0.9706	0.9736	keel_pima	0.6654	0.6687	0.6647
keel_abalone19	0.0535	0.0520	0.0546	keel_segment0	0.9683	0.9668	0.9686
keel_abalone9-18	0.3077	0.2991	0.3075	keel_shuttle-c0-vs-c4	1.0000	1.0000	1.0000
keel_cleveland-0_vs_4	0.5551	0.5544	0.5797	keel_shuttle-c2-vs-c4	1.0000	1.0000	1.0000
keel_ecoli-0-1-3-7_vs_2-6	0.6382	0.6321	0.6382	keel_vehicle0	0.8803	0.8733	0.8821
keel_ecoli-0-1-4-6_vs_5	0.6883	0.6712	0.6913	keel_vehicle1	0.6243	0.6204	0.6271
keel_ecoli-0-1-4-7_vs_2-3	0.6390	0.6236	0.6479	keel_vehicle2	0.9329	0.9114	0.9349
keel_ecoli-0-1-4-7_vs_5-6	0.7227	0.7032	0.7265	keel_vehicle3	0.6162	0.6134	0.6213
keel_ecoli-0-1_vs_2-3-5	0.6878	0.6848	0.7024	keel_vowel0	0.8733	0.8535	0.8887
keel_ecoli-0-1_vs_5	0.6755	0.6633	0.6876	keel_wisconsin	0.9521	0.9508	0.9503
keel_ecoli-0-2-3-4_vs_5	0.6741	0.6697	0.6837	keel_yeast-0-2-5-6_vs_3-7	0.5531	0.5488	0.5489
keel_ecoli-0-2-6-7_vs_3-5	0.7111	0.7094	0.7162	keel_yeast-0-2-5-7-9_vs_3	0.7434	0.7393	0.7486
keel_ecoli-0-3-4-6_vs_5	0.7124	0.6931	0.7179	keel_yeast-0-3-5-9_vs_7-8	0.3717	0.3761	0.3795
keel_ecoli-0-3-4-7_vs_5-6	0.7236	0.6993	0.7294	keel_yeast-0-5-6-7-9_vs_4	0.4982	0.4904	0.4969
keel_ecoli-0-3-4_vs_5	0.7103	0.7019	0.7175	keel_yeast-1-2-8-9_vs_7	0.1868	0.1785	0.1857
keel_ecoli-0-4-6_vs_5	0.7450	0.7365	0.7478	keel_yeast-1-4-5-8_vs_7	0.1644	0.1592	0.1676
keel_ecoli-0-6-7_vs_3-5	0.6796	0.6770	0.6772	keel_yeast-1_vs_7	0.3310	0.3420	0.3482
keel_ecoli-0-6-7_vs_5	0.7534	0.7389	0.7567	keel_yeast-2_vs_4	0.7149	0.7171	0.7217
keel_ecoli-0_vs_1	0.9765	0.9765	0.9765	keel_yeast-2_vs_8	0.4098	0.4236	0.4251
keel_ecoli1	0.7876	0.7862	0.7826	keel_yeast1	0.5920	0.5921	0.5874
keel_ecoli2	0.7915	0.7764	0.7921	keel_yeast3	0.7788	0.7731	0.7796
keel_ecoli3	0.6214	0.6156	0.6142	keel_yeast4	0.3336	0.3225	0.3421
keel_ecoli4	0.6585	0.6562	0.6589	keel_yeast5	0.7311	0.7157	0.7344
keel_glass-0-1-2-3_vs_4-5	0.8412	0.8353	0.8498	keel_yeast6	0.3685	0.3711	0.3849

Table 15: AUC for Bagging-RB and different fusion rules.

