Output tables for the test of Multiple comparisons.

December 6, 2016

1 Average rankings of Friedman test

Average ranks obtained by applying the Friedman procedure

Algorithm	Ranking
AdaBoost.NC-C	4.8182
C45-C	2.6818
Ripper-C	4.6364
SIA-C	3.5909
GFS-GCCL-C	4.3182
Chi-RW-C	5.4545
iRProp+-c	2.5

Table 1: Average Rankings of the algorithms

Friedman statistic considering reduction performance (distributed according to chi-square with 6 degrees of freedom: 17.551948.

P-value computed by Friedman Test: 0.007455103063423896.

2 Post hoc comparisons

Results achieved on post hoc comparisons for $\alpha = 0.05$, $\alpha = 0.10$ and adjusted p-values.

2.1 P-values for $\alpha = 0.05$

i	algorithms	$z = (R_0 - R_i)/SE$	p	Holm	Shaffer
21	Chi-RW-C vs. iRProp+-c	3.207515	0.001339	0.002381	0.002381
20	C45-C vs. Chi-RW-C	3.010129	0.002611	0.0025	0.003333
19	AdaBoost.NC-C vs. iRProp+-c	2.516665	0.011847	0.002632	0.003333
18	AdaBoost.NC-C vs. C45-C	2.31928	0.02038	0.002778	0.003333
17	Ripper-C vs. iRProp+-c	2.31928	0.02038	0.002941	0.003333
16	C45-C vs. Ripper-C	2.121894	0.033847	0.003125	0.003333
15	SIA-C vs. Chi-RW-C	2.023201	0.043052	0.003333	0.003333
14	GFS-GCCL-C vs. iRProp+-c	1.973855	0.048398	0.003571	0.003571
13	C45-C vs. GFS-GCCL-C	1.77647	0.075656	0.003846	0.003846
12	AdaBoost.NC-C vs. SIA-C	1.332352	0.182744	0.004167	0.004167
11	GFS-GCCL-C vs. Chi-RW-C	1.233659	0.21733	0.004545	0.004545
10	SIA-C vs. iRProp+-c	1.184313	0.236289	0.005	0.005
9	Ripper-C vs. SIA-C	1.134967	0.256389	0.005556	0.005556
8	C45-C vs. SIA-C	0.986928	0.323678	0.00625	0.00625
7	Ripper-C vs. Chi-RW-C	0.888235	0.374414	0.007143	0.007143
6	SIA-C vs. GFS-GCCL-C	0.789542	0.429795	0.008333	0.008333
5	AdaBoost.NC-C vs. Chi-RW-C	0.690849	0.48966	0.01	0.01
4	AdaBoost.NC-C vs. GFS-GCCL-C	0.54281	0.587261	0.0125	0.0125
3	Ripper-C vs. GFS-GCCL-C	0.345425	0.729775	0.016667	0.016667
2	AdaBoost.NC-C vs. Ripper-C	0.197386	0.843526	0.025	0.025
1	C45-C vs. iRProp+-c	0.197386	0.843526	0.05	0.05

Table 2: P-values Table for $\alpha = 0.05$

Holm's procedure rejects those hypotheses that have an unadjusted p-value ≤ 0.0025.

Shaffer's procedure rejects those hypotheses that have an unadjusted p-value ≤ 0.002381.

