

Appendix B Results per training algorithms, with and without resampling strategies

Tables B1-B24 show the mean and standard deviation of the F1-score, SERA, RMSE and MAE metrics per regression algorithms. The best results are highlighted in bold.

Table B1: 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						
wine-quality	0.717 (0.019)	0.705 (0.023)	0.724 (0.030)	0.706 (0.019)	0.705 (0.020)	-	0.718 (0.030)
analcata-data-apnea3	0.176 (0.075)	0.182 (0.086)	0.160 (0.089)	0.181 (0.082)	0.181 (0.076)	0.188 (0.095)	0.165 (0.090)
meta	0.389 (0.112)	0.372 (0.091)	0.404 (0.099)	0.406 (0.109)	0.435 (0.081)	0.409 (0.108)	0.379 (0.088)
cocomo-numeric	0.321 (0.344)	0.332 (0.346)	0.341 (0.342)	0.342 (0.364)	0.332 (0.321)	0.359 (0.338)	0.288 (0.329)
Abalone	0.678 (0.020)	0.670 (0.019)	0.688 (0.020)	0.686 (0.022)	0.676 (0.018)	0.657 (0.025)	0.685 (0.017)
a3	0.442 (0.153)	0.449 (0.137)	0.446 (0.175)	0.474 (0.134)	0.493 (0.132)	0.462 (0.186)	0.471 (0.133)
forestFires	0.347 (0.067)	0.353 (0.068)	0.355 (0.071)	0.351 (0.067)	0.326 (0.079)	0.346 (0.084)	0.336 (0.054)
a1	0.601 (0.320)	0.658 (0.250)	0.647 (0.252)	0.686 (0.186)	0.652 (0.086)	0.718 (0.078)	0.710 (0.128)
a7	0.310 (0.136)	0.353 (0.121)	0.406 (0.146)	0.376 (0.113)	0.309 (0.144)	0.362 (0.105)	0.378 (0.137)
boston	0.889 (0.024)	0.869 (0.031)	0.889 (0.030)	0.877 (0.030)	0.874 (0.038)	0.852 (0.042)	0.884 (0.026)
pdgfr	0.028 (0.124)	0.035 (0.100)	0.082 (0.219)	0.125 (0.183)	0.194 (0.222)	0.050 (0.155)	0.104 (0.186)
sensory	0.401 (0.310)	0.544 (0.162)	0.595 (0.177)	0.604 (0.219)	0.618 (0.173)	0.457 (0.294)	0.605 (0.216)
a2	0.322 (0.311)	0.428 (0.237)	0.405 (0.299)	0.540 (0.173)	0.527 (0.098)	0.518 (0.161)	0.451 (0.157)
Kdd-coil-1	0.515 (0.358)	0.649 (0.294)	0.666 (0.243)	0.662 (0.237)	0.579 (0.306)	0.613 (0.273)	0.637 (0.237)
triazines	0.042 (0.069)	0.133 (0.212)	0.148 (0.193)	0.171 (0.138)	0.157 (0.140)	0.063 (0.121)	0.123 (0.141)
airfoild	0.874 (0.108)	0.913 (0.047)	0.951 (0.032)	0.914 (0.052)	0.875 (0.094)	0.917 (0.050)	0.681 (0.320)
treasury	0.979 (0.009)	0.972 (0.014)	0.977 (0.009)	0.977 (0.009)	0.976 (0.008)	0.970 (0.027)	0.978 (0.008)
mortgage	0.983 (0.006)	0.978 (0.008)	0.983 (0.007)	0.981 (0.006)	0.981 (0.006)	0.894 (0.055)	0.983 (0.005)
debutanizer	0.853 (0.034)	0.891 (0.020)	0.885 (0.023)	0.786 (0.040)	0.721 (0.046)	0.890 (0.030)	0.842 (0.035)
fuelCons	0.918 (0.023)	0.906 (0.031)	0.923 (0.028)	0.902 (0.025)	0.903 (0.025)	0.884 (0.043)	0.918 (0.026)
heat	0.978 (0.002)	0.987 (0.002)	0.981 (0.002)	0.976 (0.003)	0.978 (0.002)	-	0.980 (0.002)
california	0.894 (0.007)	0.808 (0.008)	0.891 (0.006)	0.865 (0.009)	0.867 (0.008)	-	0.858 (0.005)
AvailPwr	0.962 (0.017)	0.825 (0.030)	0.977 (0.017)	0.963 (0.015)	0.967 (0.017)	0.913 (0.070)	0.972 (0.015)
cpuSm	0.512 (0.047)	0.515 (0.053)	0.505 (0.056)	0.490 (0.050)	0.454 (0.054)	0.512 (0.054)	0.497 (0.056)
compactiv	0.525 (0.055)	0.521 (0.043)	0.519 (0.057)	0.517 (0.056)	0.455 (0.055)	0.515 (0.047)	0.520 (0.047)
maxTorq	0.975 (0.012)	0.893 (0.041)	0.985 (0.010)	0.972 (0.013)	0.974 (0.013)	0.956 (0.043)	0.978 (0.014)
lungcancer-shedden	0.131 (0.280)	0.332 (0.362)	0.267 (0.326)	0.587 (0.193)	0.623 (0.051)	0.584 (0.235)	0.533 (0.296)
space-ga	0.768 (0.050)	0.763 (0.037)	0.754 (0.038)	0.771 (0.031)	0.775 (0.046)	0.723 (0.044)	0.762 (0.049)
ConcrStr	0.954 (0.028)	0.882 (0.062)	0.957 (0.027)	0.901 (0.086)	0.920 (0.050)	0.891 (0.054)	0.956 (0.030)
Accel	0.931 (0.024)	0.925 (0.027)	0.942 (0.021)	0.903 (0.069)	0.911 (0.026)	0.919 (0.031)	0.939 (0.020)