Dataset	Average	Product	Majority	Dataset	Average	Product	Majority
hddt_boundary	0.6945	0.6867	0.5246	keel_glass-0-1-4-6_vs_2	0.7510	0.7454	0.6391
hddt_breast-y	0.6460	0.6445	0.5932	keel_glass-0-1-5_vs_2	0.7466	0.7318	0.5832
hddt_cam	0.7631	0.7664	0.5584	keel_glass-0-1-6_vs_2	0.7148	0.7111	0.5876
hddt_compustat	0.9107	0.8962	0.7863	keel_glass-0-1-6_vs_5	0.9938	0.9853	0.9791
hddt_covtype	0.9934	0.9858	0.9560	keel_glass-0-4_vs_5	0.9964	0.9940	0.9940
hddt_credit-g	0.7695	0.7614	0.6907	keel_glass-0-6_vs_5	0.9837	0.9829	0.9539
hddt_estate	0.6239	0.6257	0.5620	keel_glass0	0.8694	0.8497	0.7985
hddt_german-numer	0.7856	0.7658	0.7124	keel_glass1	0.8264	0.8096	0.7534
hddt_heart-v	0.7067	0.7094	0.6248	keel_glass2	0.8020	0.7950	0.6000
hddt_hypo	0.9905	0.9867	0.9642	keel_glass4	0.9322	0.9221	0.7961
hddt_ism	0.9421	0.9323	0.8875	keel_glass5	0.9905	0.9849	0.9768
hddt_letter	0.9994	0.9985	0.9725	keel_glass6	0.9602	0.9482	0.9217
hddt_oil	0.9201	0.9152	0.7628	keel_haberman	0.7130	0.7106	0.6528
hddt_optdigits	0.9980	0.9958	0.9905	keel_iris0	1.0000	1.0000	0.9820
hddt_page	0.9918	0.9833	0.9556	keel_led7digit-0-2-4-5-6-	0.9605	0.9568	0.8999
hddt_pendigits	0.9996	0.9978	0.9871	keel_new-thyroid1	0.9949	0.9881	0.9509
hddt_phoneme	0.9379	0.9110	0.8679	keel_new-thyroid2	0.9953	0.9854	0.9460
hddt_PhosS	0.7502	0.7605	0.5297	keel_page-blocks-1-3_vs_4	0.9995	0.9956	0.9718
hddt_satimage	0.9517	0.9354	0.8458	keel_page-blocks0	0.9912	0.9827	0.9518
hddt_segment	0.9989	0.9939	0.9881	keel_pima	0.8214	0.8022	0.7427
keel_abalone19	0.7685	0.7792	0.5387	keel_segment0	0.9986	0.9930	0.9851
keel_abalone9-18	0.8081	0.8008	0.6770	keel_shuttle-c0-vs-c4	1.0000	1.0000	1.0000
keel_cleveland-0_vs_4	0.9539	0.9528	0.7968	keel_shuttle-c2-vs-c4	1.0000	1.0000	1.0000
keel_ecoli-0-1-3-7_vs_2-6	0.9321	0.9206	0.8070	keel_vehicle0	0.9896	0.9673	0.9428
keel_ecoli-0-1-4-6_vs_5	0.9637	0.9595	0.8554	keel_vehicle1	0.8510	0.8371	0.7570
keel_ecoli-0-1-4-7_vs_2-3	0.9333	0.9214	0.8445	keel_vehicle2	0.9945	0.9812	0.9684
keel_ecoli-0-1-4-7_vs_5-6	0.9603	0.9493	0.8489	keel_vehicle3	0.8475	0.8341	0.7580
keel_ecoli-0-1_vs_2-3-5	0.9507	0.9383	0.8833	keel_vowel0	0.9965	0.9872	0.9720
keel_ecoli-0-1_vs_5	0.9709	0.9596	0.8536	keel_wisconsin	0.9924	0.9829	0.9639
keel_ecoli-0-2-3-4_vs_5	0.9729	0.9587	0.8808	keel_yeast-0-2-5-6_vs_3-7	0.8533	0.8459	0.7881
keel_ecoli-0-2-6-7_vs_3-5	0.9285	0.9197	0.8710	keel_yeast-0-2-5-7-9_vs_3	0.9444	0.9320	0.9075
keel_ecoli-0-3-4-6_vs_5	0.9667	0.9536	0.8755	keel_yeast-0-3-5-9_vs_7-8	0.7638	0.7565	0.6932
keel_ecoli-0-3-4-7_vs_5-6	0.9497	0.9369	0.8546	keel_yeast-0-5-6-7-9_vs_4	0.8963	0.8880	0.7637
keel_ecoli-0-3-4_vs_5	0.9671	0.9577	0.8667	keel_yeast-1-2-8-9_vs_7	0.7592	0.7599	0.6008
keel_ecoli-0-4-6_vs_5	0.9721	0.9628	0.8897	keel_yeast-1-4-5-8_vs_7	0.6617	0.6639	0.5829
keel_ecoli-0-6-7_vs_3-5	0.9346	0.9257	0.8497	keel_yeast-1_vs_7	0.8184	0.8164	0.6856
keel_ecoli-0-6-7_vs_5	0.9610	0.9484	0.9050	keel_yeast-2_vs_4	0.9799	0.9644	0.8986
keel_ecoli-0_vs_1	0.9925	0.9901	0.9807	keel_yeast-2_vs_8	0.8204	0.8162	0.7659
keel_ecoli1	0.9573	0.9284	0.8881	keel_yeast1	0.7992	0.7803	0.7237
keel_ecoli2	0.9473	0.9309	0.8864	keel_yeast3	0.9745	0.9636	0.9276
keel_ecoli3	0.9379	0.9260	0.8527	keel_yeast4	0.9381	0.9280	0.8130
keel_ecoli4	0.9724	0.9659	0.8483	keel_yeast5	0.9901	0.9847	0.9417
keel_glass-0-1-2-3_vs_4-5	0.9747	0.9515	0.9224	keel_yeast6	0.9168	0.9120	0.7975

Table 16: F-Measure for Bagging-RB and different fusion rules.

Dataset	Average	Product	Majority	Dataset	Average	Product	Majority
hddt_boundary	0.1132	0.1468	0.0892	keel_glass-0-1-4-6_vs_2	0.3398	0.3260	0.3429
hddt_breast-y	0.4496	0.4657	0.4338	keel_glass-0-1-5_vs_2	0.2671	0.2583	0.2513
hddt_cam	0.1916	0.2002	0.1886	keel_glass-0-1-6_vs_2	0.2425	0.2312	0.2335
hddt_compustat	0.3632	0.3393	0.3724	keel_glass-0-1-6_vs_5	0.7882	0.7457	0.8190
hddt_covtype	0.8586	0.8409	0.8645	keel_glass-0-4_vs_5	0.9505	0.9505	0.9505
hddt_credit-g	0.5790	0.5866	0.5706	keel_glass-0-6_vs_5	0.8946	0.8857	0.8946
hddt_estate	0.2373	0.2474	0.2320	keel_glass0	0.7206	0.7056	0.7222
hddt_german-numer	0.6002	0.5949	0.5977	keel_glass1	0.6791	0.6584	0.6792
hddt_heart-v	0.4350	0.4377	0.4323	keel_glass2	0.2500	0.2869	0.2548
hddt_hypo	0.8793	0.8616	0.8840	keel_glass4	0.5512	0.5331	0.5291
hddt_ism	0.5660	0.5433	0.5728	keel_glass5	0.7571	0.6642	0.7695
hddt_letter	0.9618	0.9503	0.9637	keel_glass6	0.8423	0.8395	0.8412
hddt_oil	0.5254	0.5052	0.5276	keel_haberman	0.4943	0.5012	0.4931
hddt_optdigits	0.9811	0.9717	0.9827	keel_iris0	0.9813	0.9813	0.9813
hddt_page	0.8568	0.8582	0.8575	keel_led7digit-0-2-4-5-6-	0.7779	0.7722	0.7813
hddt_pendigits	0.9775	0.9706	0.9784	keel_new-thyroid1	0.9124	0.9041	0.9150
hddt_phoneme	0.7905	0.7849	0.7926	keel_new-thyroid2	0.8993	0.8787	0.9108
hddt_PhosS	0.1204	0.1655	0.1118	keel_page-blocks-1-3_vs_4	0.9271	0.9084	0.9271
hddt_satimage	0.6427	0.6260	0.6497	keel_page-blocks0	0.8530	0.8467	0.8544
hddt_segment	0.9753	0.9718	0.9759	keel_pima	0.6721	0.6766	0.6682
keel_abalone19	0.0607	0.0636	0.0575	keel_segment0	0.9700	0.9668	0.9714
keel_abalone9-18	0.3487	0.3349	0.3516	keel_shuttle-c0-vs-c4	1.0000	1.0000	1.0000
keel_cleveland-0_vs_4	0.6396	0.6386	0.6552	keel_shuttle-c2-vs-c4	1.0000	1.0000	1.0000
keel_ecoli-0-1-3-7_vs_2-6	0.6226	0.5988	0.5988	keel_vehicle0	0.8803	0.8677	0.8864
keel_ecoli-0-1-4-6_vs_5	0.7310	0.7212	0.7389	keel_vehicle1	0.6197	0.6190	0.6214
keel_ecoli-0-1-4-7_vs_2-3	0.6721	0.6560	0.6924	keel_vehicle2	0.9404	0.9276	0.9447
keel_ecoli-0-1-4-7_vs_5-6	0.7195	0.6945	0.7278	keel_vehicle3	0.6140	0.6036	0.6179
keel_ecoli-0-1_vs_2-3-5	0.7247	0.7035	0.7372	keel_vowel0	0.8787	0.8655	0.8906
keel_ecoli-0-1_vs_5	0.7272	0.7129	0.7185	keel_wisconsin	0.9501	0.9506	0.9502
keel_ecoli-0-2-3-4_vs_5	0.7135	0.7138	0.7228	keel_yeast-0-2-5-6_vs_3-7	0.5957	0.5886	0.5969
keel_ecoli-0-2-6-7_vs_3-5	0.7537	0.7537	0.7569	keel_yeast-0-2-5-7-9_vs_3	0.7775	0.7690	0.7845
keel_ecoli-0-3-4-6_vs_5	0.7425	0.7460	0.7396	keel_yeast-0-3-5-9_vs_7-8	0.3869	0.3805	0.3905
keel_ecoli-0-3-4-7_vs_5-6	0.7103	0.6928	0.7211	keel_yeast-0-5-6-7-9_vs_4	0.5246	0.5219	0.5239
keel_ecoli-0-3-4_vs_5	0.7475	0.7376	0.7596	keel_yeast-1-2-8-9_vs_7	0.1785	0.1805	0.1809
keel_ecoli-0-4-6_vs_5	0.7638	0.7609	0.7812	keel_yeast-1-4-5-8_vs_7	0.1565	0.1515	0.1687
keel_ecoli-0-6-7_vs_3-5	0.7124	0.7246	0.7095	keel_yeast-1_vs_7	0.3350	0.3441	0.3357
keel_ecoli-0-6-7_vs_5	0.7614	0.7575	0.7583	keel_yeast-2_vs_4	0.7292	0.7255	0.7208
keel_ecoli-0_vs_1	0.9728	0.9716	0.9753	keel_yeast-2_vs_8	0.5572	0.5642	0.5717
keel_ecoli1	0.7847	0.7828	0.7853	keel_yeast1	0.6027	0.6028	0.6031
keel_ecoli2	0.7910	0.7679	0.8020	keel_yeast3	0.7811	0.7743	0.7832
keel_ecoli3	0.6174	0.6078	0.6207	keel_yeast4	0.3884	0.3629	0.4055
keel_ecoli4	0.6947	0.6820	0.6889	keel_yeast5	0.7269	0.6988	0.7374
keel_glass-0-1-2-3_vs_4-5	0.8508	0.8385	0.8567	keel_yeast6	0.4575	0.4524	0.4532

