

data/Ripper.csv

May 11, 2011

1 Tables of Friedman, Aligned Friedman, Bonferroni-Dunn, Holm, Hochberg and Hommel Tests

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Table 1: Average Rankings of the algorithms (Friedman)

Algorithm	Ranking
<i>continuous_GM_{tst}</i>	2.4880952380952364
<i>CADD_GM_{tst}</i>	6.690476190476193
<i>CAIM_GM_{tst}</i>	3.904761904761905
<i>Chi2Merge_GM_{tst}</i>	3.904761904761904
<i>ChiMerge_GM_{tst}</i>	2.8571428571428568
<i>Fayyad_GM_{tst}</i>	4.226190476190475
<i>ID3_GM_{tst}</i>	6.309523809523812
<i>USD_GM_{tst}</i>	5.619047619047617

Friedman statistic (distributed according to chi-square with 7 degrees of freedom: 117.98611111111154. P-value computed by Friedman

Test: 1.0177847453718414E-10.

Iman and Davenport statistic (distributed according to F-distribution with 7 and 287 degrees of freedom: 27.483232068176605. P-value computed by Iman and Davenport Test: -2.2204460492494584E-16.

Table 2: Average Rankings of the algorithms (Aligned Friedman)

Algorithm	Ranking
<i>continuos_GM_{tst}</i>	89.39285714285711
<i>CADD_GM_{tst}</i>	257.6428571428571
<i>CAIM_GM_{tst}</i>	135.11904761904762
<i>Chi2Merge_GM_{tst}</i>	144.83333333333334
<i>ChiMerge_GM_{tst}</i>	104.92857142857142
<i>Fayyad_GM_{tst}</i>	155.70238095238096
<i>ID3_GM_{tst}</i>	241.45238095238096
<i>USD_GM_{tst}</i>	218.9285714285714

Aligned Friedman statistic (distributed according to chi-square with 7 degrees of freedom: 37.41648610638766. P-value computed by Aligned Friedman Test: 3.910994254896494E-6.

Table 3: Average Rankings of the algorithms (Quade)

Algorithm	Ranking
$\text{continuos}_G M_{tst}$	2.8117386489479506
$CADD_G M_{tst}$	6.511627906976746
$CAIM_G M_{tst}$	3.7430786267995564
$\text{Chi2Merge}_G M_{tst}$	4.0044296788482825
$\text{ChiMerge}_G M_{tst}$	2.750830564784053
$\text{Fayyad}_G M_{tst}$	4.452934662236988
$ID3_G M_{tst}$	6.038759689922482
$USD_G M_{tst}$	5.686600221483942

Quade statistic (distributed according to F-distribution with 7 and 287 degrees of freedom: 17.493454222929771. P-value computed by Quade Test: 4.443680652412626E-16.

Table 4: Contrast Estimation

continuous $M_{f, st}$	continuous $M_{f, st}$	CADD $M_{f, st}$	CAIM $M_{f, st}$	Chi2Merge $M_{f, st}$	ChiMerge $M_{f, st}$	Fayyad $M_{f, st}$	ID3 $M_{f, st}$	USD $M_{f, st}$
0.00000000	0.00000000	0.17102688	0.04629562	0.04185375	0.01880250	0.04405000	0.13547500	0.11412125
-0.17102688	-0.17102688	0.00000000	-0.12473125	-0.12917313	-0.15222438	-0.12697688	-0.03555188	-0.05690563
-0.04629562	-0.04629562	0.12473125	0.00000000	-0.00444187	-0.02749312	-0.00224562	0.08917938	0.06782562
-0.04185375	-0.04185375	0.12917313	0.00444187	0.00000000	-0.02305125	0.00219625	0.09362125	0.07226750
-0.01880250	-0.01880250	0.15222438	0.02749312	0.02305125	0.00000000	0.02524750	0.11667250	0.09531875
-0.04405000	-0.04405000	0.12697688	0.00224562	-0.00219625	-0.02524750	0.00000000	0.09142500	0.07007125
-0.13547500	-0.13547500	0.03555188	-0.08917938	-0.09362125	-0.11667250	-0.09142500	0.00000000	-0.02135375
-0.11412125	-0.11412125	0.05690563	-0.06782562	-0.07226750	-0.09531875	-0.07007125	0.02135375	0.00000000

