A Results per training algorithms, with and without resampling strategies

Tables 1-12 show the mean and standard deviation of the F1-score and SERA metrics per regression algorithms. The best results are highlighted in bold.

Table 1: Mean and standard deviation of the **F1-score** metric obtained for each dataset considering **Bagging** technique. The best results are highlighted in bold.

	None	SMT	RO	RU	GN	SG	WERCS
Dataset				F1-score			
abalone	0.653(0.158)	0.693(0.040)	0.689(0.036)	0.692(0.042)	0.694(0.036)	0.635(0.054)	**0.700(0.032)**
a3	0.205(0.207)	**0.412(0.225)**	0.370(0.178)	0.296(0.202)	0.377(0.236)	0.387(0.197)	0.400(0.224)
a6	0.196(0.254)	0.325(0.240)	0.346(0.250)	0.355(0.238)	0.377(0.261)	**0.386(0.262)**	0.356(0.246)
a4	0.250(0.270)	0.373(0.246)	0.326(0.231)	0.337(0.227)	0.384(0.262)	0.302(0.267)	**0.385(0.239)**
a1	0.361(0.348)	0.418(0.359)	0.422(0.334)	0.358(0.345)	**0.439(0.344)**	0.431(0.335)	0.423(0.339)
a7	0.305(0.166)	0.341(0.092)	0.349(0.128)	0.333(0.145)	0.384(0.083)	**0.389(0.080)**	0.359(0.098)
boston	0.847(0.048)	0.862(0.059)	0.877(0.052)	0.826(0.060)	0.869(0.048)	0.839(0.071)	**0.887(0.044)**
a2	0.175(0.208)	0.376(0.241)	0.422(0.227)	0.309(0.206)	**0.427(0.220)**	0.414(0.208)	0.357(0.246)
a5	0.123(0.198)	0.335(0.252)	0.298(0.282)	0.274(0.253)	0.323(0.238)	**0.340(0.252)**	0.278(0.213)
fuelCons	0.763(0.268)	0.896(0.045)	**0.931(0.037)**	0.822(0.200)	0.911(0.043)	0.869(0.048)	0.894(0.048)
heat	0.925(0.013)	**0.975(0.003)**	**0.975(0.004)**	0.923(0.015)	0.971(0.004)	0.959(0.006)	0.951(0.008)
availPwr	0.909(0.019)	0.943(0.016)	**0.969(0.021)**	0.885(0.037)	0.954(0.019)	0.806(0.041)	0.934(0.017)
cpuSm	0.747(0.065)	0.740(0.078)	0.735(0.074)	0.737(0.069)	0.706(0.060)	0.712(0.106)	**0.750(0.072)**
maxTorq	0.930(0.029)	0.960(0.019)	**0.980(0.018)**	0.916(0.029)	0.966(0.020)	0.830(0.034)	0.952(0.016)
ConcrStr	0.046(0.204)	0.234(0.376)	**0.313(0.442)**	0.155(0.275)	0.262(0.411)	0.297(0.417)	0.230(0.408)
Accel	0.798(0.280)	0.885(0.210)	**0.892(0.218)**	0.792(0.277)	0.845(0.217)	0.819(0.202)	0.858(0.211)
airfoild	0.000(0.000)	0.099(0.221)	0.095(0.205)	0.049(0.129)	**0.116(0.221)**	0.053(0.151)	0.026(0.072)

Table 2: Mean and standard deviation of the **SERA** metric obtained for each dataset considering **Bagging** technique. The best results are highlighted in bold.

	None	SMT	RO	RU	GN	SG	WERCS
Dataset				SERA			
abalone	1.23e+03 (254.634)	960.900 (189.698)	1.03e+03 (222.145)	973.136 (207.225)	966.647 (201.08)	1.28e+03 (237.077)	**955.671 (198.049)**
a3	604.994 (465.452)	391.062 (443.745)	488.741 (484.814)	422.243 (299.197)	416.673 (404.141)	417.165 (409.191)	**372.448 (285.986)**
a6	1.70e+03 (1.82e+03)	1.34e+03 (1.16e+03)	1.41e+03 (1.38e+03)	1.41e+03 (1.58e+03)	**1.33e+03 (1.13e+03)**	**1.33e+03 (1.20e+03)**	1.40e+03 (1.50e+03)
a4	286.356 (519.567)	268.527 (478.017)	260.065 (480.31)	268.814 (501.421)	253.173 (435.564)	287.797 (477.917)	**236.941 (466.600)**
a1	1.77e+03 (1.95e+03)	1.43e+03 (1.53e+03)	1.55e+03 (1.74e+03)	**1.29e+03 (1.32e+03)**	1.32e+03 (1.25e+03)	1.41e+03 (1.41e+03)	1.46e+03 (1.52e+03)
a7	442.429 (324.675)	314.428 (193.863)	**285.159 (218.205)**	339.72 (232.404)	332.699 (224.698)	287.476 (175.248)	328.227 (159.693)
boston	319.298 (138.978)	300.397 (238.392)	220.919 (78.245)	456.217 (322.482)	247.482 (126.54)	336.000 (170.927)	**208.871 (93.984)**
a2	1.36e+03 (1.63e+03)	1.12e+03 (931.740)	1.12e+03 (1.13e+03)	**878.045 (1.16e+03)**	913.228 (969.535)	1.04e+03 (1.02e+03)	1.10e+03 (1.53e+03)
a5	630.873 (710.174)	515.659 (557.673)	541.809 (564.664)	**426.164 (468.996)**	466.452 (627.069)	534.395 (596.215)	527.405 (599.402)
fuelCons	37.860 (25.818)	32.871 (16.530)	**20.825 (12.419)**	45.035 (20.799)	27.435 (16.01)	43.552 (21.755)	24.166 (14.241)
heat	1.53e+04 (3.39e+03)	9.49e+03 (1.22e+03)	**5.78e+03 (1.01e+03)**	2.40e+04 (4.38e+03)	9.06e+03 (1.20e+03)	1.20e+04 (2.32e+03)	7.75e+03 (1.39e+03)
availPwr	1.48e+04 (5.89e+03)	9.55e+03 (6.48e+03)	**6.93+e06 (6.07e+03)**	2.37e+04 (7.67e+04)	7.59e+03 (5.81e+03)	4.90e+04 (1.20e+04)	9.24e+03 (4.74e+03)
cpuSm	2.79e+03 (565.933)	2.73e+03 (622.733)	2.78e+03 (646.225)	3.07e+03 (736.903)	2.59e+03 (356.382)	3.69e+03 (1.16e+03)	2.37e+03 (7.17e+03)
maxTorq	3.82e+04 (2.82e+04)	1.97e+04 (1.40e+04)	**1.20e+04 (8.82e+03)**	8.75e+04 (3.06e+04)	1.84e+04 (1.80e+04)	1.73e+05 (5.47e+04)	1.73e+04 (1.29e+04)
ConcrStr	503.600 (862.133)	574.185 (932.322)	482.38 (861.532)	793.441 (1.21e+04)	394.400 (580.965)	649.78 (982.706)	**371.319 (610.304)**
Accel	66.702 (47.141)	51.864 (27.945)	50.881 (47.695)	100.196 (69.729)	**49.756 (26.134)**	100.819 (77.382)	52.120 (40.436)
airfoild	82.539 (147.971)	90.232 (168.337)	53.913 (97.559)	151.799 (275.502)	61.751 (113.948)	62.110 (110.338)	**52.489 (94.199)**