Table 17: AUC for Ensemble-RB and different base classifiers.

Dataset	J48	SVM	KNN	Dataset	J48	SVM	KNN
hddt_boundary	0.6732	0.7410	0.5720	keel_glass-0-1-4-6_vs_2	0.7628	0.6852	0.7431
hddt_breast-y	0.6379	0.6441	0.6080	keel_glass-0-1-5_vs_2	0.7572	0.5562	0.7164
hddt_cam	0.7248	0.7963	0.6925	keel_glass-0-1-6_vs_2	0.7179	0.6268	0.7099
hddt_compustat	0.9063	0.8018	0.9292	keel_glass-0-1-6_vs_5	0.9953	0.9704	0.9883
hddt_covtype	0.9930	0.9189	0.9918	keel_glass-0-4_vs_5	0.9947	0.9872	0.9956
hddt_credit-g	0.7481	0.7693	0.6913	keel_glass-0-6_vs_5	0.9841	0.9718	0.9967
hddt_estate	0.6216	0.6164	0.5762	keel_glass0	0.8593	0.7874	0.8699
hddt_german-numer	0.7727	0.7826	0.6865	keel_glass1	0.8120	0.6163	0.8617
hddt_heart-v	0.6926	0.6854	0.6368	keel_glass2	0.8157	0.6740	0.7806
hddt_hypo	0.9906	0.9677	0.8949	keel_glass4	0.9177	0.9149	0.9565
hddt_ism	0.9388	0.9211	0.9252	keel_glass5	0.9911	0.9643	0.9885
hddt_letter	0.9990	0.9935	0.9996	keel_glass6	0.9514	0.9586	0.9615
hddt_oil	0.9081	0.9147	0.8462	keel_haberman	0.7059	0.6333	0.6223
hddt_optdigits	0.9983	0.9993	1.0000	keel_iris0	0.9998	1.0000	1.0000
hddt_page	0.9917	0.9244	0.9779	keel_led7digit-0-2-4-5-6-	0.9562	0.9588	0.9665
hddt_pendigits	0.9995	0.9927	0.9999	keel_new-thyroid1	0.9942	0.9986	0.9983
hddt_phoneme	0.9331	0.8243	0.9341	keel_new-thyroid2	0.9946	0.9988	0.9973
hddt_PhosS	0.7109	0.7446	0.5449	keel_page-blocks-1-3_vs_4	0.9997	0.9522	0.9995
hddt_satimage	0.9505	0.7696	0.9562	keel_page-blocks0	0.9913	0.9265	0.9774
hddt_segment	0.9988	0.9984	0.9994	keel_pima	0.8158	0.8245	0.7608
keel_abalone19	0.7398	0.7973	0.7227	keel_segment0	0.9984	0.9985	0.9996
keel_abalone9-18	0.7920	0.8305	0.7516	keel_shuttle-c0-vs-c4	1.0000	1.0000	0.9976
keel_cleveland-0_vs_4	0.9336	0.9570	0.9619	keel_shuttle-c2-vs-c4	1.0000	1.0000	0.9989
keel_ecoli-0-1-3-7_vs_2-6	0.9088	0.9312	0.9095	keel_vehicle0	0.9880	0.9877	0.9771
keel_ecoli-0-1-4-6_vs_5	0.9654	0.9155	0.9396	keel_vehicle1	0.8445	0.8140	0.7861
keel_ecoli-0-1-4-7_vs_2-3	0.9273	0.9182	0.9254	keel_vehicle2	0.9935	0.9696	0.9853
keel_ecoli-0-1-4-7_vs_5-6	0.9511	0.9586	0.9557	keel_vehicle3	0.8443	0.7919	0.7794
keel_ecoli-0-1_vs_2-3-5	0.9473	0.9358	0.9379	keel_vowel0	0.9962	0.9801	0.9992
keel_ecoli-0-1_vs_5	0.9569	0.9377	0.9519	keel_wisconsin	0.9922	0.9942	0.9931
keel_ecoli-0-2-3-4_vs_5	0.9658	0.9248	0.9718	keel_yeast-0-2-5-6_vs_3-7	0.8417	0.8586	0.8334
keel_ecoli-0-2-6-7_vs_3-5	0.9260	0.9059	0.9215	keel_yeast-0-2-5-7-9_vs_3	0.9464	0.9343	0.9430
keel_ecoli-0-3-4-6_vs_5	0.9593	0.9180	0.9629	keel_yeast-0-3-5-9_vs_7-8	0.7584	0.7911	0.7649
keel_ecoli-0-3-4-7_vs_5-6	0.9458	0.9405	0.9504	keel_yeast-0-5-6-7-9_vs_4	0.8900	0.8663	0.8628
keel_ecoli-0-3-4_vs_5	0.9564	0.9058	0.9480	keel_yeast-1-2-8-9_vs_7	0.7366	0.7877	0.7551
keel_ecoli-0-4-6_vs_5	0.9694	0.9207	0.9601	keel_yeast-1-4-5-8_vs_7	0.6451	0.7075	0.6662
keel_ecoli-0-6-7_vs_3-5	0.9143	0.8999	0.9166	keel_yeast-1_vs_7	0.8055	0.8354	0.7806
keel_ecoli-0-6-7_vs_5	0.9567	0.9362	0.9243	keel_yeast-2_vs_4	0.9770	0.9485	0.9718
keel_ecoli-0_vs_1	0.9921	0.9953	0.9918	keel_yeast-2_vs_8	0.8158	0.7898	0.7949
keel_ecoli1	0.9536	0.9453	0.9470	keel_yeast1	0.7928	0.7850	0.7433
keel_ecoli2	0.9438	0.9350	0.9514	keel_yeast3	0.9735	0.9672	0.9531
keel_ecoli3	0.9388	0.9366	0.9125	keel_yeast4	0.9338	0.8953	0.9163
keel_ecoli4	0.9510	0.9947	0.9911	keel_yeast5	0.9895	0.9846	0.9898
keel_glass-0-1-2-3_vs_4-5	0.9711	0.9566	0.9739	keel_yeast6	0.9141	0.9231	0.9108