Table 5: Holm / Hochberg / Holland / Rom / Finner / Li Table for $\alpha = 0.05$ (FRIEDMAN)

i	algorithm	$z = (R_0 - R_i)/SE$	p	Holm/Hochberg/Hommel	Holland	Rom	Finner	Li
7	CADD $_G M_t st$	7.861934866257159	3.782447102857308E-15	0.0071428571428571435	0.007300831979014655	0.0075128293213784685	0.007300831979014655	0.02684594535501
6	ID3 $_G M_t st$	7.1492382211575595	8.7260783618834E-13	0.008333333333333333	0.008512444610847103	0.008764162596519848	0.01454836181044361	0.02684594535501
5	USD $_G M_t st$	5.857475551913967	4.699559739789252E-9	0.01	0.010206218313011495	0.010515350115740741	0.021742978644310407	0.02684594535501
4	Fayyad $_G M_t st$	3.2516784432678314	0.001147257347704151	0.0125	0.012741455098566168	0.013109375000000001	0.028885068789519686	0.02684594535501
3	CAIM $_G M_t st$	2.650340648964879	0.008041064960803387	0.016666666666666666	0.016952427508441503	0.016666666666666666	0.035975015734599824	0.02684594535501
2	Chi2Merge $_G M_t st$	2.6503406489648773	0.008041064960803432	0.025	0.025320565519103666	0.025	0.0430132001682938	0.02684594535501
1	ChiMerge $_G M_t st$	0.6904248749404321	0.489927038254681	0.05	0.0500000000000000044	0.05	0.0500000000000000044	0.05

Bonferroni-Dunn's procedure rejects those hypotheses that have a p-value $\leq 0.0071428571428571435$.

Holm's procedure rejects those hypotheses that have a p-value ≤ 0.05 .

Hochberg's procedure rejects those hypotheses that have a p-value ≤ 0.025 .

Hommel's procedure rejects those hypotheses that have a p-value ≤ 0.05 .

Holland's procedure rejects those hypotheses that have a p-value $\leq 0.0500000000000000044$.

Rom's procedure rejects those hypotheses that have a p-value ≤ 0.025 .

Finner's procedure rejects those hypotheses that have a p-value $\leq 0.0500000000000000044$.

Li's procedure rejects those hypotheses that have a p-value $\leq 0.026845945355016793$.

Table 6: Holm / Hochberg / Holland / Rom / Finner / Li Table for $\alpha = 0.05$ (ALIGNED FRIEDMAN)

i	algorithm	$z = (R_0 - R_i)/SE$	p	Holm/Hochberg/Hommel	Holland	Rom	Finner	Li
7	CADD $_G M_t st$	7.937262695347527	2.0669198312186285E-15	0.0071428571428571435	0.007300831979014655	0.0075128293213784685	0.007300831979014655	0.028230675062626
6	ID3 $_G M_t st$	7.17347034654171	7.312009605922404E-13	0.0083333333333333333	0.008512444610847103	0.008764162596519848	0.01454836181044361	0.028230675062626
5	USD $_G M_t st$	6.11090040246773	9.907058275445162E-10		0.010206218313011495	0.010515350115740741	0.021742978644310407	0.028230675062626
4	Fayyad $_G M_t st$	3.1281789579767745	0.0017589304970404241	0.0125	0.012741455098566168	0.013109375000000001	0.028885068789519686	0.028230675062626
3	Chi2Merge $_G M_t st$	2.6154271826387503	0.008911592094029221	0.016666666666666666	0.016952427508441503	0.016666666666666666	0.035975015734599824	0.028230675062626
2	CAM $_G M_t st$	2.1571517733552588	0.03099384071089075	0.025	0.025320565519103666	0.025	0.0430132001682938	0.028230675062626
1	ChiMerge $_G M_t st$	0.7329036876408785	0.4636171738104069	0.05	0.0500000000000000044	0.05	0.0500000000000000044	0.05

Bonferroni-Dunn's procedure rejects those hypotheses that have a p-value $\leq 0.0071428571428571435$.