Table 3: Mean and standard deviation of the **F1-score** metric obtained for each dataset considering **Decision Tree** technique. The best results are highlighted in bold.

	None	SMT	RO	RU	GN	SG	WERCS
Dataset				F1-score			
abalone	**0.645(0.050)**	0.620(0.042)	0.620(0.034)	0.637(0.038)	0.630(0.046)	0.540(0.048)	0.628(0.033)
a3	0.338(0.179)	0.388(0.175)	0.317(0.152)	0.352(0.169)	0.368(0.178)	0.357(0.141)	**0.389(0.196)**
a6	0.330(0.238)	**0.349(0.202)**	0.261(0.212)	0.326(0.235)	**0.349(0.232)**	**0.349(0.221)**	0.322(0.225)
a4	0.309(0.248)	0.335(0.207)	0.336(0.237)	0.331(0.231)	0.348(0.213)	**0.370(0.225)**	0.355(0.227)
a1	**0.400(0.325)**	0.394(0.303)	0.379(0.318)	0.388(0.308)	0.376(0.301)	0.380(0.305)	0.370(0.302)
a7	0.275(0.088)	0.320(0.099)	0.306(0.118)	0.347(0.110)	0.350(0.142)	0.304(0.086)	**0.354(0.113)**
boston	0.839(0.059)	0.867(0.052)	**0.887(0.050)**	0.840(0.074)	0.871(0.059)	0.827(0.057)	0.878(0.052)
a2	0.276(0.213)	0.369(0.179)	0.306(0.251)	**0.392(0.217)**	0.377(0.211)	0.378(0.245)	0.381(0.218)
a5	0.203(0.219)	0.287(0.219)	0.313(0.226)	0.310(0.235)	0.319(0.214)	**0.341(0.231)**	0.303(0.195)
fuelCons	0.859(0.069)	0.851(0.052)	**0.912(0.062)**	0.806(0.057)	0.879(0.058)	0.842(0.055)	0.868(0.052)
heat	0.926(0.011)	**0.976(0.006)**	0.969(0.004)	0.922(0.009)	0.969(0.004)	0.922(0.087)	0.953(0.005)
availPwr	0.925(0.023)	0.958(0.015)	**0.972(0.019)**	0.918(0.036)	0.965(0.017)	0.799(0.044)	0.947(0.015)
cpuSm	**0.717(0.072)**	0.706(0.072)	0.703(0.082)	0.696(0.079)	0.631(0.068)	0.698(0.081)	0.714(0.074)
maxTorq	0.937(0.024)	0.966(0.016)	**0.984(0.015)**	0.927(0.029)	0.971(0.018)	0.826(0.048)	0.962(0.017)
ConcrStr	0.224(0.398)	0.270(0.426)	0.316(0.444)	0.258(0.405)	**0.321(0.451)**	0.249(0.394)	0.264(0.416)
Accel	0.786(0.275)	**0.891(0.211)**	0.890(0.215)	0.785(0.202)	0.886(0.212)	0.793(0.191)	0.861(0.208)
airfoild	0.040(0.125)	0.079(0.168)	0.114(0.215)	0.078(0.193)	**0.131(0.237)**	0.065(0.145)	0.090(0.174)

Table 4: Mean and standard deviation of the **SERA** metric obtained for each dataset considering **Decision Tree** technique. The best results are highlighted in bold.