Table 18: F-Measure for Ensemble-RB and different base classifiers.

Dataset	J48	SVM	KNN	Dataset	J48	SVM	KNN
hddt_boundary	0.1431	0.1456	0.0732	keel_glass-0-1-4-6_vs_2	0.2884	0.1753	0.2993
hddt_breast-y	0.4425	0.4528	0.3996	keel_glass-0-1-5_vs_2	0.3507	0.1451	0.2551
hddt_cam	0.1872	0.2888	0.1404	keel_glass-0-1-6_vs_2	0.2790	0.1282	0.2264
hddt_compustat	0.3460	0.1950	0.4156	keel_glass-0-1-6_vs_5	0.7788	0.5247	0.7185
hddt_covtype	0.8473	0.4095	0.8565	keel_glass-0-4_vs_5	0.9505	0.7560	0.9292
hddt_credit-g	0.5481	0.5853	0.4993	keel_glass-0-6_vs_5	0.8946	0.5516	0.8774
hddt_estate	0.2385	0.2049	0.2181	keel_glass0	0.7138	0.5960	0.7134
hddt_german-numer	0.5801	0.5956	0.4658	keel_glass1	0.6299	0.4678	0.6957
hddt_heart-v	0.4242	0.4885	0.3639	keel_glass2	0.2962	0.1856	0.2974
hddt_hypo	0.8687	0.7074	0.5392	keel_glass4	0.4791	0.4708	0.6493
hddt_ism	0.5371	0.2598	0.4938	keel_glass5	0.7306	0.4531	0.6432
hddt_letter	0.9548	0.6462	0.9788	keel_glass6	0.8276	0.8180	0.8467
hddt_oil	0.4396	0.3869	0.4794	keel_haberman	0.5015	0.2997	0.3767
hddt_optdigits	0.9791	0.9879	0.9977	keel_iris0	0.9813	1.0000	1.0000
hddt_page	0.8506	0.6465	0.7865	keel_led7digit-0-2-4-5-6-	0.7489	0.6640	0.7051
hddt_pendigits	0.9720	0.8216	0.9872	keel_new-thyroid1	0.8948	0.8982	0.9489
hddt_phoneme	0.7834	0.6324	0.7903	keel_new-thyroid2	0.8895	0.9185	0.9390
hddt_PhosS	0.1824	0.2305	0.1020	keel_page-blocks-1-3_vs_4	0.9525	0.5187	0.9668
hddt_satimage	0.6300	0.2895	0.6259	keel_page-blocks0	0.8454	0.6590	0.7888
hddt_segment	0.9739	0.9741	0.9755	keel_pima	0.6654	0.6521	0.5616
keel_abalone19	0.0553	0.0439	0.0382	keel_segment0	0.9692	0.9674	0.9756
keel_abalone9-18	0.3058	0.3292	0.2471	keel_shuttle-c0-vs-c4	1.0000	0.9959	0.9959
keel_cleveland-0_vs_4	0.5761	0.6354	0.6098	keel_shuttle-c2-vs-c4	1.0000	0.9857	0.8495
keel_ecoli-0-1-3-7_vs_2-6	0.6321	0.5136	0.4379	keel_vehicle0	0.8775	0.8740	0.8469
keel_ecoli-0-1-4-6_vs_5	0.6940	0.6406	0.8220	keel_vehicle1	0.6140	0.5798	0.5278
keel_ecoli-0-1-4-7_vs_2-3	0.6272	0.5993	0.6520	keel_vehicle2	0.9274	0.8199	0.8978
keel_ecoli-0-1-4-7_vs_5-6	0.7221	0.6301	0.7281	keel_vehicle3	0.6125	0.5649	0.4976
keel_ecoli-0-1_vs_2-3-5	0.6968	0.6601	0.7160	keel_vowel0	0.8756	0.6929	0.9868
keel_ecoli-0-1_vs_5	0.6728	0.7597	0.7899	keel_wisconsin	0.9504	0.9603	0.9424
keel_ecoli-0-2-3-4_vs_5	0.6788	0.7475	0.7823	keel_yeast-0-2-5-6_vs_3-7	0.5469	0.5104	0.4717
keel_ecoli-0-2-6-7_vs_3-5	0.7025	0.5631	0.7017	keel_yeast-0-2-5-7-9_vs_3	0.7385	0.7000	0.7088
keel_ecoli-0-3-4-6_vs_5	0.7136	0.7296	0.8012	keel_yeast-0-3-5-9_vs_7-8	0.3648	0.3353	0.4072
keel_ecoli-0-3-4-7_vs_5-6	0.7057	0.6468	0.7298	keel_yeast-0-5-6-7-9_vs_4	0.4912	0.4453	0.4732
keel_ecoli-0-3-4_vs_5	0.7073	0.7500	0.8102	keel_yeast-1-2-8-9_vs_7	0.1785	0.1248	0.1605
keel_ecoli-0-4-6_vs_5	0.7430	0.7386	0.8134	keel_yeast-1-4-5-8_vs_7	0.1576	0.1226	0.1481
keel_ecoli-0-6-7_vs_3-5	0.6679	0.5825	0.6423	keel_yeast-1_vs_7	0.3216	0.2982	0.2759
keel_ecoli-0-6-7_vs_5	0.7454	0.6442	0.6659	keel_yeast-2_vs_4	0.7148	0.7002	0.7263
keel_ecoli-0_vs_1	0.9753	0.9608	0.9503	keel_yeast-2_vs_8	0.4162	0.4599	0.3651
keel_ecoli1	0.7836	0.7483	0.7523	keel_yeast1	0.5883	0.5734	0.5034
keel_ecoli2	0.8053	0.7122	0.7966	keel_yeast3	0.7798	0.6751	0.7011
keel_ecoli3	0.6217	0.5668	0.6113	keel_yeast4	0.3336	0.2713	0.3279
keel_ecoli4	0.6601	0.7384	0.8016	keel_yeast5	0.7168	0.4671	0.6473
keel_glass-0-1-2-3_vs_4-5	0.8461	0.8137	0.8745	keel_yeast6	0.3684	0.3119	0.3211