Holm's procedure rejects those hypotheses that have a p-value ≤ 0.025 .

Hochberg's procedure rejects those hypotheses that have a p-value $\leq 0.016666666666666666$.

Hommel's procedure rejects those hypotheses that have a p-value ≤ 0.025 .

Holland's procedure rejects those hypotheses that have a p-value $\leq 0.025320565519103666$.

Rom's procedure rejects those hypotheses that have a p-value $\leq 0.016666666666666666$.

Finner's procedure rejects those hypotheses that have a p-value $\leq 0.0500000000000000044$.

Li's procedure rejects those hypotheses that have a p-value $\leq 0.028230675062610167$.

Table 7: Holm / Hochberg / Holland / Rom / Finner / Li Table for $\alpha = 0.05$ (QUADE)

i	algorithm	$z = (R_0 - R_i)/SE$	p	Holm/Hochberg/Hommel	Holland	Rom	Finner	Li
7	CADD $_G M_t, st$	3.276048523420203	0.0010527047270214335	0.0071428571428571435	0.007300831979014655	0.0075128293213784685	0.007300831979014655	0.00222704027000
6	ID3 $_G M_t, st$	2.8641307614942817	0.0041815535257446815	0.008333333333333333	0.008512444610847103	0.008764162596519848	0.01454836181044361	0.00222704027000
5	USD $_G M_t, st$	2.557362966898396	0.010546910345125574	0.01	0.010206218313011495	0.010515350115740741	0.021742978644310407	0.00222704027000
4	Fayyad $_G M_t, st$	1.4827110072134424	0.13815120889027646	0.0125	0.012741455098566168	0.013109375000000001	0.028885068789519686	0.00222704027000
3	Chi2Merge $_G M_t, st$	1.0920161744733998	0.2748259918916146	0.016666666666666666	0.016952427508441503	0.016666666666666666	0.035975015734599824	0.00222704027000
2	C AIM $_G M_t, st$	0.864352025024882	0.387394533885086284	0.025	0.025320565519103666	0.025	0.0430132001682938	0.00222704027000
1	continuous $_G M_t, st$	0.05305732296469656	0.9576862348686431	0.05	0.050000000000000044	0.05	0.050000000000000044	0.05

Bonferroni-Dunn's procedure rejects those hypotheses that have a p-value $\leq 0.0071428571428571435$.

Holm's procedure rejects those hypotheses that have a p-value ≤ 0.01 .

Hochberg's procedure rejects those hypotheses that have a p-value $\leq 0.008333333333333333$.

Hommel's procedure rejects those hypotheses that have a p-value ≤ 0.01 .

Holland's procedure rejects those hypotheses that have a p-value $\leq 0.010206218313011495$.

Rom's procedure rejects those hypotheses that have a p-value $\leq 0.008764162596519848$.

Finner's procedure rejects those hypotheses that have a p-value $\leq 0.028885068789519686$.

Li's procedure rejects those hypotheses that have a p-value $\leq 0.0022270402700714145$.

Table 8: Adjusted p -values (FRIEDMAN)

i	algorithm	unadjusted p	p_{Bonf}	p_{Holm}	p_{Hoch}	p_{Homn}
1	CADD $_G M_t st$	3.782447102857308E-15	2.647712972000116E-14	2.647712972000116E-14	2.647712972000116E-14	2.647712972000116E-14
2	ID3 $_G M_t st$	8.7260783618834E-13	6.10825485331838E-12	5.23564701713004E-12	5.23564701713004E-12	5.23564701713004E-12
3	USD $_G M_t st$	4.699559739789252E-9	3.289691817852477E-8	2.349779869894626E-8	2.349779869894626E-8	2.349779869894626E-8
4	Fayyad $_G M_t st$	0.001147257347704151	0.008030801433929056	0.004589029390816604	0.004589029390816604	0.004589029390816604
5	CAlM $_G M_t st$	0.008041064960803387	0.05628745472562371	0.02412319488241016	0.016082129921606864	0.016082129921606774
6	Chi2Merge $_G M_t st$	0.008041064960803432	0.05628745472562403	0.02412319488241016	0.016082129921606864	0.016082129921606864
7	ChiMerge $_G M_t st$	0.489927038254681	3.429489267782767	0.489927038254681	0.489927038254681	0.489927038254681