- Not Executed

Table B2: 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						
wine-quality	0.673 (0.027)	0.670 (0.028)	0.680 (0.031)	0.651 (0.024)	0.671 (0.027)	-	0.654 (0.031)
analcata-data-apnea3	0.151 (0.068)	0.158 (0.071)	0.137 (0.061)	0.153 (0.071)	0.128 (0.048)	0.165 (0.080)	0.151 (0.076)
meta	0.358 (0.128)	0.355 (0.127)	0.381 (0.102)	0.394 (0.097)	0.384 (0.124)	0.386 (0.086)	0.378 (0.087)
cocomo-numeric	0.268 (0.309)	0.298 (0.306)	0.244 (0.297)	0.242 (0.268)	0.330 (0.309)	0.311 (0.311)	0.251 (0.283)
Abalone	0.618 (0.019)	0.593 (0.022)	0.615 (0.020)	0.621 (0.016)	0.615 (0.023)	0.616 (0.024)	0.615 (0.023)
a3	0.401 (0.167)	0.413 (0.129)	0.364 (0.154)	0.403 (0.127)	0.434 (0.165)	0.402 (0.136)	0.419 (0.124)
forestFires	0.326 (0.067)	0.295 (0.056)	0.306 (0.067)	0.324 (0.056)	0.326 (0.074)	0.317 (0.084)	0.309 (0.047)
a1	0.628 (0.164)	0.645 (0.097)	0.645 (0.112)	0.620 (0.077)	0.613 (0.056)	0.598 (0.109)	0.641 (0.143)
a7	0.320 (0.080)	0.290 (0.118)	0.303 (0.093)	0.331 (0.140)	0.334 (0.094)	0.289 (0.129)	0.330 (0.129)
boston	0.870 (0.049)	0.831 (0.057)	0.886 (0.038)	0.843 (0.048)	0.858 (0.050)	0.836 (0.077)	0.881 (0.043)
pdgfr	0.103 (0.191)	0.188 (0.277)	0.151 (0.242)	0.187 (0.205)	0.140 (0.163)	0.109 (0.176)	0.126 (0.148)
sensory	0.586 (0.053)	0.563 (0.071)	0.587 (0.082)	0.599 (0.065)	0.618 (0.063)	0.582 (0.086)	0.601 (0.084)
a2	0.438 (0.261)	0.463 (0.182)	0.452 (0.221)	0.528 (0.120)	0.509 (0.098)	0.477 (0.161)	0.468 (0.144)
Kdd-coil-1	0.620 (0.238)	0.599 (0.238)	0.579 (0.217)	0.607 (0.218)	0.579 (0.220)	0.614 (0.232)	0.581 (0.232)
triazines	0.151 (0.194)	0.212 (0.235)	0.194 (0.197)	0.212 (0.234)	0.135 (0.112)	0.154 (0.155)	0.184 (0.178)
airfoild	0.950 (0.026)	0.940 (0.036)	0.947 (0.023)	0.934 (0.026)	0.950 (0.027)	0.948 (0.025)	0.833 (0.148)
treasury	0.969 (0.011)	0.962 (0.017)	0.972 (0.012)	0.969 (0.010)	0.966 (0.010)	0.965 (0.012)	0.970 (0.011)
mortgage	0.975 (0.008)	0.972 (0.013)	0.978 (0.008)	0.974 (0.007)	0.975 (0.007)	0.871 (0.080)	0.974 (0.008)
debutanizer	0.847 (0.040)	0.872 (0.028)	0.862 (0.033)	0.795 (0.057)	0.764 (0.044)	0.859 (0.032)	0.835 (0.038)
fuelCons	0.915 (0.027)	0.909 (0.027)	0.911 (0.027)	0.895 (0.028)	0.881 (0.034)	0.887 (0.047)	0.910 (0.025)
heat	0.974 (0.002)	0.984 (0.003)	0.973 (0.003)	0.970 (0.003)	0.974 (0.002)	-	0.973 (0.003)
california	0.849 (0.007)	0.738 (0.011)	0.846 (0.011)	0.817 (0.027)	0.849 (0.008)	-	0.809 (0.009)
AvailPwr	0.977 (0.017)	0.834 (0.045)	0.977 (0.017)	0.972 (0.021)	0.974 (0.020)	0.912 (0.072)	0.970 (0.020)
cpuSm	0.497 (0.053)	0.485 (0.049)	0.484 (0.039)	0.472 (0.048)	0.465 (0.047)	0.499 (0.045)	0.483 (0.051)
compactiv	0.503 (0.052)	0.488 (0.046)	0.515 (0.050)	0.487 (0.046)	0.470 (0.047)	0.504 (0.061)	0.509 (0.048)
maxTorq	0.977 (0.018)	0.932 (0.043)	0.980 (0.017)	0.976 (0.019)	0.978 (0.019)	0.968 (0.028)	0.976 (0.018)
lungcancer-shedden	0.581 (0.150)	0.465 (0.222)	0.526 (0.170)	0.574 (0.080)	0.596 (0.070)	0.576 (0.092)	0.529 (0.118)
space-ga	0.712 (0.048)	0.699 (0.046)	0.697 (0.036)	0.710 (0.033)	0.719 (0.042)	0.690 (0.035)	0.715 (0.044)
ConcrStr	0.935 (0.040)	0.876 (0.041)	0.947 (0.033)	0.903 (0.048)	0.895 (0.054)	0.878 (0.060)	0.914 (0.039)
Accel	0.929 (0.034)	0.911 (0.031)	0.931 (0.032)	0.880 (0.069)	0.876 (0.040)	0.906 (0.030)	0.924 (0.021)