Table 19: AUC for Bagging-RB and different base classifiers.

Dataset	J48	SVM	KNN	Dataset	J48	SVM	KNN
hddt_boundary	0.6895	0.7444	0.5781	keel_glass-0-1-4-6_vs_2	0.7545	0.6779	0.7133
hddt_breast-y	0.6476	0.6539	0.6178	keel_glass-0-1-5_vs_2	0.7488	0.5945	0.6932
hddt_cam	0.7613	0.8089	0.7051	keel_glass-0-1-6_vs_2	0.7010	0.6166	0.7256
hddt_compustat	0.9091	0.8067	0.9305	keel_glass-0-1-6_vs_5	0.9916	0.9758	0.9898
hddt_covtype	0.9931	0.9197	0.9925	keel_glass-0-4_vs_5	0.9940	0.9872	0.9961
hddt_credit-g	0.7705	0.7725	0.7092	keel_glass-0-6_vs_5	0.9859	0.9714	0.9965
hddt_estate	0.6223	0.6202	0.5840	keel_glass0	0.8705	0.7782	0.8771
hddt_german-numer	0.7836	0.7860	0.6910	keel_glass1	0.8263	0.6577	0.8662
hddt_heart-v	0.7111	0.7086	0.6492	keel_glass2	0.8079	0.6791	0.7791
hddt_hypo	0.9901	0.9704	0.8708	keel_glass4	0.9320	0.9458	0.9578
hddt_ism	0.9414	0.9236	0.9268	keel_glass5	0.9918	0.9634	0.9871
hddt_letter	0.9993	0.9932	0.9999	keel_glass6	0.9619	0.9582	0.9575
hddt_oil	0.9171	0.9189	0.8438	keel_haberman	0.7146	0.6241	0.6233
hddt_optdigits	0.9974	0.9989	1.0000	keel_iris0	0.9997	1.0000	1.0000
hddt_page	0.9915	0.9283	0.9805	keel_led7digit-0-2-4-5-6-	0.9614	0.9623	0.9682
hddt_pendigits	0.9995	0.9928	0.9999	keel_new-thyroid1	0.9945	0.9986	0.9978
hddt_phoneme	0.9375	0.8237	0.9344	keel_new-thyroid2	0.9957	0.9988	0.9971
hddt_PhosS	0.7418	0.7472	0.5666	keel_page-blocks-1-3_vs_4	0.9994	0.9484	0.9994
hddt_satimage	0.9510	0.7765	0.9582	keel_page-blocks0	0.9910	0.9307	0.9791
hddt_segment	0.9983	0.9984	0.9996	keel_pima	0.8192	0.8267	0.7663
keel_abalone19	0.7631	0.8148	0.7464	keel_segment0	0.9985	0.9984	0.9997
keel_abalone9-18	0.8047	0.8381	0.7783	keel_shuttle-c0-vs-c4	1.0000	1.0000	0.9955
keel_cleveland-0_vs_4	0.9560	0.9609	0.9657	keel_shuttle-c2-vs-c4	1.0000	1.0000	0.9951
keel_ecoli-0-1-3-7_vs_2-6	0.9278	0.9522	0.9234	keel_vehicle0	0.9891	0.9901	0.9789
keel_ecoli-0-1-4-6_vs_5	0.9655	0.9227	0.9588	keel_vehicle1	0.8481	0.8136	0.7921
keel_ecoli-0-1-4-7_vs_2-3	0.9333	0.9220	0.9338	keel_vehicle2	0.9942	0.9708	0.9854
keel_ecoli-0-1-4-7_vs_5-6	0.9534	0.9547	0.9567	keel_vehicle3	0.8425	0.7938	0.7913
keel_ecoli-0-1_vs_2-3-5	0.9531	0.9379	0.9509	keel_vowel0	0.9964	0.9791	0.9991
keel_ecoli-0-1_vs_5	0.9709	0.9378	0.9385	keel_wisconsin	0.9922	0.9942	0.9935
keel_ecoli-0-2-3-4_vs_5	0.9640	0.9297	0.9560	keel_yeast-0-2-5-6_vs_3-7	0.8526	0.8501	0.8430
keel_ecoli-0-2-6-7_vs_3-5	0.9234	0.9167	0.9333	keel_yeast-0-2-5-7-9_vs_3	0.9412	0.9291	0.9491
keel_ecoli-0-3-4-6_vs_5	0.9664	0.9234	0.9479	keel_yeast-0-3-5-9_vs_7-8	0.7609	0.7898	0.7719
keel_ecoli-0-3-4-7_vs_5-6	0.9497	0.9478	0.9555	keel_yeast-0-5-6-7-9_vs_4	0.8934	0.8669	0.8698
keel_ecoli-0-3-4_vs_5	0.9622	0.9319	0.9340	keel_yeast-1-2-8-9_vs_7	0.7547	0.7914	0.7623
keel_ecoli-0-4-6_vs_5	0.9646	0.9329	0.9309	keel_yeast-1-4-5-8_vs_7	0.6555	0.7097	0.6752
keel_ecoli-0-6-7_vs_3-5	0.9297	0.9034	0.9238	keel_yeast-1_vs_7	0.8094	0.8338	0.7904
keel_ecoli-0-6-7_vs_5	0.9633	0.9432	0.9451	keel_yeast-2_vs_4	0.9800	0.9518	0.9704
keel_ecoli-0_vs_1	0.9933	0.9949	0.9915	keel_yeast-2_vs_8	0.8070	0.7841	0.7970
keel_ecoli1	0.9546	0.9484	0.9485	keel_yeast1	0.7978	0.7849	0.7488
keel_ecoli2	0.9468	0.9384	0.9529	keel_yeast3	0.9741	0.9673	0.9564
keel_ecoli3	0.9338	0.9402	0.9214	keel_yeast4	0.9370	0.8970	0.9218
keel_ecoli4	0.9647	0.9954	0.9922	keel_yeast5	0.9898	0.9860	0.9901
keel_glass-0-1-2-3_vs_4-5	0.9729	0.9699	0.9727	keel_yeast6	0.9183	0.9319	0.9206

