Output tables for the test of Multiple comparisons.

April 27, 2017

1 Average rankings of Friedman test

Average ranks obtained by applying the Friedman procedure

Algorithm	Ranking
AdaBoost.NC	4.4
C45	2.75
Chi-RW	4.1667
FURIA	3.6667
GAssist-Intervalar	3.9
GFS-GCCL	5.9667
Ripper	3.15

Table 1: Average Rankings of the algorithms

Friedman statistic considering reduction performance (distributed according to chi-square with 6 degrees of freedom: 41.539286.

P-value computed by Friedman Test: 2.2674279431811328E-7.

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	C45 vs. GFS-GCCL	5.766978	0	0.002381	0.002381
20	GFS-GCCL vs. Ripper	5.049841	0	0.0025	0.003333
19	FURIA vs. GFS-GCCL	4.123539	0.000037	0.002632	0.003333
18	GAssist-Intervalar vs. GFS-GCCL	3.705209	0.000211	0.002778	0.003333
17	Chi-RW vs. GFS-GCCL	3.227117	0.00125	0.002941	0.003333
16	AdaBoost.NC vs. C45	2.958191	0.003095	0.003125	0.003333
15	AdaBoost.NC vs. GFS-GCCL	2.808787	0.004973	0.003333	0.003333
14	C45 vs. Chi-RW	2.539861	0.01109	0.003571	0.003571
13	AdaBoost.NC vs. Ripper	2.241054	0.025023	0.003846	0.003846
12	C45 vs. GAssist-Intervalar	2.061769	0.03923	0.004167	0.004167
11	Chi-RW vs. Ripper	1.822724	0.068345	0.004545	0.004545
10	C45 vs. FURIA	1.643439	0.100292	0.005	0.005
9	GAssist-Intervalar vs. Ripper	1.344632	0.178744	0.005556	0.005556
8	AdaBoost.NC vs. FURIA	1.314751	0.188593	0.00625	0.00625
7	FURIA vs. Ripper	0.926302	0.354289	0.007143	0.007143
6	AdaBoost.NC vs. GAssist-Intervalar	0.896421	0.370028	0.008333	0.008333
5	Chi-RW vs. FURIA	0.896421	0.370028	0.01	0.01
4	C45 vs. Ripper	0.717137	0.473289	0.0125	0.0125
3	Chi-RW vs. GAssist-Intervalar	0.478091	0.632585	0.016667	0.016667
2	AdaBoost.NC vs. Chi-RW	0.41833	0.675706	0.025	0.025
1	FURIA vs. GAssist-Intervalar	0.41833	0.675706	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 ≤ 0.003333.

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	C45 vs. GFS-GCCL	5.766978	0	0.004762	0.004762
20	GFS-GCCL vs. Ripper	5.049841	0	0.005	0.006667
19	FURIA vs. GFS-GCCL	4.123539	0.000037	0.005263	0.006667
18	GAssist-Intervalar vs. GFS-GCCL	3.705209	0.000211	0.005556	0.006667
17	Chi-RW vs. GFS-GCCL	3.227117	0.00125	0.005882	0.006667
16	AdaBoost.NC vs. C45	2.958191	0.003095	0.00625	0.006667
15	AdaBoost.NC vs. GFS-GCCL	2.808787	0.004973	0.006667	0.006667
14	C45 vs. Chi-RW	2.539861	0.01109	0.007143	0.009091
13	AdaBoost.NC vs. Ripper	2.241054	0.025023	0.007692	0.009091
12	C45 vs. GAssist-Intervalar	2.061769	0.03923	0.008333	0.009091
11	Chi-RW vs. Ripper	1.822724	0.068345	0.009091	0.009091
10	C45 vs. FURIA	1.643439	0.100292	0.01	0.01
9	GAssist-Intervalar vs. Ripper	1.344632	0.178744	0.011111	0.011111
8	AdaBoost.NC vs. FURIA	1.314751	0.188593	0.0125	0.0125
7	FURIA vs. Ripper	0.926302	0.354289	0.014286	0.014286
6	AdaBoost.NC vs. GAssist-Intervalar	0.896421	0.370028	0.016667	0.016667
5	Chi-RW vs. FURIA	0.896421	0.370028	0.02	0.02
4	C45 vs. Ripper	0.717137	0.473289	0.025	0.025
3	Chi-RW vs. GAssist-Intervalar	0.478091	0.632585	0.033333	0.033333
2	AdaBoost.NC vs. Chi-RW	0.41833	0.675706	0.05	0.05
1	FURIA vs. GAssist-Intervalar	0.41833	0.675706	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 ≤ 0.007143.

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	C45 vs . GFS-GCCL	0	0	0
2	GFS-GCCL vs . Ripper	0	0.000009	0.000007
3	FURIA vs . GFS-GCCL	0.000037	0.000709	0.00056
4	GAssist-Intervalar vs . GFS-GCCL	0.000211	0.003802	0.003168
5	Chi-RW vs . GFS-GCCL	0.00125	0.021258	0.018757
6	AdaBoost.NC vs . C45	0.003095	0.049512	0.046418
7	AdaBoost.NC vs . GFS-GCCL	0.004973	0.074593	0.074593
8	C45 vs . Chi-RW	0.01109	0.155255	0.121986
9	AdaBoost.NC vs . Ripper	0.025023	0.325294	0.275249
10	C45 vs . GAssist-Intervalar	0.03923	0.470756	0.431527
11	Chi-RW vs . Ripper	0.068345	0.751798	0.751798
12	C45 vs . FURIA	0.100292	1.002921	1.002921
13	GAssist-Intervalar vs . Ripper	0.178744	1.608696	1.608696
14	AdaBoost.NC vs . FURIA	0.188593	1.608696	1.608696
15	FURIA vs . Ripper	0.354289	2.480023	2.480023
16	AdaBoost.NC vs . GAssist-Intervalar	0.370028	2.480023	2.480023
17	Chi-RW vs . FURIA	0.370028	2.480023	2.480023
18	C45 vs . Ripper	0.473289	2.480023	2.480023
19	Chi-RW vs . GAssist-Intervalar	0.632585	2.480023	2.480023
20	AdaBoost.NC vs . Chi-RW	0.675706	2.480023	2.480023
21	FURIA vs . GAssist-Intervalar	0.675706	2.480023	2.480023

Table 4: Adjusted p-values