Table 9: Adjusted p -values (FRIEDMAN)

i	algorithm	unadjusted p	p_{Holl}	p_{Rom}	p_{Finn}	p_{Li}
1	CADD $_G M_t st$	3.782447102857308E-15	2.6423307986078726E-14	2.5173253251567932E-14	2.6423307986078726E-14	7.415502068399908E-15
2	ID3 $_G M_t st$	8.7260783618834E-13	5.235811784132238E-12	4.978272747557438E-12	3.0542235407438056E-12	1.7107510133472686E-12
3	USD $_G M_t st$	4.699559739789252E-9	2.3497798484761745E-8	2.23461876592884E-8	1.096563939650963E-8	9.213504829601889E-9
4	Fayyad $_G M_t st$	0.001147257347704151	0.004581138232630955	0.004375713364306654	0.002006836520002886	0.0022441548766196054
5	CAlM $_G M_t st$	0.008041064960803387	0.023929738630312225	0.016082129921606864	0.011239357292084584	0.015519875059017328
6	Chi2Merge $_G M_t st$	0.008041064960803432	0.023929738630312225	0.016082129921606864	0.011239357292084584	0.015519875059017417
7	ChiMerge $_G M_t st$	0.489927038254681	0.489927038254681	0.489927038254681	0.489927038254681	0.489927038254681

Table 10: Adjusted p -values (ALIGNED FRIEDMAN)

i	algorithm	unadjusted p	p_{Bonf}	p_{Holm}	p_{Sidak}	p_{FDR}	p_{FDR}	p_{FDR}	p_{FDR}
1	CADD $_G M_t st$	2.0669198312186285E-15	1.44684388185304E-14	1.44684388185304E-14	1.44684388185304E-14	1.44684388185304E-14	1.44684388185304E-14	1.44684388185304E-14	1.44684388185304E-14
2	ID3 $_G M_t st$	7.312009605922404E-13	5.118406724145683E-12	4.387205763553442E-12	4.387205763553442E-12	4.387205763553442E-12	4.387205763553442E-12	4.387205763553442E-12	4.387205763553442E-12
3	USD $_G M_t st$	9.907058275445162E-10	6.9349407928116134E-9	4.953529137722581E-9	4.953529137722581E-9	4.953529137722581E-9	4.953529137722581E-9	4.953529137722581E-9	4.953529137722581E-9
4	Fayyad $_G M_t st$	0.0017589304970404241	0.012312513479282968	0.0070357219881616966	0.0070357219881616966	0.0070357219881616966	0.0070357219881616966	0.0070357219881616966	0.0070357219881616966
5	Chi2Merge $_G M_t st$	0.008911592094029221	0.062381144658204546	0.026734776282087664	0.026734776282087664	0.026734776282087664	0.026734776282087664	0.026734776282087664	0.026734776282087664
6	CALM $_G M_t st$	0.03099384071089075	0.21695688497623525	0.0619876814217815	0.0619876814217815	0.0619876814217815	0.0619876814217815	0.0619876814217815	0.0619876814217815
7	ChiMerge $_G M_t st$	0.4636171738104069	3.245320216672848	0.4636171738104069	0.4636171738104069	0.4636171738104069	0.4636171738104069	0.4636171738104069	0.4636171738104069