- Not Executed

Table B3: 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						
wine-quality	0.579 (0.041)	0.589 (0.027)	0.596 (0.029)	0.613 (0.019)	0.591 (0.019)	-	0.605 (0.028)
analcata-data-apnea3	0.233 (0.082)	0.182 (0.063)	0.211 (0.062)	0.207 (0.107)	0.191 (0.076)	0.168 (0.081)	0.160 (0.088)
meta	0.265 (0.058)	0.259 (0.099)	0.249 (0.075)	0.238 (0.108)	0.267 (0.065)	0.264 (0.091)	0.262 (0.081)
cocomo-numeric	0.284 (0.353)	0.323 (0.376)	0.335 (0.374)	0.337 (0.383)	0.320 (0.367)	0.338 (0.383)	0.332 (0.375)
Abalone	0.614 (0.028)	0.603 (0.020)	0.629 (0.024)	0.588 (0.023)	0.611 (0.031)	0.597 (0.020)	0.609 (0.024)
a3	0.231 (0.104)	0.238 (0.116)	0.232 (0.098)	0.183 (0.127)	0.208 (0.075)	0.187 (0.114)	0.211 (0.127)
forestFires	0.386 (0.049)	0.335 (0.052)	0.325 (0.051)	0.287 (0.081)	0.298 (0.056)	0.289 (0.057)	0.275 (0.074)
a1	0.310 (0.072)	0.364 (0.094)	0.354 (0.061)	0.311 (0.060)	0.284 (0.086)	0.350 (0.060)	0.336 (0.086)
a7	0.209 (0.093)	0.202 (0.119)	0.201 (0.089)	0.190 (0.105)	0.205 (0.098)	0.192 (0.100)	0.179 (0.087)
boston	0.400 (0.102)	0.473 (0.096)	0.477 (0.134)	0.289 (0.161)	0.462 (0.131)	0.496 (0.093)	0.454 (0.128)
pdgfr	0.093 (0.192)	0.050 (0.108)	0.130 (0.261)	0.091 (0.142)	0.148 (0.185)	0.119 (0.218)	0.125 (0.231)
sensory	0.363 (0.055)	0.351 (0.058)	0.410 (0.061)	0.330 (0.048)	0.375 (0.057)	0.404 (0.055)	0.391 (0.055)
a2	0.213 (0.088)	0.239 (0.108)	0.241 (0.151)	0.184 (0.086)	0.222 (0.115)	0.236 (0.116)	0.228 (0.077)
Kdd-coil-1	0.188 (0.304)	0.606 (0.268)	0.664 (0.239)	0.381 (0.328)	0.659 (0.234)	0.596 (0.311)	0.432 (0.338)
triazines	0.070 (0.110)	0.206 (0.195)	0.191 (0.178)	0.186 (0.156)	0.126 (0.106)	0.067 (0.113)	0.174 (0.159)
airfoild	0.095 (0.031)	0.049 (0.027)	0.043 (0.030)	0.095 (0.030)	0.069 (0.032)	0.095 (0.031)	0.091 (0.030)
treasury	0.885 (0.057)	0.927 (0.070)	0.941 (0.043)	0.786 (0.155)	0.897 (0.055)	0.933 (0.036)	0.932 (0.037)
mortgage	0.905 (0.084)	0.955 (0.021)	0.958 (0.019)	0.848 (0.097)	0.936 (0.040)	0.936 (0.025)	0.935 (0.042)
debutanizer	0.676 (0.034)	0.732 (0.032)	0.739 (0.036)	0.701 (0.037)	0.646 (0.053)	0.734 (0.030)	0.720 (0.027)
fuelCons	0.159 (0.046)	0.181 (0.060)	0.172 (0.064)	0.094 (0.046)	0.190 (0.053)	0.141 (0.053)	0.168 (0.045)
heat	0.899 (0.036)	0.935 (0.016)	0.935 (0.017)	0.897 (0.019)	0.918 (0.019)	-	0.923 (0.027)
california	0.754 (0.021)	0.768 (0.010)	0.823 (0.007)	0.702 (0.037)	0.713 (0.007)	-	0.663 (0.168)
AvailPwr	0.854 (0.025)	0.820 (0.048)	0.880 (0.020)	0.849 (0.025)	0.857 (0.027)	0.814 (0.043)	0.862 (0.023)
cpuSm	0.141 (0.039)	0.108 (0.058)	0.105 (0.059)	0.145 (0.029)	0.116 (0.039)	0.148 (0.036)	0.141 (0.047)
compactiv	0.124 (0.041)	0.128 (0.053)	0.109 (0.059)	0.139 (0.039)	0.130 (0.046)	0.141 (0.035)	0.133 (0.036)
maxTorq	0.878 (0.030)	0.837 (0.047)	0.920 (0.027)	0.860 (0.041)	0.889 (0.030)	0.896 (0.028)	0.897 (0.035)
lungcancer-shedden	2.0e-05 (2.7e-11)	0.652 (0.188)	0.636 (0.240)	0.185 (0.296)	0.409 (0.326)	0.665 (0.115)	0.149 (0.311)
space-ga	0.039 (0.007)	0.040 (0.010)	0.039 (0.007)	0.039 (0.007)	0.039 (0.007)	0.039 (0.007)	0.039 (0.007)
ConcrStr	0.862 (0.205)	0.884 (0.039)	0.920 (0.034)	0.819 (0.159)	0.895 (0.052)	0.878 (0.050)	0.926 (0.021)
Accel	0.538 (0.135)	0.627 (0.053)	0.631 (0.041)	0.494 (0.097)	0.530 (0.067)	0.596 (0.061)	0.575 (0.069)

- Not Executed

Table B4: Mean and standard deviation of the **F1-score** metric obtained for each dataset considering **RF** technique. The best results are highlighted in bold.