Table 20: F-Measure for Bagging-RB and different base classifiers.

Dataset	J48	SVM	KNN	Dataset	J48	SVM	KNN
hddt_boundary	0.1130	0.1456	0.0734	keel_glass-0-1-4-6_vs_2	0.3158	0.1911	0.2705
hddt_breast-y	0.4184	0.4526	0.4023	keel_glass-0-1-5_vs_2	0.2620	0.1773	0.2744
hddt_cam	0.1948	0.3049	0.1296	keel_glass-0-1-6_vs_2	0.2524	0.2034	0.2300
hddt_compustat	0.3736	0.1975	0.4355	keel_glass-0-1-6_vs_5	0.7789	0.5079	0.7621
hddt_covtype	0.8508	0.3988	0.8538	keel_glass-0-4_vs_5	0.9505	0.7608	0.8925
hddt_credit-g	0.5731	0.5947	0.4947	keel_glass-0-6_vs_5	0.8946	0.5563	0.8640
hddt_estate	0.2397	0.2648	0.2215	keel_glass0	0.7272	0.6367	0.7204
hddt_german-numer	0.5911	0.6055	0.4828	keel_glass1	0.6613	0.5408	0.7062
hddt_heart-v	0.4883	0.4756	0.4037	keel_glass2	0.2944	0.2113	0.3071
hddt_hypo	0.8688	0.7047	0.5255	keel_glass4	0.5315	0.5513	0.6421
hddt_ism	0.5614	0.2430	0.5108	keel_glass5	0.7249	0.5048	0.6689
hddt_letter	0.9632	0.6704	0.9794	keel_glass6	0.8423	0.8205	0.8384
hddt_oil	0.5207	0.4539	0.4965	keel_haberman	0.5043	0.4161	0.3918
hddt_optdigits	0.9816	0.9884	0.9971	keel_iris0	0.9813	1.0000	1.0000
hddt_page	0.8524	0.6440	0.7932	keel_led7digit-0-2-4-5-6-	0.7690	0.6918	0.7177
hddt_pendigits	0.9778	0.8471	0.9875	keel_new-thyroid1	0.9153	0.9451	0.9539
hddt_phoneme	0.7907	0.6478	0.7912	keel_new-thyroid2	0.8917	0.9271	0.9356
hddt_PhosS	0.1093	0.2421	0.1020	keel_page-blocks-1-3_vs_4	0.9205	0.5541	0.9359
hddt_satimage	0.6450	0.2917	0.6424	keel_page-blocks0	0.8464	0.6060	0.7892
hddt_segment	0.9747	0.9828	0.9761	keel_pima	0.6664	0.6682	0.5973
keel_abalone19	0.0466	0.0596	0.0370	keel_segment0	0.9718	0.9798	0.9747
keel_abalone9-18	0.3259	0.3210	0.2610	keel_shuttle-c0-vs-c4	1.0000	0.9959	0.9959
keel_cleveland-0_vs_4	0.6419	0.7011	0.6566	keel_shuttle-c2-vs-c4	1.0000	1.0000	0.8271
keel_ecoli-0-1-3-7_vs_2-6	0.6255	0.5327	0.4966	keel_vehicle0	0.8731	0.8769	0.8598
keel_ecoli-0-1-4-6_vs_5	0.7133	0.6274	0.7975	keel_vehicle1	0.6222	0.5778	0.5379
keel_ecoli-0-1-4-7_vs_2-3	0.6775	0.5880	0.6819	keel_vehicle2	0.9342	0.8250	0.8911
keel_ecoli-0-1-4-7_vs_5-6	0.7255	0.6738	0.7390	keel_vehicle3	0.6118	0.5628	0.5208
keel_ecoli-0-1_vs_2-3-5	0.7122	0.7057	0.7411	keel_vowel0	0.8755	0.6541	0.9679
keel_ecoli-0-1_vs_5	0.7081	0.7527	0.7958	keel_wisconsin	0.9494	0.9613	0.9515
keel_ecoli-0-2-3-4_vs_5	0.7255	0.7392	0.7766	keel_yeast-0-2-5-6_vs_3-7	0.5981	0.5238	0.5204
keel_ecoli-0-2-6-7_vs_3-5	0.7499	0.6200	0.7239	keel_yeast-0-2-5-7-9_vs_3	0.7806	0.7039	0.7425
keel_ecoli-0-3-4-6_vs_5	0.7531	0.7572	0.8248	keel_yeast-0-3-5-9_vs_7-8	0.3733	0.2801	0.3873
keel_ecoli-0-3-4-7_vs_5-6	0.6946	0.6592	0.7536	keel_yeast-0-5-6-7-9_vs_4	0.5351	0.4839	0.4829
keel_ecoli-0-3-4_vs_5	0.7214	0.7237	0.8265	keel_yeast-1-2-8-9_vs_7	0.1805	0.1465	0.1888
keel_ecoli-0-4-6_vs_5	0.7651	0.7424	0.8245	keel_yeast-1-4-5-8_vs_7	0.1562	0.1397	0.1586
keel_ecoli-0-6-7_vs_3-5	0.7033	0.6239	0.6639	keel_yeast-1_vs_7	0.3157	0.3008	0.2851
keel_ecoli-0-6-7_vs_5	0.7605	0.6464	0.6826	keel_yeast-2_vs_4	0.7224	0.7147	0.7540
keel_ecoli-0_vs_1	0.9716	0.9595	0.9543	keel_yeast-2_vs_8	0.5487	0.5490	0.4379
keel_ecoli1	0.7814	0.7538	0.7737	keel_yeast1	0.6037	0.5745	0.5288
keel_ecoli2	0.7825	0.6980	0.7994	keel_yeast3	0.7795	0.6691	0.7082
keel_ecoli3	0.6089	0.5542	0.6155	keel_yeast4	0.3739	0.2927	0.3366
keel_ecoli4	0.6841	0.7452	0.8054	keel_yeast5	0.7223	0.4648	0.6332
keel_glass-0-1-2-3_vs_4-5	0.8491	0.8070	0.8752	keel_yeast6	0.4488	0.3059	0.3422

Table 21: AUC for RB-Boost and different base classifiers.

