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	4.9
C45	2.8
Chi-RW	5.5167
FURIA	1.8833
GAssist-Intervalar	3.4167
GFS-GCCL	5.0667
Ripper	4.4167

Table 1: Average Rankings of the algorithms

Friedman statistic considering reduction performance (distributed according to chi-square with 6 degrees of freedom: 68.671429.

P-value computed by Friedman Test: 5.101452593692102E-11.

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 vs. FURIA	6.513996	0	0.002381	0.002381
20	FURIA vs. GFS-GCCL	5.707217	0	0.0025	0.003333
19	AdaBoost.NC vs. FURIA	5.408409	0	0.002632	0.003333
18	C45 vs. Chi-RW	4.870557	0.000001	0.002778	0.003333
17	FURIA vs. Ripper	4.541869	0.000006	0.002941	0.003333
16	C45 vs. GFS-GCCL	4.063777	0.000048	0.003125	0.003333
15	Chi-RW vs. GAssist-Intervalar	3.76497	0.000167	0.003333	0.003333
14	AdaBoost.NC vs. C45	3.76497	0.000167	0.003571	0.004545
13	GAssist-Intervalar vs. GFS-GCCL	2.958191	0.003095	0.003846	0.004545
12	C45 vs. Ripper	2.898429	0.00375	0.004167	0.004545
11	FURIA vs. GAssist-Intervalar	2.749026	0.005977	0.004545	0.004545
10	AdaBoost.NC vs. GAssist-Intervalar	2.659384	0.007828	0.005	0.005
9	Chi-RW vs. Ripper	1.972127	0.048595	0.005556	0.005556
8	GAssist-Intervalar vs. Ripper	1.792843	0.072998	0.00625	0.00625
7	C45 vs. FURIA	1.643439	0.100292	0.007143	0.007143
6	GFS-GCCL vs. Ripper	1.165348	0.243878	0.008333	0.008333
5	AdaBoost.NC vs. Chi-RW	1.105586	0.268906	0.01	0.01
4	C45 vs. GAssist-Intervalar	1.105586	0.268906	0.0125	0.0125
3	AdaBoost.NC vs. Ripper	0.866541	0.386194	0.016667	0.016667
2	Chi-RW vs. GFS-GCCL	0.806779	0.419794	0.025	0.025
1	AdaBoost.NC vs. GFS-GCCL	0.298807	0.765087	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 ≤ 0.004545.

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 vs. FURIA	6.513996	0	0.004762	0.004762
20	FURIA vs. GFS-GCCL	5.707217	0	0.005	0.006667
19	AdaBoost.NC vs. FURIA	5.408409	0	0.005263	0.006667
18	C45 vs. Chi-RW	4.870557	0.000001	0.005556	0.006667
17	FURIA vs. Ripper	4.541869	0.000006	0.005882	0.006667
16	C45 vs. GFS-GCCL	4.063777	0.000048	0.00625	0.006667
15	Chi-RW vs. GAssist-Intervalar	3.76497	0.000167	0.006667	0.006667
14	AdaBoost.NC vs. C45	3.76497	0.000167	0.007143	0.009091
13	GAssist-Intervalar vs. GFS-GCCL	2.958191	0.003095	0.007692	0.009091
12	C45 vs. Ripper	2.898429	0.00375	0.008333	0.009091
11	FURIA vs. GAssist-Intervalar	2.749026	0.005977	0.009091	0.009091
10	AdaBoost.NC vs. GAssist-Intervalar	2.659384	0.007828	0.01	0.01
9	Chi-RW vs. Ripper	1.972127	0.048595	0.011111	0.011111
8	GAssist-Intervalar vs. Ripper	1.792843	0.072998	0.0125	0.0125
7	C45 vs. FURIA	1.643439	0.100292	0.014286	0.014286
6	GFS-GCCL vs. Ripper	1.165348	0.243878	0.016667	0.016667
5	AdaBoost.NC vs. Chi-RW	1.105586	0.268906	0.02	0.02
4	C45 vs. GAssist-Intervalar	1.105586	0.268906	0.025	0.025
3	AdaBoost.NC vs. Ripper	0.866541	0.386194	0.033333	0.033333
2	Chi-RW vs. GFS-GCCL	0.806779	0.419794	0.05	0.05
1	AdaBoost.NC vs. GFS-GCCL	0.298807	0.765087	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 ≤ 0.011111.

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 vs . FURIA	0	0	0
2	FURIA vs . GFS-GCCL	0	0	0
3	AdaBoost.NC vs . FURIA	0	0.000001	0.000001
4	C45 vs . Chi-RW	0.000001	0.00002	0.000017
5	FURIA vs . Ripper	0.000006	0.000095	0.000084
6	C45 vs . GFS-GCCL	0.000048	0.000773	0.000724
7	Chi-RW vs . GAssist-Intervalar	0.000167	0.002499	0.002499
8	AdaBoost.NC vs . C45	0.000167	0.002499	0.002499
9	GAssist-Intervalar vs . GFS-GCCL	0.003095	0.040229	0.03404
10	C45 vs . Ripper	0.00375	0.045004	0.041254
11	FURIA vs . GAssist-Intervalar	0.005977	0.06575	0.06575
12	AdaBoost.NC vs . GAssist-Intervalar	0.007828	0.078284	0.078284
13	Chi-RW vs . Ripper	0.048595	0.437356	0.437356
14	GAssist-Intervalar vs . Ripper	0.072998	0.583984	0.510986
15	C45 vs . FURIA	0.100292	0.702044	0.702044
16	GFS-GCCL vs . Ripper	0.243878	1.463269	1.463269
17	AdaBoost.NC vs . Chi-RW	0.268906	1.463269	1.463269
18	C45 vs . GAssist-Intervalar	0.268906	1.463269	1.463269
19	AdaBoost.NC vs . Ripper	0.386194	1.463269	1.463269
20	Chi-RW vs . GFS-GCCL	0.419794	1.463269	1.463269
21	AdaBoost.NC vs . GFS-GCCL	0.765087	1.463269	1.463269

Table 4: Adjusted p-values