2.2 P-values for $\alpha = 0.10$

i	algorithms	$z = (R_0 - R_i)/SE$	p	Holm	Shaffer
21	Chi-RW-C vs. iRProp+-c	3.207515	0.001339	0.004762	0.004762
20	C45-C vs. Chi-RW-C	3.010129	0.002611	0.005	0.006667
19	AdaBoost.NC-C vs. iRProp+-c	2.516665	0.011847	0.005263	0.006667
18	AdaBoost.NC-C vs. C45-C	2.31928	0.02038	0.005556	0.006667
17	Ripper-C vs. iRProp+-c	2.31928	0.02038	0.005882	0.006667
16	C45-C vs. Ripper-C	2.121894	0.033847	0.00625	0.006667
15	SIA-C vs. Chi-RW-C	2.023201	0.043052	0.006667	0.006667
14	GFS-GCCL-C vs. iRProp+-c	1.973855	0.048398	0.007143	0.007143
13	C45-C vs. GFS-GCCL-C	1.77647	0.075656	0.007692	0.007692
12	AdaBoost.NC-C vs. SIA-C	1.332352	0.182744	0.008333	0.008333
11	GFS-GCCL-C vs. Chi-RW-C	1.233659	0.21733	0.009091	0.009091
10	SIA-C vs. iRProp+-c	1.184313	0.236289	0.01	0.01
9	Ripper-C vs. SIA-C	1.134967	0.256389	0.011111	0.011111
8	C45-C vs. SIA-C	0.986928	0.323678	0.0125	0.0125
7	Ripper-C vs. Chi-RW-C	0.888235	0.374414	0.014286	0.014286
6	SIA-C vs. GFS-GCCL-C	0.789542	0.429795	0.016667	0.016667
5	AdaBoost.NC-C vs. Chi-RW-C	0.690849	0.48966	0.02	0.02
4	AdaBoost.NC-C vs. GFS-GCCL-C	0.54281	0.587261	0.025	0.025
3	Ripper-C vs. GFS-GCCL-C	0.345425	0.729775	0.033333	0.033333
2	AdaBoost.NC-C vs. Ripper-C	0.197386	0.843526	0.05	0.05
1	C45-C vs. iRProp+-c	0.197386	0.843526	0.1	0.1

Table 3: P-values Table for $\alpha = 0.10$

Holm's procedure rejects those hypotheses that have an unadjusted p-value ≤ 0.005263.

Shaffer's procedure rejects those hypotheses that have an unadjusted p-value ≤ 0.004762.

2.3 Adjusted p-values

i	hypothesis	unadjusted p	p_{Holm}	p_{Shaf}
1	Chi-RW-C vs .iRProp+-c	0.001339	0.028116	0.028116
2	C45-C vs .Chi-RW-C	0.002611	0.052227	0.039171
3	AdaBoost.NC-C vs .iRProp+-c	0.011847	0.225096	0.177707
4	AdaBoost.NC-C vs .C45-C	0.02038	0.366838	0.305698
5	Ripper-C vs .iRProp+-c	0.02038	0.366838	0.305698
6	C45-C vs .Ripper-C	0.033847	0.541546	0.507699
7	SIA-C vs .Chi-RW-C	0.043052	0.645786	0.645786
8	GFS-GCCL-C vs .iRProp+-c	0.048398	0.677575	0.645786
9	C45-C vs .GFS-GCCL-C	0.075656	0.983522	0.832211
10	AdaBoost.NC-C vs .SIA-C	0.182744	2.192934	2.010189
11	GFS-GCCL-C vs .Chi-RW-C	0.21733	2.390628	2.390628
12	SIA-C vs .iRProp+-c	0.236289	2.390628	2.390628
13	Ripper-C vs .SIA-C	0.256389	2.390628	2.390628
14	C45-C vs .SIA-C	0.323678	2.589425	2.390628
15	Ripper-C vs .Chi-RW-C	0.374414	2.620901	2.620901
16	SIA-C vs .GFS-GCCL-C	0.429795	2.620901	2.620901
17	AdaBoost.NC-C vs .Chi-RW-C	0.48966	2.620901	2.620901
18	AdaBoost.NC-C vs .GFS-GCCL-C	0.587261	2.620901	2.620901
19	Ripper-C vs .GFS-GCCL-C	0.729775	2.620901	2.620901
20	AdaBoost.NC-C vs .Ripper-C	0.843526	2.620901	2.620901
21	C45-C vs .iRProp+-c	0.843526	2.620901	2.620901

Table 4: Adjusted p-values