Results

April 5, 2021

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

Table 1: Average Rankings of the algorithms

Algorithm	Ranking
svdd	2.7727272727272716
svdd des	1.9999999999999991
svdd desthr	1.2272727272727266

Friedman statistic considering reduction performance (distributed according to chi-square with 2 degrees of freedom: 26.272727272727046.
P-value computed by Friedman Test: 1.972211624456932E-6.

Iman and Davenport statistic considering reduction performance (distributed according to F-distribution with 2 and 42 degrees of freedom: 31.12307692307626.
P-value computed by Iman and Daveport Test: 5.116514910482145E-9.

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	5.12569285782198	2.9644553850120295E-7	0.025
1	svdd des	2.56284642891099	0.010381795789701753	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	5.12569285782198	2.9644553850120295E-7	0.05
1	svdd des	2.56284642891099	0.010381795789701753	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	2.9644553850120295E-7	5.928910770024059E-7	5.928910770024059E-7	5.928910770024059E-7	5.928910770024059E-7
2	svdd des	0.010381795789701753	0.020763591579403506	0.010381795789701753	0.010381795789701753	0.010381795789701753

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	5.12569285782198	2.9644553850120295E-7	0.016666666666666666	0.016666666666666666
2	svdd vs. svdd des	2.56284642891099	0.010381795789701753	0.025	0.05
1	svdd des vs. svdd desthr	2.56284642891099	0.010381795789701753	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	5.12569285782198	2.9644553850120295E-7	0.03333333333333333	0.03333333333333333
2	svdd vs. svdd des	2.56284642891099	0.010381795789701753	0.05	0.1
1	svdd des vs. svdd desthr	2.56284642891099	0.010381795789701753	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	2.9644553850120295E-7	8.893366155036088E-7	8.893366155036088E-7	8.893366155036088E-7	8.893366155036088E-7
2	svdd vs .svdd des	0.010381795789701753	0.031145387369105257	0.020763591579403506	0.010381795789701753	0.010381795789701753
3	svdd des vs .svdd desthr	0.010381795789701753	0.031145387369105257	0.020763591579403506	0.010381795789701753	0.010381795789701753