Dataset	J48	SVM	KNN	Dataset	J48	SVM	KNN
hddt_boundary	0.6985	0.7272	0.5629	keel_glass-0-1-4-6_vs_2	0.7555	0.7287	0.7158
hddt_breast-y	0.6259	0.6258	0.5941	keel_glass-0-1-5_vs_2	0.7472	0.6790	0.7238
hddt_cam	0.7593	0.7400	0.6810	keel_glass-0-1-6_vs_2	0.7376	0.6697	0.6505
hddt_compustat	0.9277	0.7502	0.8953	keel_glass-0-1-6_vs_5	0.9893	0.9884	0.9400
hddt_covtype	0.9957	0.8983	0.9783	keel_glass-0-4_vs_5	0.9945	1.0000	0.9945
hddt_credit-g	0.7525	0.7473	0.6676	keel_glass-0-6_vs_5	0.9907	1.0000	0.9712
hddt_estate	0.6054	0.6104	0.5633	keel_glass0	0.8727	0.7736	0.8529
hddt_german-numer	0.7637	0.7598	0.6589	keel_glass1	0.8480	0.6519	0.8398
hddt_heart-v	0.7037	0.6664	0.6228	keel_glass2	0.7878	0.7226	0.7855
hddt_hypo	0.9909	0.9696	0.8886	keel_glass4	0.9532	0.9084	0.9677
hddt_ism	0.9140	0.8695	0.8747	keel_glass5	0.9864	0.9910	0.9620
hddt_letter	0.9999	0.9944	0.9996	keel_glass6	0.9574	0.9524	0.9446
hddt_oil	0.9261	0.8858	0.8040	keel_haberman	0.6833	0.6331	0.6059
hddt_optdigits	0.9998	0.9995	0.9997	keel_iris0	1.0000	1.0000	1.0000
hddt_page	0.9910	0.9311	0.9739	keel_led7digit-0-2-4-5-6-	0.9633	0.9555	0.9497
hddt_pendigits	0.9999	0.9981	0.9999	keel_new-thyroid1	0.9968	0.9980	0.9981
hddt_phoneme	0.9477	0.8218	0.9073	keel_new-thyroid2	0.9981	0.9978	0.9936
hddt_PhosS	0.7207	0.7114	0.5836	keel_page-blocks-1-3_vs_4	0.9997	0.9890	0.9997
hddt_satimage	0.9589	0.8233	0.9281	keel_page-blocks0	0.9899	0.9195	0.9724
hddt_segment	0.9999	0.9998	0.9973	keel_pima	0.8026	0.8047	0.7258
keel_abalone19	0.7216	0.8087	0.5800	keel_segment0	0.9997	0.9999	0.9981
keel_abalone9-18	0.8058	0.8288	0.7019	keel_shuttle-c0-vs-c4	1.0000	0.9967	0.9969
keel_cleveland-0_vs_4	0.9578	0.9529	0.9521	keel_shuttle-c2-vs-c4	1.0000	0.9667	0.9656
keel_ecoli-0-1-3-7_vs_2-6	0.9114	0.9444	0.8920	keel_vehicle0	0.9949	0.9933	0.9694
keel_ecoli-0-1-4-6_vs_5	0.9867	0.9258	0.9270	keel_vehicle1	0.8420	0.8352	0.7515
keel_ecoli-0-1-4-7_vs_2-3	0.9411	0.9077	0.9067	keel_vehicle2	0.9978	0.9875	0.9820
keel_ecoli-0-1-4-7_vs_5-6	0.9652	0.9436	0.9425	keel_vehicle3	0.8413	0.8122	0.7291
keel_ecoli-0-1_vs_2-3-5	0.9460	0.9217	0.9247	keel_vowel0	0.9995	0.9994	0.9998
keel_ecoli-0-1_vs_5	0.9847	0.9433	0.9301	keel_wisconsin	0.9929	0.9923	0.9842
keel_ecoli-0-2-3-4_vs_5	0.9827	0.9070	0.9534	keel_yeast-0-2-5-6_vs_3-7	0.8444	0.8184	0.8170
keel_ecoli-0-2-6-7_vs_3-5	0.9227	0.8742	0.8895	keel_yeast-0-2-5-7-9_vs_3	0.9445	0.9130	0.9322
keel_ecoli-0-3-4-6_vs_5	0.9810	0.8799	0.9096	keel_yeast-0-3-5-9_vs_7-8	0.7642	0.7724	0.7363
keel_ecoli-0-3-4-7_vs_5-6	0.9646	0.9209	0.9400	keel_yeast-0-5-6-7-9_vs_4	0.8838	0.8103	0.8153
keel_ecoli-0-3-4_vs_5	0.9808	0.8934	0.9417	keel_yeast-1-2-8-9_vs_7	0.7647	0.7715	0.7450
keel_ecoli-0-4-6_vs_5	0.9838	0.9127	0.9238	keel_yeast-1-4-5-8_vs_7	0.6831	0.6883	0.6625
keel_ecoli-0-6-7_vs_3-5	0.9201	0.8576	0.8915	keel_yeast-1_vs_7	0.7955	0.7938	0.7159
keel_ecoli-0-6-7_vs_5	0.9664	0.9067	0.9115	keel_yeast-2_vs_4	0.9716	0.9682	0.9171
keel_ecoli-0_vs_1	0.9883	0.9964	0.9844	keel_yeast-2_vs_8	0.8340	0.7858	0.7878
keel_ecoli1	0.9446	0.9548	0.9021	keel_yeast1	0.7741	0.7530	0.6970
keel_ecoli2	0.9618	0.9464	0.9420	keel_yeast3	0.9635	0.9408	0.9172
keel_ecoli3	0.9228	0.9194	0.8505	keel_yeast4	0.9145	0.8364	0.8683
keel_ecoli4	0.9817	0.9908	0.9735	keel_yeast5	0.9788	0.9835	0.9652
keel_glass-0-1-2-3_vs_4-5	0.9767	0.9703	0.9627	keel_yeast6	0.8975	0.8871	0.8354

Table 22: F-Measure for RB-Boost and different base classifiers.