	None	SMT	RO	RU	GN	SG	WERCS
Dataset				SERA			
abalone	1.50e+03 (292.824)	1.44e+03 (301.67)	1.68e+03 (280.295)	1.38e+03 (286.707)	**1.37e+03 (285.157)**	2.18e+03 (366.058)	1.42e+03 (243.911)
a3	684.363 (572.303)	608.391 (490.709)	804.23 (618.152)	647.006 (393.112)	**545.935 (335.704)**	632.869 (506.999)	610.761 (359.616)
a6	2.19e+03 (2.35e+03)	1.87e+03 (1.54e+03)	2.05e+03 (1.75e+03)	1.89e+03 (1.63e+03)	**1.57e+03 (1.50e+03)**	1.83e+03 (1.74e+03)	1.60e+03 (1.37e+03)
a4	293.561 (536.649)	310.248 (490.536)	301.774 (528.641)	338.739 (496.112)	297.332 (525.018)	**251.500 (454.995)**	263.201 (503.74)
a1	2.22e+03 (2.46e+03)	2.16e+03 (1.97e+03)	2.61e+03 (2.69e+03)	2.18e+03 (2.35e+03)	2.09e+03 (2.09e+03)	2.08e+03 (1.95e+03)	**1.99e+03 (2.04e+03)**
a7	378.889 (230.006)	520.718 (407.793)	451.331 (247.708)	350.077 (220.265)	**343.419 (255.017)**	457.041 (347.653	348.909 (230.984)
boston	338.873 (245.344)	299.271 (239.850)	256.278 (128.917)	336.493 (172.843)	311.147 (187.840)	480.127 (342.679)	**251.670 (106.280)**
a2	1.69e+03 (1.88e+03)	1.52e+03 (1.43.e+03)	1.57e+03 (1.49e+03)	1.73e+03 (2.21e+03)	1.43e+03 (1.09e+03)	**1.31e+03 (1.08e+03)**	1.56e+03 (1.62+06)
a5	683.644 (703.755)	794.470 (687.759)	711.169 (669.796)	**599.081 (557.538)**	687.812 (665.456)	667.614 (683.977)	616.617 (564.826)
fuelCons	39.971 (30.748)	50.056 (27.019)	**30.528 (21.356)**	57.902 (26.752)	37.089 (19.569)	59.072 (38.648)	36.597 (22.495)
heat	1.74e+04 (2.55e+03)	9.50e+03 (1.41e+03)	**6.67e+03 (1.06e+03)**	5.14e+04 (4.85e+03)	1.02e+04 (1,15e+03)	4.15e+04 (5.93e+04)	7.97e+04 (986.278)
availPwr	1.02e+04 (4.88e+03)	8.41e+03 (6.47e+03)	7.93e+03 (8.12e+03)	**1.90e+03 (9.68e+03)**	**6.19e+03 (5.73e+03)**	5.53e+04 (1.45e+04)	9.58e+03 (6.49e+03)
cpuSm	**3.60e+03 (665.071)**	4.11e+03 (1.78e+03)	4.45e+03 (1.70e+03)	4.84e+03 (1.78e+03)	3.83e+03 (479.564)	7.95e+03 (3.50e+03)	3.62e+03 (443.752)
maxTorq	2.82e+04 (2.74e+04)	2.01e+04 (1.39e+04)	**1.45e+04 (1.99e+04)**	5.60e+04 (2.68e+04)	2.01e+04 (1.58e+04)	1.75e+05 (5.46e+04)	1.80e+04 (1.54e+04)
ConcrStr	690.301 (1.39e+03)	515.366 (750.032)	497.331 (807.141)	1.09e+03 (1.70e+03)	538.877 (780.251)	698.017 (1.01e+03)	**392.135 (555.238)**
Accel	79.959 (63.705)	**51.609 (19.266)**	64.798 (60.182)	122.039 (59.623)	59.007 (22.544)	190.319 (107.525)	60.932 (54.108)
airfoild	84.992 (151.352)	91.132 (175.662)	56.296 (106.835)	182.528 (333.289)	80.030 (146.340)	71.290 (128.167)	**55.865 (109.443)**

Table 5: Mean and standard deviation of the **F1-score** metric obtained for each dataset considering **MLP** technique. The best results are highlighted in bold.

	None	SMT	RO	RU	GN	SG	WERCS
Dataset				F1-score			
abalone	0.649(0.057)	0.705(0.045)	0.704(0.041)	0.688(0.042)	**0.718(0.038)**	0.652(0.053)	0.702(0.044)
a3	0.148(0.198)	0.283(0.229)	0.331(0.200)	0.316(0.191)	**0.379(0.224)**	0.246(0.236)	0.245(0.232)
a6	0.027(0.119)	0.186(0.198)	**0.325(0.220)**	0.188(0.217)	0.281(0.213)	0.255(0.278)	0.238(0.249)
a4	0.123(0.178)	0.101(0.167)	**0.279(0.224)**	0.147(0.162)	0.222(0.207)	0.245(0.239)	0.237(0.222)
a1	0.101(0.213)	0.354(0.308)	**0.435(0.347)**	0.295(0.244)	0.412(0.323)	0.326(0.345)	0.292(0.320)
a7	0.077(0.138)	0.217(0.176)	0.276(0.184)	0.181(0.688)	0.265(0.159)	**0.301(0.190)**	0.237(0.222)
boston	0.430(0.366)	0.747(0.196)	0.722(0.257)	0.461(0.358)	0.714(0.193)	0.737(0.190)	**0.759(0.137)**
a2	0.134(0.175)	0.287(0.292)	**0.353(0.244)**	0.209(0.178)	0.341(0.221)	0.274(0.250)	0.336(0.271)
a5	0.083(0.175)	0.193(0.221)	**0.308(0.225)**	0.231(0.245)	0.265(0.249)	0.272(0.274)	0.181(0.218)
fuelCons	0.262(0.292)	0.300(0.310)	0.431(0.326)	0.291(0.225)	**0.456(0.287)**	0.329(0.349)	0.334(0.371)
heat	0.574(0.394)	0.822(0.211)	0.716(0.369)	0.804(0.047)	**0.907(0.032)**	0.788(0.275)	0.835(0.202)
availPwr	0.651(0.336)	0.851(0.045)	**0.869(0.032)**	0.852(0.037)	0.829(0.075)	0.797(0.091)	0.793(0.192)
cpuSm	0.124(0.130)	0.135(0.079)	0.150(0.094)	0.213(0.112)	**0.277(0.175)**	0.151(0.104)	0.108(0.116)
maxTorq	0.653(0.388)	0.766(0.218)	**0.903(0.039)**	0.507(0.396)	0.815(0.202)	0.712(0.254)	0.780(0.268)
ConcrStr	0.213(0.381)	0.265(0.416)	0.258(0.405)	0.072(0.225)	**0.296(0.418)**	0.285(0.400)	0.247(0.390)
Accel	0.165(0.226)	0.369(0.270)	**0.539(0.339)**	0.194(0.184)	0.417(0.328)	0.397(0.352)	0.287(0.296)
airfoild	**0.040(0.082)**	0.028(0.069)	0.009(0.042)	0.024(0.074)	**0.040(0.084)**	0.016(0.043)	0.036(0.089)