	None	SMT	RO	RU	GN	SG	WERCS
Dataset	F1-score						
wine-quality	0.719 (0.017)	0.714 (0.020)	0.738 (0.019)	0.721 (0.018)	0.719 (0.018)	-	0.725 (0.020)
analcata-data-apnea3	0.171 (0.087)	0.167 (0.089)	0.196 (0.075)	0.201 (0.095)	0.192 (0.093)	0.184 (0.078)	0.157 (0.080)
meta	0.391 (0.119)	0.371 (0.106)	0.419 (0.085)	0.397 (0.088)	0.397 (0.102)	0.391 (0.098)	0.396 (0.091)
cocomo-numeric	0.326 (0.351)	0.320 (0.363)	0.355 (0.339)	0.371 (0.374)	0.337 (0.337)	0.329 (0.339)	0.313 (0.341)
Abalone	0.692 (0.022)	0.688 (0.022)	0.699 (0.021)	0.702 (0.022)	0.696 (0.020)	0.670 (0.018)	0.700 (0.020)
a3	0.434 (0.188)	0.447 (0.179)	0.463 (0.153)	0.506 (0.146)	0.484 (0.145)	0.495 (0.151)	0.489 (0.146)
forestFires	0.362 (0.064)	0.365 (0.049)	0.356 (0.058)	0.340 (0.080)	0.349 (0.059)	0.352 (0.053)	0.329 (0.089)
a1	0.616 (0.291)	0.676 (0.248)	0.701 (0.206)	0.719 (0.084)	0.681 (0.077)	0.723 (0.089)	0.677 (0.195)
a7	0.315 (0.157)	0.349 (0.157)	0.334 (0.163)	0.332 (0.150)	0.337 (0.158)	0.388 (0.146)	0.375 (0.153)
boston	0.893 (0.026)	0.869 (0.043)	0.893 (0.032)	0.871 (0.051)	0.892 (0.031)	0.870 (0.033)	0.889 (0.024)
pdgfr	0.014 (0.062)	0.057 (0.147)	0.082 (0.199)	0.131 (0.190)	0.229 (0.246)	1.6e-05 (5.0e-06)	0.054 (0.139)
sensory	0.317 (0.340)	0.601 (0.161)	0.593 (0.220)	0.468 (0.323)	0.597 (0.269)	0.303 (0.321)	0.617 (0.230)
a2	0.203 (0.301)	0.467 (0.279)	0.354 (0.311)	0.580 (0.116)	0.538 (0.096)	0.535 (0.168)	0.479 (0.196)
Kdd-coil-1	0.403 (0.382)	0.397 (0.374)	0.616 (0.325)	0.677 (0.238)	0.640 (0.231)	0.565 (0.299)	0.635 (0.281)
triazines	0.028 (0.047)	0.090 (0.134)	0.181 (0.262)	0.144 (0.134)	0.198 (0.178)	0.035 (0.055)	0.226 (0.236)
airfoild	0.818 (0.137)	0.869 (0.068)	0.935 (0.053)	0.857 (0.108)	0.799 (0.100)	0.807 (0.123)	0.559 (0.290)
treasury	0.979 (0.009)	0.977 (0.009)	0.977 (0.009)	0.978 (0.009)	0.980 (0.008)	0.975 (0.017)	0.977 (0.010)
mortgage	0.984 (0.007)	0.982 (0.005)	0.985 (0.006)	0.983 (0.006)	0.982 (0.005)	0.971 (0.035)	0.984 (0.008)
debutanizer	0.864 (0.028)	0.901 (0.025)	0.884 (0.029)	0.798 (0.031)	0.755 (0.031)	0.894 (0.028)	0.861 (0.031)
fuelCons	0.920 (0.024)	0.896 (0.027)	0.934 (0.027)	0.909 (0.038)	0.919 (0.023)	0.895 (0.045)	0.926 (0.033)
heat	0.981 (0.002)	0.987 (0.002)	0.982 (0.001)	0.980 (0.002)	0.981 (0.002)	-	0.982 (0.002)
california	0.897 (0.006)	0.824 (0.006)	0.896 (0.006)	0.878 (0.006)	0.880 (0.008)	-	0.859 (0.006)
AvailPwr	0.966 (0.014)	0.895 (0.071)	0.975 (0.019)	0.965 (0.015)	0.967 (0.023)	0.922 (0.074)	0.972 (0.016)
cpuSm	0.512 (0.050)	0.526 (0.057)	0.504 (0.048)	0.499 (0.046)	0.454 (0.035)	0.517 (0.053)	0.509 (0.051)
compactiv	0.527 (0.048)	0.512 (0.036)	0.524 (0.052)	0.516 (0.055)	0.471 (0.047)	0.528 (0.046)	0.526 (0.047)
maxTorq	0.978 (0.012)	0.911 (0.041)	0.986 (0.010)	0.978 (0.010)	0.979 (0.011)	0.949 (0.037)	0.980 (0.013)
lungcancer-shedden	0.044 (0.198)	0.389 (0.347)	0.220 (0.319)	0.588 (0.183)	0.638 (0.053)	0.555 (0.255)	0.479 (0.357)
space-ga	0.788 (0.044)	0.773 (0.043)	0.770 (0.037)	0.779 (0.042)	0.746 (0.180)	0.756 (0.055)	0.768 (0.045)
ConcrStr	0.958 (0.027)	0.902 (0.047)	0.958 (0.035)	0.931 (0.071)	0.942 (0.032)	0.886 (0.060)	0.962 (0.028)
Accel	0.939 (0.025)	0.928 (0.027)	0.946 (0.023)	0.923 (0.028)	0.922 (0.030)	0.918 (0.026)	0.944 (0.029)

- Not Executed

Table B5: 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						
wine-quality	0.151 (0.238)	0.241 (0.274)	0.528 (0.025)	0.537 (0.033)	0.537 (0.026)	-	0.571 (0.019)
analcata-data-apnea3	2.0e-05 (3.6e-11)	0.052 (0.095)	0.054 (0.095)	0.099 (0.132)	0.185 (0.060)	0.216 (0.072)	0.214 (0.079)
meta	2.0e-05 (1.3e-10)	0.417 (0.108)	0.416 (0.107)	0.419 (0.126)	0.384 (0.097)	0.413 (0.107)	0.423 (0.118)
cocomo-numeric	1.6e-05 (5.0e-06)	0.156 (0.241)	0.156 (0.240)	0.007 (0.022)	0.250 (0.267)	0.181 (0.265)	1.6e-05 (5.0e-06)
Abalone	0.179 (0.282)	0.633 (0.026)	0.652 (0.021)	0.600 (0.014)	0.648 (0.014)	0.600 (0.013)	0.640 (0.016)
a3	1.9e-05 (2.2e-06)	0.476 (0.149)	0.462 (0.141)	0.409 (0.229)	0.488 (0.129)	0.496 (0.140)	0.440 (0.214)
forestFires	2.0e-05 (5.4e-11)	0.403 (0.058)	0.394 (0.108)	0.098 (0.177)	0.375 (0.053)	0.391 (0.046)	0.329 (0.176)
a1	2.0e-05 (3.2e-11)	0.660 (0.050)	0.628 (0.156)	0.028 (0.124)	0.525 (0.272)	0.669 (0.045)	2.0e-05 (3.0e-11)
a7	2.0e-05 (1.1e-10)	0.338 (0.195)	0.411 (0.153)	0.307 (0.234)	0.373 (0.165)	0.389 (0.185)	0.388 (0.184)
boston	2.0e-05 (1.7e-11)	0.348 (0.323)	0.351 (0.326)	0.469 (0.278)	0.183 (0.288)	0.637 (0.023)	2.0e-05 (2.4e-11)
pdgfr	0.068 (0.183)	0.109 (0.211)	0.093 (0.214)	0.106 (0.200)	0.213 (0.268)	0.068 (0.183)	0.170 (0.275)
sensory	2.0e-05 (3.1e-11)	0.473 (0.261)	0.517 (0.212)	0.051 (0.158)	0.205 (0.264)	0.124 (0.256)	0.333 (0.287)
a2	2.0e-05 (1.1e-10)	0.523 (0.215)	0.487 (0.198)	0.520 (0.236)	0.539 (0.107)	0.568 (0.193)	0.029 (0.131)
Kdd-coil-1	1.9e-05 (3.1e-06)	1.9e-05 (3.1e-06)	0.488 (0.373)	0.400 (0.375)	0.358 (0.370)	0.667 (0.235)	1.9e-05 (3.1e-06)
triazines	0.040 (0.084)	0.182 (0.187)	0.120 (0.151)	0.135 (0.129)	0.170 (0.129)	0.040 (0.084)	0.111 (0.117)
airfoild	2.0e-05 (1.1e-11)	0.090 (0.120)	0.121 (0.118)	0.204 (0.049)	0.049 (0.104)	2.0e-05 (1.1e-11)	2.0e-05 (1.1e-11)
treasury	0.777 (0.039)	0.820 (0.026)	0.818 (0.025)	0.801 (0.022)	0.816 (0.025)	0.817 (0.024)	0.810 (0.030)
mortgage	0.834 (0.023)	0.868 (0.031)	0.870 (0.029)	0.853 (0.023)	0.869 (0.030)	0.868 (0.028)	0.865 (0.031)
debutanizer	0.794 (0.033)	0.772 (0.030)	0.773 (0.030)	0.732 (0.029)	0.680 (0.021)	0.768 (0.032)	0.750 (0.029)
fuelCons	0.668 (0.101)	0.786 (0.028)	0.786 (0.028)	0.627 (0.159)	0.668 (0.101)	0.668 (0.101)	0.784 (0.032)
heat	0.651 (0.225)	0.770 (0.012)	0.770 (0.011)	0.761 (0.010)	0.770 (0.011)	-	0.767 (0.014)
california	2.0e-05 (1.9e-12)	0.482 (0.329)	0.517 (0.313)	2.0e-05 (1.9e-12)	0.452 (0.341)	-	2.0e-05 (1.9e-12)
AvailPwr	0.725 (0.045)	0.796 (0.024)	0.812 (0.034)	0.784 (0.038)	0.811 (0.034)	0.803 (0.027)	0.784 (0.041)
cpuSm	0.143 (0.050)	0.384 (0.037)	0.388 (0.037)	0.236 (0.026)	0.301 (0.021)	0.143 (0.050)	0.330 (0.064)
compactiv	0.139 (0.042)	0.385 (0.029)	0.391 (0.031)	0.240 (0.019)	0.304 (0.015)	0.139 (0.042)	0.347 (0.050)
maxTorq	2.0e-05 (1.9e-11)	0.621 (0.215)	0.730 (0.052)	2.0e-05 (1.8e-11)	0.696 (0.187)	0.682 (0.032)	2.0e-05 (2.0e-11)
lungcancer-shedden	2.0e-05 (3.0e-11)	0.634 (0.052)	0.651 (0.061)	2.0e-05 (3.3e-11)	0.645 (0.084)	0.355 (0.333)	2.0e-05 (2.7e-11)
space-ga	2.0e-05 (2.0e-11)	0.647 (0.036)	0.645 (0.037)	0.336 (0.288)	0.099 (0.242)	2.0e-05 (2.0e-11)	0.614 (0.044)
ConcrStr	2.0e-05 (1.0e-11)	0.484 (0.450)	0.309 (0.436)	2.0e-05 (1.1e-11)	2.0e-05 (1.0e-11)	2.0e-05 (1.0e-11)	2.0e-05 (8.9e-12)
Accel	2.0e-05 (1.6e-11)	0.565 (0.197)	0.570 (0.199)	2.0e-05 (1.5e-11)	2.0e-05 (1.6e-11)	2.0e-05 (1.6e-11)	2.0e-05 (1.7e-11)

