

Statistical comparisons considering all the tested databases and a cost of 2 for each misclassified object of the minority class for the paper entitled:

Cost-sensitive pattern-based classification for class imbalance problems

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1 Average rankings of Friedman test

Average ranks obtained by each method in the Friedman test.

Algorithm	Ranking
CSPm+CACSP (Our Proposal)	6.0474
MetaCost+Adaboost	5.4211
MetaCost+Bagging	5.8211
MetaCost+Bayes Net	7.0474
MetaCost+C4.5	6.3947
MetaCost+kNN	5.5316
MetaCost+Logistic Regression	5.3895
MetaCost+MLP	4.2579
MetaCost+Naïve Bayes	8.3368
MetaCost+Random Forest	4.0474
MetaCost+SVM	7.7053

Table 1: Average Rankings of the algorithms (Friedman)

Friedman statistic (distributed according to chi-square with 10 degrees of freedom): 150.539234.

P-value computed by Friedman Test: 0.

2 Post hoc comparison (Friedman)

P-values obtained in by applying post hoc methods over the results of Friedman procedure.

i	algorithm	$z = (R_0 - R_i)/SE$	p	Finner
10	MetaCost+Nave Bayes	8.913627	0	0.005116
9	MetaCost+SVM	7.601191	0	0.010206
8	MetaCost+Bayes Net	6.234071	0	0.01527
7	MetaCost+C4.5	4.877887	0.000001	0.020308
6	CSPm+CACSP (Our Proposal)	4.156047	0.000032	0.025321
5	MetaCost+Bagging	3.685758	0.000228	0.030307
4	MetaCost+kNN	3.084224	0.002041	0.035268
3	MetaCost+Adaboost	2.854548	0.00431	0.040204
2	MetaCost+Logistic Regression	2.788926	0.005288	0.045115
1	MetaCost+MLP	0.437479	0.661764	0.05

Table 2: Post Hoc comparison Table for $\alpha = 0.05$ (FRIEDMAN)

Finner's procedure rejects those hypotheses that have an unadjusted p-value ≤ 0.05 .

3 Adjusted P-Values (Friedman)

Adjusted P-values obtained through the application of the post hoc methods (Friedman).

i	algorithm	unadjusted p
1	MetaCost+Nave Bayes	0
2	MetaCost+SVM	0
3	MetaCost+Bayes Net	0
4	MetaCost+C4.5	0.000001
5	CSPm+CACSP (Our Proposal)	0.000032
6	MetaCost+Bagging	0.000228
7	MetaCost+kNN	0.002041
8	MetaCost+Adaboost	0.00431
9	MetaCost+Logistic Regression	0.005288
10	MetaCost+MLP	0.661764

Table 3: Adjusted p -values (FRIEDMAN) (I)

i	algorithm	unadjusted p	p_{Finner}
1	MetaCost+Nave Bayes	0	0
2	MetaCost+SVM	0	0
3	MetaCost+Bayes Net	0	0
4	MetaCost+C4.5	0.000001	0.000003
5	CSPm+CACSP (Our Proposal)	0.000032	0.000065
6	MetaCost+Bagging	0.000228	0.00038
7	MetaCost+kNN	0.002041	0.002914
8	MetaCost+Adaboost	0.00431	0.005384
9	MetaCost+Logistic Regression	0.005288	0.005874
10	MetaCost+MLP	0.661764	0.661764

Table 4: Adjusted p -values (FRIEDMAN) (II)