Table 6: Mean and standard deviation of the **SERA** metric obtained for each dataset considering **MLP** technique. The best results are highlighted in bold.

	None	SMT	RO	RU	GN	SG	WERCS
Dataset				SERA			
abalone	1.22e+03 (283.276)	967.413 (239.453)	976.856 (236.867)	1.10e+03 (317.882)	**912.090 (186.059)**	1.33e+03 (354.938)	912.241 (191.657)
a3	1.41e+03 (1.64e+03)	1.42e+03 (2.57e+03)	**493.796 (414.930)**	1.33e+03 (938.030)	698.360 (600.576)	735.956 (734.358)	734.245 (770.887)
a6	6.68e+03 (1.09e+04)	2.86e+04 (8.12e+04)	2.27e+03 (2.71e+03)	4.64e+03 (6.48e+03)	4.60e+03 (4.43e+03)	**1.98e+03 (1.98e+03)**	4.56e+03 (6.01e+03)
a4	614.649 (1.32e+03)	1.91e+03 (5.21e+03)	2.85e+03 (475.880)	2.26e+04 (9.27e+04)	2.18e+03 (4.36e+03)	**315.357 (558.920)**	1.75e+03 (5.17e+03)
a1	6.11e+03 (6.64e+03)	3.72e+03 (5.18e+03)	**1.80e+03 (1.98e+03)**	1.26e+04 (3.14e+04)	1.85e+03 (1.80e+03)	2.28e+03 (2.42e+03)	3.16e+03 (3.91e+03)
a7	1.41e+03 (3.26e+03)	2.73e+03 (8.23e+03)	**503.693 (413.449)**	4.95e+03 (1.13e+04)	2.31e+03 (2.55e+03)	632.332 (1.13e+03)	551.751 (413.917)
boston	1.45e+03 (2.20e+03)	1.03e+03 (1.18e+03)	776.284 (1.01e+03)	3.03e+03 (4.04e+03)	**561.457 (247.432)**	596.267 (239.327)	594.117 (233.765)
a2	3.81e+03 (4.98e+03)	6.34e+03 (1.77e+03)	1.44e+03 (1.49e+03)	2.19e+04 (5.72e+04)	3.09e+03 (6.14e+03)	1.72e+03 (1.80e+03)	**1.37e+03 (1.69e+03)**
a5	1.91e+03 (4.06e+03)	1.35e+03 (1.72e+03)	**655.030 (591.849)**	9.03e+03 (3.54e+04)	1.07e+03 (1.63e+03)	980.757 (1.92e+03)	1.14e+03 (2.20e+03)
fuelCons	1.63e+03 (2.34e+03)	5.47e+03 (1.51e+03)	**409.065 (343.151)**	1.99e+05 (5.34e+05)	774.172 (824.676)	651.518 (967.314)	599.53 (1.04e+03)
heat	2.26e+05 (2.53e+05)	6.37e+04 (4.71e+04)	7.09e+04 (6.39e+04)	1.22e+05 (5.20e+04)	**3.63e+04 (1.49e+04)**	8.00e+04 (5.80e+04)	6.94e+04 (7.20e+04)
availPwr	1.00e+05 (1.15e+05)	4.64e+04 (4.06e+04)	**3.24e+04 (1.46e+04)**	3.90e+04 (1.42e+04)	3.81e+04 (1.93e+04)	7.93e+04 (5.04e+04)	5.72e+04 (7.38e+04)
cpuSm	1.52e+07 (5.22e+07)	6.67e+06 (2.49e+07)	1.38e+06 (3.93e+06)	6.47e+06 (1.28e+07)	4.65e+06 (1.12e+07)	**4.39e+05 (1.45e+06)**	9.73e+05 (2.93e+06)
maxTorq	1.04e+06 (1.75e+06)	1.14e+06 (2.50e+06)	1.87e+06 (6.22e+06)	1.61e+07 (3.66e+07)	3.74e+05 (8.62e+05)	**3.43e+05 (2.37e+05)**	3.46e+05 (3.38e+05)
ConcrStr	1.01e+03 (1.58e+03)	614.451 (950.145)	595.556 (846.392)	1.41e+04 (3.82e+04)	**464.252 (698.011)**	800.242 (1.12e+03)	763.323 (1.20e+03)
Accel	5.43e+03 (1.09e+04)	6.89e+03 (2.43e+04)	**395.535 (306.121)**	3.98e+06 (9.54e+06)	2.18e+03 (5.26e+03)	553.260 (610.692)	1.02e+03 (913.230)
airfoild	1.80e+04 (5.66e+04)	3.57e+04 (9.65e+04)	**272.148 (488.261)**	6.16e+04 (1.62e+05)	5.70e+03 (1.03e+04)	972.542 (3.33e+03)	5.56e+03 (1.28e+04)

Table 7: Mean and standard deviation of the **F1-score** metric obtained for each dataset considering **Random Forest** technique. The best results are highlighted in bold.