- Not Executed

Table B6: Mean and standard deviation of the **F1-score** metric obtained for each dataset considering **XG** technique. The best results are highlighted in bold.

	None	SMT	RO	RU	GN	SG	WERCS
Dataset	F1-score						
wine-quality	0.703 (0.018)	0.688 (0.029)	0.703 (0.025)	0.714 (0.019)	0.673 (0.017)	-	0.705 (0.017)
analcata-apnea3	0.178 (0.088)	0.192 (0.084)	0.178 (0.078)	0.191 (0.088)	0.162 (0.094)	0.172 (0.093)	0.180 (0.097)
meta	0.423 (0.095)	0.419 (0.074)	0.412 (0.093)	0.428 (0.100)	0.397 (0.080)	0.411 (0.102)	0.378 (0.107)
cocomo-numeric	0.307 (0.327)	0.315 (0.317)	0.277 (0.292)	0.311 (0.311)	0.324 (0.309)	0.269 (0.311)	0.339 (0.349)
Abalone	0.686 (0.020)	0.681 (0.018)	0.697 (0.021)	0.694 (0.020)	0.687 (0.021)	0.670 (0.021)	0.689 (0.020)
a3	0.405 (0.213)	0.455 (0.155)	0.419 (0.218)	0.492 (0.133)	0.469 (0.139)	0.468 (0.158)	0.460 (0.178)
forestFires	0.357 (0.051)	0.342 (0.043)	0.356 (0.054)	0.347 (0.069)	0.344 (0.065)	0.348 (0.068)	0.348 (0.058)
a1	0.599 (0.277)	0.615 (0.230)	0.623 (0.296)	0.649 (0.184)	0.667 (0.078)	0.647 (0.186)	0.674 (0.193)
a7	0.328 (0.150)	0.331 (0.148)	0.323 (0.170)	0.398 (0.122)	0.345 (0.129)	0.406 (0.138)	0.391 (0.113)
boston	0.885 (0.031)	0.880 (0.031)	0.880 (0.027)	0.873 (0.027)	0.878 (0.037)	0.872 (0.036)	0.869 (0.047)
pdgfr	0.120 (0.221)	0.139 (0.249)	0.087 (0.163)	0.145 (0.219)	0.170 (0.208)	0.120 (0.221)	0.162 (0.236)
sensory	0.561 (0.259)	0.551 (0.254)	0.637 (0.110)	0.629 (0.098)	0.672 (0.089)	0.616 (0.130)	0.564 (0.211)
a2	0.341 (0.301)	0.322 (0.286)	0.342 (0.252)	0.493 (0.177)	0.530 (0.118)	0.387 (0.277)	0.523 (0.133)
Kdd-coil-1	0.594 (0.269)	0.564 (0.303)	0.537 (0.330)	0.642 (0.235)	0.638 (0.230)	0.635 (0.231)	0.636 (0.231)
triazines	0.100 (0.162)	0.146 (0.177)	0.140 (0.164)	0.167 (0.187)	0.150 (0.150)	0.100 (0.162)	0.154 (0.174)
airfoild	0.768 (0.059)	0.758 (0.061)	0.887 (0.027)	0.793 (0.044)	0.768 (0.059)	0.768 (0.059)	0.340 (0.092)
treasury	0.974 (0.011)	0.976 (0.010)	0.977 (0.008)	0.974 (0.010)	0.975 (0.009)	0.968 (0.024)	0.977 (0.008)
mortgage	0.983 (0.005)	0.982 (0.006)	0.985 (0.003)	0.983 (0.004)	0.982 (0.007)	0.974 (0.025)	0.984 (0.006)
debutanizer	0.866 (0.028)	0.872 (0.029)	0.877 (0.022)	0.829 (0.045)	0.771 (0.050)	0.881 (0.022)	0.849 (0.031)
fuelCons	0.942 (0.019)	0.922 (0.030)	0.936 (0.023)	0.922 (0.023)	0.942 (0.019)	0.942 (0.019)	0.931 (0.020)
heat	0.988 (0.002)	0.987 (0.001)	0.989 (0.001)	0.988 (0.002)	0.988 (0.002)	-	0.988 (0.002)
california	0.902 (0.006)	0.842 (0.007)	0.899 (0.007)	0.878 (0.008)	0.889 (0.007)	-	0.883 (0.006)
AvailPwr	0.977 (0.015)	0.919 (0.070)	0.975 (0.019)	0.975 (0.016)	0.972 (0.013)	0.977 (0.015)	0.975 (0.014)
cpuSm	0.380 (0.045)	0.410 (0.046)	0.417 (0.042)	0.385 (0.029)	0.364 (0.050)	0.380 (0.045)	0.374 (0.048)
compactiv	0.412 (0.038)	0.413 (0.051)	0.426 (0.042)	0.410 (0.042)	0.366 (0.052)	0.412 (0.038)	0.420 (0.038)
maxTorq	0.987 (0.010)	0.912 (0.049)	0.985 (0.011)	0.986 (0.010)	0.987 (0.010)	0.987 (0.010)	0.988 (0.009)
lungcancer-shedden	0.252 (0.331)	0.388 (0.345)	0.326 (0.327)	0.587 (0.170)	0.634 (0.068)	0.478 (0.304)	0.493 (0.278)
space-ga	0.802 (0.050)	0.789 (0.050)	0.781 (0.040)	0.798 (0.041)	0.802 (0.050)	0.762 (0.049)	0.790 (0.058)
ConcrStr	0.966 (0.031)	0.899 (0.048)	0.961 (0.022)	0.946 (0.033)	0.966 (0.031)	0.966 (0.031)	0.963 (0.033)
Accel	0.957 (0.018)	0.924 (0.028)	0.961 (0.016)	0.950 (0.015)	0.957 (0.018)	0.957 (0.018)	0.958 (0.017)