Table 11: Adjusted p -values (ALIGNED FRIEDMAN)

i	algorithm	unadjusted p	p_{Holm}	p_{Bonf}	p_{FDR}	p_{FDR}	p_{FDR}	p_{FDR}	p_{Li}
1	CADD $_G M_t st$	2.0669198312186285E-15	1.4765966227514582E-14	1.3755934966717614E-14	1.4765966227514582E-14	1.4765966227514582E-14	1.4765966227514582E-14	1.4765966227514582E-14	3.853441479291574E-15
2	ID3 $_G M_t st$	7.312009605922404E-13	4.3871573041087686E-12	4.171539223168864E-12	4.3871573041087686E-12	4.3871573041087686E-12	4.3871573041087686E-12	4.3871573041087686E-12	1.363207255880316E-12
3	USD $_G M_t st$	9.907058275445162E-10	4.9535292534486075E-9	4.710760063335881E-9	4.9535292534486075E-9	4.9535292534486075E-9	4.9535292534486075E-9	4.9535292534486075E-9	1.8470125763580831E-9
4	Fayyad $_G M_t st$	0.0017589304970404241	0.00701718072700297	0.0067086741245880295	0.00701718072700297	0.00701718072700297	0.00701718072700297	0.00701718072700297	0.00326852632226370866
5	Chi2Merge $_G M_t st$	0.008911592094029221	0.0264972345883554	0.026734776282087664	0.0264972345883554	0.0264972345883554	0.0264972345883554	0.0264972345883554	0.016342716512814298
6	CALM $_G M_t st$	0.03099384071089075	0.061027063259769365	0.0619876814217815	0.061027063259769365	0.0619876814217815	0.061027063259769365	0.0619876814217815	0.05462656911890065
7	ChiMerge $_G M_t st$	0.4636171738104069	0.4636171738104069	0.4636171738104069	0.4636171738104069	0.4636171738104069	0.4636171738104069	0.4636171738104069	0.4636171738104069

Table 12: Adjusted p -values (QUADE)

i	algorithm	unadjusted p	p_{Bonf}	p_{Holm}	p_{Hoch}	p_{Hommel}
1	CADD $_G M_t st$	0.0010527047270214335	0.007368933089150035	0.007368933089150035	0.007368933089150035	0.007368933089150035
2	ID3 $_G M_t st$	0.0041815535257446815	0.02927087468021277	0.02508932115446809	0.02508932115446809	0.02508932115446809
3	USD $_G M_t st$	0.010546910345125574	0.07382837241587902	0.05273455172562787	0.05273455172562787	0.05273455172562787
4	Fayyad $_G M_t st$	0.13815120889027646	0.9670584622319353	0.5526048355611058	0.5526048355611058	0.5165260518011504
5	Chi2Merge $_G M_t st$	0.2748259918916146	1.9237819432413024	0.8244779756748438	0.7747890777017257	0.5810018082762943
6	CAlM $_G M_t st$	0.38739453885086284	2.7117617719560396	0.8244779756748438	0.7747890777017257	0.7747890777017257
7	continuous $_G M_t st$	0.9576862348686431	6.7038036440805016	0.9576862348686431	0.9576862348686431	0.9576862348686431

Table 13: Adjusted p -values (QUADE)

i	algorithm	unadjusted p	p_{Hol}	p_{Rom}	p_{Finn}	p_{Li}
1	CADD $_G M_t st$	0.0010527047270214335	0.007345701944894589	0.0070060471361026565	0.007345701944894589	0.024274623469681674
2	ID3 $_G M_t st$	0.0041815535257446815	0.024828498049595304	0.02385978706996663	0.01455909861716298	0.08993493638753661
3	USD $_G M_t st$	0.010546910345125574	0.05163384890932865	0.05015006742066386	0.02443662477897146	0.19952280688917498
4	Fayyad $_G M_t st$	0.13815120889027646	0.4482729116942814	0.5269176024420555	0.22908874830366732	0.7655292094171994
5	Chi2Merge $_G M_t st$	0.2748259918916146	0.6186474201023837	0.7747890777017257	0.3622960288877014	0.866576913823227
6	CAlM $_G M_t st$	0.38739453885086284	0.624714548970253	0.7747890777017257	0.43543882530751843	0.901529096042073
7	continuous $_G M_t st$	0.9576862348686431	0.9576862348686431	0.9576862348686431	0.9576862348686431	0.9576862348686432