	None	SMT	RO	RU	GN	SG	WERCS
Dataset				F1-score			
abalone	0.675(0.048)	0.697(0.031)	0.686(0.048)	**0.701(0.038)**	0.695(0.035)	0.653(0.047)	0.698(0.035)
a3	0.302(0.264)	0.402(0.172)	0.356(0.249)	0.406(0.21)	0.383(0.19)	0.366(0.22)	**0.427(0.212)**
a6	0.309(0.324)	0.347(0.247)	0.384(0.257)	0.354(0.244)	0.352(0.258)	**0.392(0.218)**	0.377(0.226)
a4	0.298(0.291)	0.363(0.225)	0.306(0.294)	0.362(0.208)	**0.381(0.234)**	0.353(0.277)	0.368(0.235)
a1	0.390(0.348)	0.415(0.364)	0.425(0.341)	0.420(0.327)	**0.442(0.345)**	0.439(0.345)	0.434(0.347)
a7	0.307(0.146)	0.365(0.097)	0.340(0.137)	0.344(0.145)	**0.389(0.114)**	0.365(0.126)	0.379(0.09)
boston	0.864(0.05)	0.885(0.039)	0.880(0.032)	0.872(0.043)	**0.888(0.033)**	0.885(0.041)	0.877(0.038)
a2	0.217(0.263)	0.442(0.239)	0.331(0.265)	0.439(0.22)	**0.444(0.234)**	0.397(0.265)	0.370(0.285)
a5	0.146(0.235)	0.333(0.26)	0.287(0.259)	**0.373(0.261)**	0.349(0.247)	0.353(0.268)	0.253(0.257)
fuelCons	0.919(0.033)	0.929(0.036)	**0.942(0.028)**	0.916(0.039)	0.930(0.032)	0.916(0.027)	0.941(0.029)
heat	0.976(0.004)	**0.993(0.003)**	0.975(0.003)	0.975(0.004)	0.985(0.003)	0.980(0.013)	0.977(0.003)
availPwr	0.967(0.013)	0.972(0.013)	**0.980(0.015)**	0.962(0.013)	0.974(0.015)	0.816(0.047)	0.975(0.015)
cpuSm	0.753(0.074)	0.746(0.076)	0.749(0.075)	0.745(0.072)	0.743(0.064)	0.567(0.226)	**0.754(0.070)**
maxTorq	0.961(0.020)	0.971(0.022)	**0.975(0.022)**	0.959(0.023)	0.972(0.022)	0.879(0.027)	0.971(0.019)
ConcrStr	0.146(0.356)	0.232(0.414)	0.278(0.439)	0.2700(0.425)	**0.314(0.440)**	0.265(0.417)	0.242(0.431)
Accel	0.786(0.340)	**0.892(0.225)**	0.863(0.297)	0.833(0.287)	0.863(0.296)	0.888(0.211)	0.809(0.350)
airfoild	0.062(0.134)	0.104(0.199)	0.093(0.201)	0.082(0.173)	0.122(0.232)	0.082(0.175)	**0.130(0.242)**

Table 8: Mean and standard deviation of the **SERA** metric obtained for each dataset considering **Random Forest** technique. The best results are highlighted in bold.