Dataset	J48	SVM	KNN	Dataset	J48	SVM	KNN
hddt_boundary	0.0444	0.1386	0.0741	keel_glass-0-1-4-6_vs_2	0.2409	0.0545	0.2769
hddt_breast-y	0.4106	0.4243	0.3975	keel_glass-0-1-5_vs_2	0.2567	0.0333	0.2503
hddt_cam	0.1294	0.2907	0.1562	keel_glass-0-1-6_vs_2	0.2047	0.0154	0.2359
hddt_compustat	0.4425	0.0673	0.5273	keel_glass-0-1-6_vs_5	0.6752	0.8192	0.7342
hddt_covtype	0.9022	0.0296	0.8633	keel_glass-0-4_vs_5	0.8696	0.8889	0.8894
hddt_credit-g	0.5092	0.5359	0.4826	keel_glass-0-6_vs_5	0.7560	1.0000	0.8809
hddt_estate	0.0659	0.0221	0.1863	keel_glass0	0.7016	0.3966	0.7130
hddt_german-numer	0.5239	0.5561	0.4470	keel_glass1	0.6804	0.3328	0.6907
hddt_heart-v	0.4160	0.4507	0.3819	keel_glass2	0.2473	0.0472	0.3023
hddt_hypo	0.8868	0.7561	0.6293	keel_glass4	0.5851	0.6223	0.6428
hddt_ism	0.6795	0.5832	0.5893	keel_glass5	0.7095	0.8105	0.6682
hddt_letter	0.9771	0.8753	0.9886	keel_glass6	0.8540	0.8241	0.8587
hddt_oil	0.5051	0.4991	0.4678	keel_haberman	0.3168	0.2163	0.3661
hddt_optdigits	0.9935	0.9855	0.9980	keel_iris0	0.9813	1.0000	1.0000
hddt_page	0.8767	0.6919	0.7948	keel_led7digit-0-2-4-5-6-	0.7703	0.7790	0.7617
hddt_pendigits	0.9868	0.9451	0.9898	keel_new-thyroid1	0.9250	0.9583	0.9510
hddt_phoneme	0.8132	0.5858	0.7856	keel_new-thyroid2	0.9420	0.9498	0.9461
hddt_PhosS	0.0135	0.1925	0.1020	keel_page-blocks-1-3_vs_4	0.9756	0.7578	0.9788
hddt_satimage	0.6808	0.0749	0.6646	keel_page-blocks0	0.8674	0.6851	0.7909
hddt_segment	0.9912	0.9918	0.9757	keel_pima	0.6225	0.6360	0.5553
keel_abalone19	0.0462	0.0000	0.0253	keel_segment0	0.9860	0.9900	0.9808
keel_abalone9-18	0.3633	0.4617	0.2781	keel_shuttle-c0-vs-c4	1.0000	0.9959	0.9959
keel_cleveland-0_vs_4	0.5907	0.5674	0.5635	keel_shuttle-c2-vs-c4	1.0000	0.9600	0.8438
keel_ecoli-0-1-3-7_vs_2-6	0.5171	0.5652	0.5089	keel_vehicle0	0.9235	0.9351	0.8350
keel_ecoli-0-1-4-6_vs_5	0.7969	0.8127	0.8339	keel_vehicle1	0.5497	0.5651	0.4871
keel_ecoli-0-1-4-7_vs_2-3	0.6816	0.7448	0.6946	keel_vehicle2	0.9670	0.9217	0.8983
keel_ecoli-0-1-4-7_vs_5-6	0.7515	0.8147	0.7637	keel_vehicle3	0.5464	0.4891	0.4566
keel_ecoli-0-1_vs_2-3-5	0.7308	0.7336	0.7445	keel_vowel0	0.9712	0.9681	0.9910
keel_ecoli-0-1_vs_5	0.7774	0.7853	0.8101	keel_wisconsin	0.9501	0.9477	0.9414
keel_ecoli-0-2-3-4_vs_5	0.7756	0.7764	0.7868	keel_yeast-0-2-5-6_vs_3-7	0.5842	0.6271	0.5762
keel_ecoli-0-2-6-7_vs_3-5	0.7556	0.7552	0.7198	keel_yeast-0-2-5-7-9_vs_3	0.7972	0.7948	0.7794
keel_ecoli-0-3-4-6_vs_5	0.7846	0.7690	0.8290	keel_yeast-0-3-5-9_vs_7-8	0.3716	0.3340	0.4210
keel_ecoli-0-3-4-7_vs_5-6	0.8038	0.7689	0.7716	keel_yeast-0-5-6-7-9_vs_4	0.4783	0.5113	0.4558
keel_ecoli-0-3-4_vs_5	0.7629	0.7580	0.7895	keel_yeast-1-2-8-9_vs_7	0.2420	0.1581	0.2487
keel_ecoli-0-4-6_vs_5	0.7633	0.8077	0.8461	keel_yeast-1-4-5-8_vs_7	0.1029	0.0000	0.1943
keel_ecoli-0-6-7_vs_3-5	0.7102	0.7531	0.6902	keel_yeast-1_vs_7	0.3731	0.2615	0.3866
keel_ecoli-0-6-7_vs_5	0.7972	0.7399	0.7096	keel_yeast-2_vs_4	0.7524	0.7417	0.7474
keel_ecoli-0_vs_1	0.9703	0.9692	0.9516	keel_yeast-2_vs_8	0.5873	0.6309	0.5567
keel_ecoli1	0.7663	0.7760	0.7310	keel_yeast1	0.5336	0.3031	0.4843
keel_ecoli2	0.8070	0.7733	0.8042	keel_yeast3	0.7537	0.7481	0.6881
keel_ecoli3	0.5573	0.4261	0.4717	keel_yeast4	0.3929	0.3745	0.3980
keel_ecoli4	0.7321	0.8623	0.8088	keel_yeast5	0.7132	0.5589	0.7074
keel_glass-0-1-2-3_vs_4-5	0.8433	0.8598	0.8669	keel_yeast6	0.4895	0.4331	0.4414