

Table 1: MAD and quartiles of the absolute difference between  $\hat{L}_S + \epsilon$  and  $\hat{L}_T + \epsilon_T$  (MLPClassifier, ZeroOneLoss and  $\delta = 0.05$ )

dataset	method	MAD	$Q_1$	$Q_2$	$Q_3$
factimbalanced	BinaryCertificate	$0.0027 \pm 0.0021$	0.0007	0.0025	0.0041
factimbalanced	$\ \mathbf{d}_+\ _1 \cdot \ \ell_h\ _\infty$	$0.0045 \pm 0.0036$	0.0005	0.0046	0.0075
factimbalanced	$\ \mathbf{d}_+\ _2 \cdot \ \ell_h\ _2$	$0.0388 \pm 0.0242$	0.0199	0.0409	0.0585
factimbalanced	$\ \mathbf{d}_+\ _\infty \cdot \ \ell_h\ _1$	$0.0046 \pm 0.0038$	0.0005	0.0046	0.0076
factbalanced	BinaryCertificate	$0.0632 \pm 0.0782$	0.0031	0.0185	0.1127
factbalanced	$\ \mathbf{d}_+\ _1 \cdot \ \ell_h\ _\infty$	$0.0837 \pm 0.068$	0.0307	0.0604	0.1351
factbalanced	$\ \mathbf{d}_+\ _2 \cdot \ \ell_h\ _2$	$0.1285 \pm 0.1058$	0.0476	0.1004	0.1745
factbalanced	$\ \mathbf{d}_+\ _\infty \cdot \ \ell_h\ _1$	$0.1088 \pm 0.0775$	0.0482	0.0983	0.1686
optdigitsBinary	BinaryCertificate	$0.014 \pm 0.0086$	0.0071	0.0146	0.0205
optdigitsBinary	$\ \mathbf{d}_+\ _1 \cdot \ \ell_h\ _\infty$	$0.0232 \pm 0.0131$	0.0129	0.0239	0.0331
optdigitsBinary	$\ \mathbf{d}_+\ _2 \cdot \ \ell_h\ _2$	$0.0453 \pm 0.023$	0.026	0.0486	0.0639
optdigitsBinary	$\ \mathbf{d}_+\ _\infty \cdot \ \ell_h\ _1$	$0.025 \pm 0.0135$	0.0136	0.0256	0.036
satimageBinary	BinaryCertificate	$0.0092 \pm 0.0079$	0.0029	0.008	0.0135
satimageBinary	$\ \mathbf{d}_+\ _1 \cdot \ \ell_h\ _\infty$	$0.0128 \pm 0.0104$	0.0056	0.0109	0.0163
satimageBinary	$\ \mathbf{d}_+\ _2 \cdot \ \ell_h\ _2$	$0.0268 \pm 0.022$	0.0117	0.0202	0.0372
satimageBinary	$\ \mathbf{d}_+\ _\infty \cdot \ \ell_h\ _1$	$0.0116 \pm 0.0098$	0.0042	0.0094	0.016
pendigitsBinary	BinaryCertificate	$0.0081 \pm 0.0045$	0.0045	0.0076	0.0115
pendigitsBinary	$\ \mathbf{d}_+\ _1 \cdot \ \ell_h\ _\infty$	$0.013 \pm 0.0066$	0.0079	0.0132	0.0183
pendigitsBinary	$\ \mathbf{d}_+\ _2 \cdot \ \ell_h\ _2$	$0.0381 \pm 0.0187$	0.0214	0.044	0.0535
pendigitsBinary	$\ \mathbf{d}_+\ _\infty \cdot \ \ell_h\ _1$	$0.0141 \pm 0.007$	0.0086	0.0149	0.0199
coil2000	BinaryCertificate	$0.0143 \pm 0.0121$	0.0053	0.0094	0.0227
coil2000	$\ \mathbf{d}_+\ _1 \cdot \ \ell_h\ _\infty$	$0.0162 \pm 0.0137$	0.0055	0.0128	0.0255
coil2000	$\ \mathbf{d}_+\ _2 \cdot \ \ell_h\ _2$	$0.0322 \pm 0.0271$	0.0096	0.028	0.0468
coil2000	$\ \mathbf{d}_+\ _\infty \cdot \ \ell_h\ _1$	$0.0198 \pm 0.0168$	0.0064	0.0155	0.0299
letterimg	BinaryCertificate	$0.0063 \pm 0.0075$	0.0018	0.0033	0.0078
letterimg	$\ \mathbf{d}_+\ _1 \cdot \ \ell_h\ _\infty$	$0.0078 \pm 0.0093$	0.0015	0.0038	0.0109
letterimg	$\ \mathbf{d}_+\ _2 \cdot \ \ell_h\ _2$	$0.0274 \pm 0.0265$	0.0058	0.0172	0.0421
letterimg	$\ \mathbf{d}_+\ _\infty \cdot \ \ell_h\ _1$	$0.0096 \pm 0.01$	0.0022	0.0054	0.0135