	None	SMT	RO	RU	GN	SG	WERCS
Dataset				SERA			
abalone	1.17e+03 (242.208)	945.519 (196.564)	1.10e+03 (228.482)	**923.131 (202.271)**	970.217 (211.588)	1.19e+03 (201.977)	940.993 (207.879)
a3	570.813 (537.167)	423.881 (373.429)	530.553 (535.190)	434.068 (418.399)	**408.347 (327.747)**	444.836 (492.126)	409.651 (320.506)
a6	1.66e+03 (1.88e+03)	1.33e+03 (1.33e+03)	1.48e+03 (1.62e+03)	1.29e+03 (1.23e+03)	**1.25e+03 (1.05e+03)**	1.34e+03 (1.31e+03)	1.42e+03 (1.45e+03)
a4	288.193 (524.852)	277.299 (475.106)	286.981 (524.881)	254.611 (459.555)	246.634 (465.480)	278.119 (486.665)	**245.944 (451.326)**
a1	1.80e+03 (1.96e+03)	1.47e+03 (1.35e+03)	1.71e+03 (1.72e+03)	**1.33e+03 (1.20e+03)**	1.43e+03 (1.27e+03)	1.52e+03 (1.45e+03)	1.48e+03 (1.58e+03)
a7	385.721 (289.616)	317.978 (210.264)	328.289 (207.974)	319.884 (164.504)	301.135 (200.539)	303.092 (187.740)	**276.395 (173.230)**
boston	247.677 (151.815)	211.990 (137.443)	178.980 (77.374)	256.288 (173.395)	191.442 (95.708)	216.703 (142.496)	**176.900 (84.290)**
a2	1.27e+03 (1.58e+03)	979.231 (889.098)	1.18e+03 (1.42e+03)	986.589 (1.26e+03)	948.166 (974.680)	**944.371 (1.12e+03)**	1.02e+03 (1.39e+03)
a5	541.375 (593.786)	482.186 (529.686)	548.899 (584.228)	**437.084 (422.165)**	443.107 (380.485)	489.692 (519.346)	501.064 (519.910)
fuelCons	16.303 (13.249)	16.998 (10.164)	13.599 (10.607)	22.803 (10.788)	16.982 (11.514)	19.375 (13.887)	**12.467 (9.375)**
heat	1.41e+03 (322.598)	**1.04e+03 (172.236)**	1.25e+03 (224.637)	4.18e+03 (551.203)	1.33e+03 (238.880)	2.55e+03 (2.70e+03)	1.17e+03 (246.250)
availPwr	4.75e+03 (5.11e+03)	4.99e+03 (5.74e+03)	**4.37e+03 (5.54e+03)**	8.16e+03 (5.68e+03)	4.85e+03 (5.58e+03)	4.93e+04 (1.52e+04)	4.41e+03 (5.06e+03)
cpuSm	2.43e+03 (468.372)	2.34e+03 (444.959)	2.34e+03 (394.574)	2.51e+03 (427.093)	2.14e+03 (276.052)	3.97e+03 (2.02e+03)	**2.07e+03 (402.488)**
maxTorq	1.39e+04 (16007.4)	1.51e+04 (1.68e+04)	1.19e+04 (1.65e+04)	3.57e+04 (2.20e+04)	1.30e+04 (1.70e+04)	9.88e+04 (4.12e+04)	**1.15e+04 (1.48e+04)**
ConcrStr	298.783 (576.845)	314.626 (528.594)	287.276 (580.861)	557.655 (893.581)	265.347 (415.969)	527.181 (776.094)	**263.909 (473.991)**
Accel	33.261 (25.273)	32.251 (17.450)	28.343 (21.392)	60.083 (30.907)	31.530 (18.837)	39.186 (30.724)	**26.534 (18.143)**
airfoild	22.226 (41.114)	31.344 (58.611)	22.067 (42.378)	98.370 (189.412)	25.612 (48.025)	23.503 (44.403)	**22.054 (41.784)**

Table 9: Mean and standard deviation of the **F1-score** metric obtained for each dataset considering **SVM** technique. The best results are highlighted in bold.

	None	SMT	RO	RU	GN	SG	WERCS
Dataset				F1-score			
abalone	0.594(0.152)	0.705(0.034)	0.689(0.044)	0.698(0.036)	**0.707(0.036)**	0.648(0.053)	0.703(0.036)
a3	0.061(0.160)	0.369(0.200)	0.338(0.239)	0.343(0.178)	**0.384(0.182)**	0.325(0.189)	0.313(0.186)
a6	0.064(0.149)	0.288(0.220)	**0.316(0.267)**	0.283(0.238)	0.287(0.235)	0.282(0.221)	0.181(0.255)
a4	0.023(0.102)	0.325(0.201)	**0.332(0.288)**	0.322(0.217)	0.323(0.222)	0.319(0.257)	0.315(0.238)
a1	0.250(0.307)	0.402(0.320)	0.420(0.339)	0.412(0.326)	**0.425(0.337)**	0.372(0.304)	0.413(0.332)
a7	0.076(0.141)	0.342(0.137)	0.298(0.165)	**0.368(0.166)**	0.357(0.142)	0.365(0.123)	0.333(0.137)
boston	0.795(0.080)	0.778(0.087)	**0.883(0.038)**	0.737(0.084)	0.786(0.067)	0.773(0.089)	0.744(0.079)
a2	0.033(0.102)	0.337(0.221)	0.305(0.270)	0.316(0.210)	**0.386(0.195)**	0.294(0.244)	0.137(0.218)
a5	0.096(0.204)	0.324(0.260)	0.284(0.254)	0.303(0.250)	**0.336(0.252)**	0.239(0.240)	0.135(0.228)
fuelCons	0.227(0.359)	0.273(0.384)	**0.939(0.028)**	0.437(0.413)	0.244(0.349)	0.286(0.367)	0.231(0.364)
heat	0.995(0.002)	0.996(0.002)	0.976(0.003)	0.995(0.002)	0.987(0.004)	0.991(0.002)	**0.998(0.001)**
availPwr	0.968(0.022)	0.959(0.019)	**0.980(0.016)**	0.935(0.052)	0.940(0.036)	0.840(0.053)	0.969(0.022)
cpuSm	0.000(0.000)	0.101(0.095)	**0.750(0.073)**	0.101(0.095)	0.102(0.096)	0.150(0.069)	0.000(0.000)
maxTorq	0.946(0.042)	0.965(0.032)	**0.984(0.017)**	0.961(0.036)	0.973(0.026)	0.818(0.074)	0.949(0.046)
ConcrStr	0.174(0.357)	0.248(0.396)	0.242(0.43)	0.236(0.382)	**0.283(0.405)**	0.220(0.351)	0.206(0.372)
Accel	0.827(0.217)	0.288(0.220)	0.864(0.297)	0.789(0.346)	0.856(0.221)	0.828(0.208)	**0.878(0.217)**
airfoild	0.013(0.059)	0.045(0.097)	**0.088(0.196)**	0.047(0.113)	0.053(0.116)	0.040(0.109)	0.052(0.137)

Table 10: Mean and standard deviation of the **SERA** metric obtained for each dataset considering **SVM** technique. The best results are highlighted in bold.