- Not Executed

Table B7: Mean and standard deviation of the **SERA** metric obtained for each dataset considering **BG** technique. The best results are highlighted in bold.

	None	SMT	RO	RU	GN	SG	WERCS
Dataset	SERA						
wine-quality	168.872 (23.799)	179.340 (24.534)	163.611 (22.424)	167.715 (22.553)	161.213 (21.534)	-	155.867 (25.069)
analcata-data-apnea3	4.09e+7 (2.59e+7)	5.40e+7 (5.03e+7)	4.47e+7 (3.38e+7)	4.22e+7 (3.25e+7)	4.57e+7 (2.85e+7)	5.49e+7 (5.57e+7)	4.39e+7 (3.36e+7)
meta	3.02e+7 (5.79e+7)	3.13e+7 (5.81e+7)	3.11e+7 (5.96e+7)	3.07e+7 (5.77e+7)	3.06e+7 (5.88e+7)	3.19e+7 (5.81e+7)	3.16e+7 (5.97e+7)
cocomo-numeric	6.25e+5 (8.39e+5)	5.71e+5 (7.87e+5)	6.37e+5 (8.89e+5)	6.16e+5 (9.04e+5)	5.72e+5 (7.74e+5)	4.84e+5 (7.68e+5)	6.59e+5 (9.71e+5)
Abalone	1.49e+3 (291.523)	1.41e+3 (261.152)	1.44e+3 (261.087)	1.33e+3 (252.077)	1.46e+3 (227.332)	1.44e+3 (256.810)	1.26e+3 (239.667)
a3	695.971 (606.411)	606.923 (545.436)	641.783 (562.266)	453.541 (392.141)	371.377 (320.843)	502.537 (497.536)	467.681 (398.824)
forestFires	2.12e+5 (3.71e+5)	2.08e+5 (3.56e+5)	2.08e+5 (3.61e+5)	2.17e+5 (3.70e+5)	2.34e+5 (3.63e+5)	2.24e+5 (3.56e+5)	2.21e+5 (3.58e+5)
a1	3.50e+3 (2.27e+3)	2.88e+3 (1.71e+3)	3.50e+3 (2.07e+3)	2.73e+3 (1.95e+3)	2.23e+3 (1.17e+3)	2.95e+3 (2.05e+3)	2.82e+3 (2.04e+3)
a7	364.131 (272.566)	352.090 (246.561)	326.031 (247.297)	353.277 (252.685)	402.734 (236.138)	360.254 (263.233)	324.151 (250.466)
boston	314.509 (208.948)	353.977 (211.387)	305.724 (214.031)	292.545 (163.258)	288.141 (150.266)	424.425 (292.234)	229.805 (103.409)
pdgfr	0.203 (0.299)	0.143 (0.240)	0.167 (0.254)	0.092 (0.145)	0.066 (0.078)	0.185 (0.272)	0.147 (0.219)
sensory	15.571 (4.251)	20.495 (7.372)	15.032 (3.349)	14.222 (3.489)	14.448 (3.603)	15.524 (4.258)	14.583 (3.748)
a2	1.51e+3 (1.87e+3)	1.36e+3 (1.93e+3)	1.50e+3 (1.86e+3)	1.09e+3 (1.81e+3)	1.10e+3 (1.26e+3)	1.24e+3 (1.64e+3)	1.23e+3 (1.55e+3)
Kdd-coil-1	4.25e+3 (3.03e+3)	4.00e+3 (3.30e+3)	3.91e+3 (3.22e+3)	3.13e+3 (2.70e+3)	3.56e+3 (2.75e+3)	3.74e+3 (2.71e+3)	3.92e+3 (2.97e+3)
triazines	0.159 (0.153)	0.143 (0.131)	0.141 (0.111)	0.093 (0.097)	0.107 (0.129)	0.159 (0.169)	0.136 (0.108)
airfoild	4.12e+8 (7.37e+8)	2.09e+8 (2.01e+8)	8.40e+7 (4.63e+7)	1.68e+8 (9.62e+7)	3.15e+8 (2.39e+8)	2.19e+8 (2.85e+8)	3.64e+10 (5.34e+10)
treasury	3.380 (2.601)	6.815 (8.244)	3.637 (2.448)	3.990 (3.083)	3.575 (2.343)	8.620 (18.376)	3.493 (2.167)
mortgage	1.634 (1.017)	2.606 (1.823)	1.719 (1.047)	2.304 (1.234)	2.157 (1.710)	72.457 (49.684)	1.725 (0.887)
debutanizer	0.611 (0.268)	0.352 (0.159)	0.457 (0.255)	0.560 (0.237)	0.563 (0.145)	0.364 (0.162)	0.579 (0.275)
fuelCons	22.513 (17.626)	25.229 (19.265)	23.346 (18.343)	28.630 (17.824)	26.990 (14.471)	30.191 (21.937)	20.749 (15.059)
heat	2.04e+3 (467.028)	1.36e+3 (310.521)	1.66e+3 (211.586)	2.94e+3 (510.444)	2.12e+3 (420.035)	-	1.64e+3 (271.369)
california	2.49e+12 (2.75e+11)	4.12e+12 (3.17e+11)	2.34e+12 (2.03e+11)	2.06e+12 (1.52e+11)	2.16e+12 (1.89e+11)	-	3.26e+12 (2.74e+11)
AvailPwr	6.14e+3 (5.46e+3)	6.33e+4 (2.07e+4)	5.75e+3 (6.47e+3)	6.21e+3 (4.52e+3)	6.28e+3 (5.20e+3)	2.68e+4 (2.99e+4)	5.31e+3 (5.10e+3)
cpuSm	2.75e+3 (1.01e+3)	3.26e+3 (640.030)	2.65e+3 (951.150)	2.65e+3 (805.718)	2.84e+3 (1.40e+3)	2.71e+3 (850.399)	2.48e+3 (750.470)
compactiv	1.92e+3 (904.963)	2.68e+3 (553.653)	1.82e+3 (658.210)	1.85e+3 (672.277)	1.86e+3 (711.663)	1.87e+3 (810.169)	1.74e+3 (874.554)
maxTorq	1.15e+4 (1.37e+4)	1.05e+5 (6.42e+4)	5.85e+3 (7.07e+3)	1.30e+4 (1.52e+4)	9.54e+3 (1.09e+4)	3.44e+4 (5.95e+4)	1.18e+4 (1.52e+4)
lungcancer-shedden	145.232 (78.576)	137.921 (85.494)	153.763 (91.054)	97.649 (62.593)	83.849 (49.652)	110.262 (80.301)	90.214 (72.351)
space-ga	2.327 (1.627)	2.224 (1.447)	2.274 (1.450)	2.341 (1.385)	2.372 (1.675)	2.579 (1.690)	2.103 (1.424)
ConcrStr	818.436 (656.702)	1.91e+3 (1.57e+3)	682.042 (474.504)	1.07e+3 (699.995)	1.14e+3 (620.110)	1.82e+3 (1.40e+3)	777.675 (586.518)
Accel	41.496 (27.755)	49.894 (30.929)	45.913 (47.236)	66.193 (56.118)	52.755 (28.862)	55.061 (41.537)	35.940 (25.448)

