Results

April 6, 2021

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

Table 1: Average Rankings of the algorithms

Algorithm	Ranking
svdd	2.954545454545453
svdd des	1.863636363636363
svdd desthr	1.1818181818181817

Friedman statistic considering reduction performance (distributed according to chi-square with 2 degrees of freedom: 35.18181818181788.
P-value computed by Friedman Test: 2.295204948321583E-8.

Iman and Davenport statistic considering reduction performance (distributed according to F-distribution with 2 and 42 degrees of freedom: 83.7835051546356.
P-value computed by Iman and Daveport Test: 2.1900489658918368E-15.

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

Table 2: Holm / Hochberg Table for $\alpha = 0.05$

i	algorithm	$z = (R_0 - R_i)/SE$	p	Holm/Hochberg/Hommel
2	svdd	5.879471219266385	4.115791519432499E-9	0.025
1	svdd des	2.261335084333226	0.023738515250054618	0.05

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

Table 3: Holm / Hochberg Table for $\alpha = 0.10$

i	algorithm	$z = (R_0 - R_i)/SE$	p	Holm/Hochberg/Hommel
2	svdd	5.879471219266385	4.115791519432499E-9	0.05
1	svdd des	2.261335084333226	0.023738515250054618	0.1

Bonferroni-Dunn's procedure rejects those hypotheses that have a p-value ≤ 0.05.
Hochberg's procedure rejects those hypotheses that have a p-value ≤ 0.1.
Hommel's procedure rejects all hypotheses.

Table 4: Adjusted p-values

i	algorithm	unadjusted p	p_{Bonf}	p_{Holm}	p_{Hoch}	p_{Homm}
1	svdd	4.115791519432499E-9	8.231583038864998E-9	8.231583038864998E-9	8.231583038864998E-9	8.231583038864998E-9
2	svdd des	0.023738515250054618	0.047477030500109235	0.023738515250054618	0.023738515250054618	0.023738515250054618

Table 5: Holm / Shaffer Table for $\alpha = 0.05$

i	algorithms	$z = (R_0 - R_i)/SE$	p	Holm	Shaffer
3	svdd vs. svdd desthr	5.879471219266385	4.115791519432499E-9	0.016666666666666666	0.016666666666666666
2	svdd vs. svdd des	3.6181361349331596	2.967323112931028E-4	0.025	0.05
1	svdd des vs. svdd desthr	2.261335084333226	0.023738515250054618	0.05	0.05

Nemenyi's procedure rejects those hypotheses that have a p-value $\leq 0.016666666666666666$.
Shaffer's procedure rejects those hypotheses that have a p-value $\leq 0.016666666666666666$.
Bergmann's procedure rejects these hypotheses:

- svdd vs. svdd des
- svdd vs. svdd desthr
- svdd des vs. svdd desthr

Table 6: Holm / Shaffer Table for $\alpha = 0.10$

i	algorithms	$z = (R_0 - R_i)/SE$	p	Holm	Shaffer
3	svdd vs. svdd desthr	5.879471219266385	4.115791519432499E-9	0.03333333333333333	0.03333333333333333
2	svdd vs. svdd des	3.6181361349331596	2.967323112931028E-4	0.05	0.1
1	svdd des vs. svdd desthr	2.261335084333226	0.023738515250054618	0.1	0.1

Nemenyi's procedure rejects those hypotheses that have a p-value ≤ 0.03333333333333333.
Shaffer's procedure rejects those hypotheses that have a p-value ≤ 0.03333333333333333.
Bergmann's procedure rejects these hypotheses:

- svdd vs. svdd des
- svdd vs. svdd desthr
- svdd des vs. svdd desthr

Table 7: Adjusted p-values

i	hypothesis	unadjusted p	p_{Neme}	p_{Holm}	p_{Shaf}	p_{Berg}
1	svdd vs .svdd desthr	4.115791519432499E-9	1.2347374558297497E-8	1.2347374558297497E-8	1.2347374558297497E-8	1.2347374558297497E-8
2	svdd vs .svdd des	2.967323112931028E-4	8.901969338793084E-4	5.934646225862056E-4	2.967323112931028E-4	2.967323112931028E-4
3	svdd des vs .svdd desthr	0.023738515250054618	0.07121554575016385	0.023738515250054618	0.023738515250054618	0.023738515250054618