	None	SMT	RO	RU	GN	SG	WERCS
Dataset				SERA			
abalone	1.46e+03 (275.157)	**477.499 (234.225)**	1.10e+03 (232.356)	1.01e+03 (195.999)	984.990 (184.315)	1.19e+03 (238.994)	947.960 (193.832)
a3	792.626 (645.615)	533.315 (514.427)	544.397 (532.220)	473.443 (360.854)	444.538 (398.044)	572.132 (531.274)	**431.893 (360.302)**
a6	2.33e+03 (2.49e+03)	1.76e+03 (1.75e+03)	**1.55e+03 (1.64e+03)**	1.64e+03 (1.69e+03)	1.64e+03 (1.49e+03)	1.75e+03 (1.69e+03)	1.58e+03 (1.69e+03)
a4	339.198 (601.546)	301.637 (567.264)	285.484 (527.171)	**254.053 (476.806)**	264.360 (470.896)	285.291 (541.844)	272.566 (530.082)
a1	2.70e+03 (2.90e+03)	2.48e+03 (2.65e+03)	**1.72e+03 (1.82e+03)**	1.95e+03 (2.07e+03)	1.78e+03 (1.59e+03)	2.48e+03 (2.45e+03)	2.11e+03 (2.34e+03)
a7	491.115 (393.053)	459.479 (294.005)	**324.526 (208.745)**	356.165 (283.15)	391.412 (331.384)	400.937 (302.316)	360.171 (286.893)
boston	630.544 (298.667)	723.983 (341.838)	**194.352 (106.168)**	1.01e+03 (541.469)	666.869 (355.382)	764.593 (384.121)	832.000 (320.318)
a2	1.73e+03 (1.79e+03)	1.05e+03 (1.03e+03)	1.19e+03 (1.47e+03)	**898.407 (1.05e+03)**	1.01e+03 (1.17e+03)	1.11e+03 (1.37e+03)	1.03e+03 (1.37e+03)
a5	762.492 (778.206)	551.272 (621.921)	552.113 (584.076)	**406.172 (421.032)**	513.511 (625.370)	517.311 (532.418)	494.896 (539.894)
fuelCons	202.132 (80.439)	151.233 (80.909)	**13.472 (10.546)**	102.621 (125.598)	174.266 (85.856)	149.788 (85.461)	171.779 (78.968)
heat	169.120 (61.431)	1.50e+03 (477.810)	1.23e+03 (186.302)	3.54e+03 (1.39e+03)	2.35e+03 (623.598)	1.21e+03 (284.613)	**73.582 (18.902)**
availPwr	2.69e+04 (3.24e+04)	2.13e+04 (2.60e+04)	4.44e+04 (5.65e+04)	9.14e+04 (2.27e+04)	**1.68e+04 (1.47e+04)**	6.46e+04 (3.64e+04)	2.59e+04 (3.14e+04)
cpuSm	2.30e+05 (4.19e+04)	1.33e+04 (2.30e+04)	**2.34e+03 (403.365)**	1.33e+05 (2.30e+04)	1.33e+05 (2.29e+04)	1.31e+05 (2.13e+04)	1.78e+04 (3.41e+04)
maxTorq	1.87e+05 (1.85e+05)	8.58e+04 (9.95e+04)	**7.33e+03 (1.29e+04)**	1.25e+05 (1.24e+05)	7.42e+04 (6.44e+04)	2.73e+05 (1.26e+05)	1.94e+05 (1.87e+05)
ConcrStr	1.39e+03 (2.17e+03)	960.561 (1.59e+03)	**281.363 (524.379)**	693.177 (1.12e+03)	522.772 (851.831)	1.63e+03 (2.57e+03)	1.30e+03 (2.05e+03)
Accel	146.105 (171.57)	109.926 (155.355)	**29.425 (24.529)**	153.644 (209.149)	115.67 (200.843)	125.294 (160.16)	118.602 (143.483)
airfoild	275.138 (493.57)	228.456 (402.385)	**21.035 (40.070)**	199.553 (361.833)	196.875 (339.064)	186.258 (330.021)	255.656 (458.556)

Table 11: Mean and standard deviation of the **F1-score** metric obtained for each dataset considering **XGBoost** technique. The best results are highlighted in bold.

	None	SMT	RO	RU	GN	SG	WERCS
Dataset				F1-score			
abalone	**0.676(0.051)**	0.405(0.241)	0.630(0.154)	0.675(0.047)	0.402(0.240)	0.452(0.270)	0.407(0.243)
a3	0.251(0.232)	0.302(0.232)	0.321(0.258)	**0.363(0.216)**	0.356(0.249)	0.234(0.206)	0.329(0.262)
a6	0.252(0.326)	0.223(0.261)	0.239(0.328)	**0.341(0.250)**	0.307(0.310)	0.222(0.284)	0.260(0.279)
a4	0.292(0.269)	0.292(0.248)	0.257(0.248)	**0.346(0.230)**	0.302(0.261)	0.142(0.210)	0.247(0.265)
a1	0.339(0.335)	0.181(0.261)	0.365(0.330)	**0.400(0.353)**	0.227(0.306)	0.190(0.284)	0.149(0.247)
a7	0.316(0.175)	0.336(0.166)	0.349(0.173)	0.324(0.134)	**0.380(0.153)**	0.301(0.146)	0.349(0.142)
boston	0.873(0.036)	0.118(0.245)	0.869(0.046)	**0.878(0.037)**	0.118(0.246)	0.271(0.312)	0.111(0.232)
a2	0.152(0.232)	0.318(0.254)	0.138(0.210)	0.405(0.225)	**0.407(0.246)**	0.163(0.210)	0.126(0.210)
a5	0.165(0.241)	0.229(0.263)	0.162(0.239)	**0.377(0.279)**	0.223(0.234)	0.146(0.219)	0.133(0.219)
fuelCons	0.947(0.024)	0.026(0.116)	**0.948(0.027)**	0.923(0.035)	0.025(0.111)	0.052(0.161)	0.025(0.113)
heat	**0.989(0.002)**	0.485(0.211)	0.987(0.002)	0.988(0.002)	0.541(0.139)	0.640(0.102)	0.389(0.234)
availPwr	**0.979(0.016)**	0.305(0.260)	0.977(0.017)	0.976(0.016)	0.367(0.249)	0.677(0.164)	0.352(0.243)
cpuSm	**0.742(0.061)**	0.334(0.024)	0.738(0.074)	0.705(0.074)	0.333(0.024)	0.308(0.035)	0.334(0.024)
maxTorq	**0.988(0.011)**	0.228(0.261)	0.985(0.016)	0.983(0.018)	0.294(0.275)	0.421(0.327)	0.212(0.243)
ConcrStr	0.283(0.445)	0.000(0.000)	**0.290(0.454)**	0.275(0.432)	0.000(0.000)	0.039(0.175)	0.000(0.000)
Accel	0.913(0.216)	0.027(0.119)	**0.914(0.216)**	0.886(0.215)	0.028(0.126)	0.060(0.185)	0.027(0.119)
airfoild	**0.152(0.282)**	0.000(0.000)	0.114(0.216)	0.112(0.208)	0.000(0.000)	0.000(0.000)	0.000(0.000)