- Not Executed

Table B8: Mean and standard deviation of the **SERA** metric obtained for each dataset considering **DT** technique. The best results are highlighted in bold.

	None	SMT	RO	RU	GN	SG	WERCS
Dataset	SERA						
wine-quality	233.126 (26.400)	253.906 (31.301)	232.772 (35.445)	260.900 (30.781)	242.792 (31.992)	-	253.316 (32.140)
analcata-data-apnea3	6.19e+7 (4.86e+7)	7.26e+7 (5.92e+7)	6.21e+7 (4.85e+7)	6.30e+7 (4.78e+7)	8.64e+7 (1.07e+8)	6.63e+7 (5.16e+7)	6.24e+7 (4.84e+7)
meta	3.12e+7 (6.04e+7)	3.68e+7 (6.22e+7)	3.17e+7 (5.99e+7)	3.06e+7 (5.86e+7)	3.12e+7 (5.89e+7)	3.83e+7 (7.76e+7)	3.75e+7 (6.30e+7)
cocomo-numeric	9.46e+5 (1.31e+6)	8.46e+5 (1.12e+6)	1.02e+6 (1.66e+6)	1.02e+6 (1.20e+6)	6.30e+5 (9.09e+5)	6.94e+5 (9.73e+5)	7.70e+5 (8.10e+5)
Abalone	2.24e+3 (361.426)	2.39e+3 (339.739)	2.27e+3 (369.517)	2.18e+3 (293.983)	2.24e+3 (419.044)	2.21e+3 (369.182)	2.15e+3 (391.934)
a3	933.764 (668.118)	855.123 (690.134)	916.195 (648.833)	821.685 (571.228)	741.725 (615.663)	763.442 (615.935)	731.563 (534.291)
forestFires	2.21e+5 (3.77e+5)	2.69e+5 (3.49e+5)	2.36e+5 (3.67e+5)	2.41e+5 (3.82e+5)	3.02e+5 (5.02e+5)	2.77e+5 (3.91e+5)	2.26e+5 (3.71e+5)
a1	4.31e+3 (2.82e+3)	4.57e+3 (2.55e+3)	4.83e+3 (2.68e+3)	4.56e+3 (2.49e+3)	3.68e+3 (1.83e+3)	4.81e+3 (2.54e+3)	4.02e+3 (2.44e+3)
a7	466.958 (357.232)	505.844 (368.849)	485.292 (323.564)	379.806 (264.927)	510.243 (387.502)	561.565 (375.525)	535.904 (378.760)
boston	454.589 (321.147)	783.787 (605.569)	450.346 (266.833)	453.775 (232.714)	516.389 (333.871)	727.488 (728.143)	424.556 (263.038)
pdgfr	0.191 (0.265)	0.226 (0.339)	0.204 (0.297)	0.193 (0.261)	0.154 (0.255)	0.198 (0.261)	0.240 (0.330)
sensory	20.710 (5.937)	29.270 (18.414)	21.161 (6.217)	22.000 (7.537)	21.417 (6.899)	24.401 (9.377)	22.375 (7.411)
a2	1.86e+3 (1.75e+3)	1.83e+3 (2.03e+3)	2.07e+3 (1.80e+3)	1.75e+3 (1.39e+3)	1.78e+3 (1.42e+3)	1.84e+3 (1.91e+3)	1.79e+3 (1.47e+3)
Kdd-coil-1	6.33e+3 (3.70e+3)	6.75e+3 (4.28e+3)	6.68e+3 (5.30e+3)	4.96e+3 (4.38e+3)	6.44e+3 (4.98e+3)	5.87e+3 (3.85e+3)	5.99e+3 (3.92e+3)
triazines	0.184 (0.166)	0.194 (0.194)	0.177 (0.118)	0.170 (0.223)	0.160 (0.114)	0.218 (0.187)	0.200 (0.160)
airfoild	8.46e+7 (2.12e+7)	1.30e+9 (3.70e+9)	9.79e+7 (4.11e+7)	1.47e+8 (5.94e+7)	8.53e+7 (2.71e+7)	8.44e+7 (2.22e+7)	5.50e+10 (6.48e+10)
treasury	7.197 (4.651)	21.470 (28.155)	6.057 (5.360)	5.657 (2.816)	7.022 (4.240)	14.456 (19.814)	6.418 (5.457)
mortgage	2.951 (1.573)	5.555 (9.226)	2.474 (1.436)	3.960 (1.796)	3.934 (2.532)	169.548 (137.157)	3.620 (1.990)
debutanizer	1.031 (0.412)	0.599 (0.409)	0.865 (0.445)	0.900 (0.385)	0.992 (0.473)	0.666 (0.386)	0.984 (0.525)
fuelCons	35.739 (25.768)	37.796 (25.595)	32.948 (24.242)	43.166 (21.065)	43.698 (19.264)	49.918 (46.261)	33.768 (21.571)
heat	2.57e+3 (684.151)	1.93e+3 (605.574)	2.81e+3 (848.421)	4.42e+3 (776.501)	2.47e+3 (563.286)	-	2.98e+3 (826.274)
california	3.65e+12 (3.26e+11)	8.53e+12 (5.54e+11)	3.91e+12 (2.70e+11)	3.82e+12 (3.71e+11)	3.63e+12 (3.45e+11)	-	4.39e+12 (3.18e+11)
AvailPwr	5.88e+3 (6.43e+3)	6.18e+4 (2.44e+4)	6.56e+3 (7.04e+3)	7.47e+3 (7.65e+3)	7.54e+3 (8.89e+3)	3.40e+4 (3.10e+4)	9.10e+3 (1.03e+4)
cpuSm	4.28e+3 (1.73e+3)	7.21e+3 (2.42e+3)	4.54e+3 (2.42e+3)	4.41e+3 (1.24e+3)	4.41e+3 (1.13e+3)	3.89e+3 (662.357)	4.55e+3 (2.01e+3)
compactiv	2.90e+3 (490.519)	7.29e+3 (2.76e+3)	2.88e+3 (1.51e+3)	3.38e+3 (2.00e+3)	3.67e+3 (2.08e+3)	3.23e+3 (1.57e+3)	3.36e+3 (2.03e+3)
maxTorq	2.00e+4 (2.95e+4)	8.32e+4 (6.89e+4)	1.14e+4 (1.54e+4)	1.81e+4 (2.19e+4)	1.80e+4 (2.77e+4)	3.54e+4 (5.49e+4)	1.75e+4 (2.10e+4)
lungcancer-shedden	183.928 (113.678)	190.787 (105.047)	196.766 (120.654)	157.544 (96.774)	166.312 (100.607)	172.181 (102.548)	188.315 (107.477)
space-ga	3.163 (1.816)	3.117 (1.674)	3.011 (1.457)	3.316 (1.306)	3.210 (1.898)	3.374 (1.736)	3.111 (1.586)
ConcrStr	1.27e+3 (1.32e+3)	2.09e+3 (1.26e+3)	965.798 (627.965)	1.58e+3 (910.978)	1.36e+3 (904.446)	2.08e+3 (1.42e+3)	1.27e+3 (789.912)
Accel	65.067 (80.188)	80.292 (68.728)	62.944 (50.179)	109.015 (88.555)	95.518 (39.417)	95.964 (73.156)	56.505 (30.951)