Table 12: Mean and standard deviation of the **SERA** metric obtained for each dataset considering **XGBoost** technique. The best results are highlighted in bold.

	None	SMT	RO	RU	GN	SG	WERCS
Dataset				SERA			
abalone	1.25e+03 (264.492)	2.51e+03 (498.384)	1.37e+03 (276.813)	**1.01e+03 (231.676)**	2.73e+03 (491.491)	3.24e+03 (503.224)	3.63e+03 (593.139)
a3	640.844 (560.199)	539.992 (509.248)	607.614 (554.014)	**417.328 (335.543)**	472.533 (418.973)	631.262 (609.269)	555.119 (482.791)
a6	1.95e+03 (2.21e+03)	1.60e+03 (1.69e+03)	1.83e+03 (2.04e+03)	1.50e+03 (1.50e+03)	**1.42e+03 (1.52e+03)**	1.79e+03 (2.07e+03)	1.78e+03 (1.88e+03)
a4	303.805 (561.470)	302.890 (534.696)	322.970 (544.079)	279.661 (509.050)	313.848 (572.304)	320.116 (599.471)	**307.040 (565.255)**
a1	2.06e+03 (2.02e+03)	2.31e+03 (2.31e+03)	2.18e+03 (2.14e+03)	**1.51e+03 (1.64e+03)**	1.91e+03 (1.92e+03)	2.65e+03 (2.46e+03)	3.17e+03 (3.11e+03)
a7	448.014 (348.541)	315.181 (265.115)	430.79 (314.11)	348.759 (237.521)	**301.221 (237.802)**	401.885 (317.785)	327.087 (223.961)
boston	**214.415 (125.709)**	2.09e+03 (407.437)	235.856 (128.023)	217.502 (116.591)	2.03e+03 (473.008)	2.23e+03 (414.495)	2.39e+03 (459.201)
a2	1.37e+03 (1.59e+03)	1.08e+03 (1.28e+03)	1.38e+03 (1.59e+03)	**923.025 (952.818)**	1.05e+03 (1.17e+03)	1.59e+03 (1.76e+03)	1.51e+03 (1.69e+03)
a5	594.044 (595.523)	540.163 (593.018)	625.479 (659.988)	**507.557 (486.587)**	507.786 (516.535)	710.018 (775.641)	695.177 (751.479)
fuelCons	**11.555 (9.548)**	362.077 (105.116)	11.739 (9.229)	20.86 (8.586)	310.902 (81.294)	367.169 (73.656)	402.371 (85.618)
heat	**361.243 (132.259)**	1.92e+05 (2.60e+04)	620.864 (152.357)	2.13e+03 (368.457)	1.90e+05 (2.76e+04)	1.69e+05 (5.45e+04)	2.31e+05 (3.08e+04)
availPwr	**4.49e+03 (4.76e+03)**	1.80e+05 (3.13e+04)	4.69e+03 (5.40e+03)	6.91e+03 (5.01e+03)	1.69e+05 (3.20e+04)	1.25e+05 (2.04e+04)	1.88e+05 (3.08e+04)
cpuSm	**2.15e+03 (697.176)**	7.80e+04 (6.20e+03)	2.23e+03 (654.284)	2.70e+03 (661.755)	7.40e+03 (5.86e+03)	6.85e+04 (8.03e+03)	7.42e+04 (5.81e+04)
maxTorq	4.52e+03 (6.60e+03)	6.54e+05 (1.61e+05)	5.33e+03 (9.10e+03)	**1.78e+03 (1.20e+04)**	6.21e+05 (1.57e+05)	4.97e+05 (1.13e+05)	7.08e+05 (1.53e+05)
ConcrStr	276.817 (558.400)	2.68e+03 (4.02e+03)	**234.928 (452.243)**	603.366 (923.900)	2.50e+03 (3.58e+03)	3.36e+03 (4.78e+03)	3.65e+03 (5.18e+03)
Accel	**25.071 (18.289)**	868.908 (336.388)	25.951 (15.210)	65.084 (38.416)	751.311 (286.512)	849.471 (315.547)	1.00e+03 (366.939)
airfoild	**12.806 (23.181)**	1.03e+04 (1.82e+04)	13.830 (26.720)	82.850 (158.781)	1.03e+04 (1.82e+04)	1.02e+04 (1.80e+04)	9.50e+04 (1.67e+04)