- Not Executed

Table B9: 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						
wine-quality	251.730 (35.396)	266.022 (49.424)	236.648 (31.691)	228.328 (30.684)	245.035 (27.075)	-	227.001 (35.288)
analcata-data-apnea3	4.63e+8 (3.99e+8)	4.32e+8 (3.76e+8)	4.33e+8 (3.78e+8)	4.68e+8 (4.05e+8)	4.56e+8 (3.96e+8)	4.42e+8 (3.84e+8)	4.39e+8 (3.84e+8)
meta	2.88e+7 (5.28e+7)	2.88e+7 (5.37e+7)	2.96e+7 (5.22e+7)	3.10e+7 (5.17e+7)	2.79e+7 (4.95e+7)	2.89e+7 (5.37e+7)	2.94e+7 (5.06e+7)
cocomo-numeric	6.98e+5 (1.12e+6)	7.36e+5 (1.17e+6)	6.46e+5 (1.05e+6)	6.73e+5 (1.12e+6)	7.50e+5 (1.19e+6)	6.74e+5 (1.10e+6)	7.08e+5 (1.19e+6)
Abalone	2.24e+3 (512.393)	2.19e+3 (338.432)	2.20e+3 (628.901)	2.58e+3 (492.390)	2.28e+3 (443.767)	2.25e+3 (459.315)	2.19e+3 (535.479)
a3	2.10e+7 (4.30e+7)	3.73e+6 (6.77e+6)	8.73e+6 (2.39e+7)	2.48e+7 (5.25e+7)	6.52e+6 (8.42e+6)	6.73e+6 (1.34e+7)	5.45e+6 (8.12e+6)
forestFires	2.02e+5 (3.71e+5)	1.93e+5 (3.59e+5)	1.90e+5 (3.51e+5)	1.96e+5 (3.63e+5)	1.91e+5 (3.54e+5)	1.88e+5 (3.43e+5)	1.89e+5 (3.52e+5)
a1	1.76e+6 (5.79e+6)	1.31e+5 (1.35e+5)	9.66e+4 (1.08e+5)	9.86e+5 (1.56e+6)	1.32e+6 (1.98e+6)	5.57e+4 (5.21e+4)	2.57e+5 (3.42e+5)
a7	1.84e+6 (1.79e+6)	5.25e+6 (9.57e+6)	1.01e+7 (3.31e+7)	2.62e+7 (4.26e+7)	2.50e+7 (7.70e+7)	8.46e+6 (3.09e+7)	1.02e+7 (1.48e+7)
boston	1.19e+5 (2.30e+5)	4.34e+4 (1.20e+5)	8.30e+4 (2.43e+5)	2.51e+8 (5.20e+8)	4.69e+4 (9.16e+4)	1.37e+4 (1.34e+4)	3.84e+5 (1.15e+6)
pdgfr	0.196 (0.312)	0.238 (0.460)	0.239 (0.382)	0.169 (0.262)	0.137 (0.193)	0.232 (0.421)	0.201 (0.268)
sensory	80.611 (21.588)	116.065 (32.201)	51.236 (15.896)	111.042 (31.504)	76.852 (25.839)	61.442 (20.460)	59.595 (15.868)
a2	4.81e+6 (6.81e+6)	8.17e+6 (2.28e+7)	6.31e+6 (1.14e+7)	2.28e+7 (4.22e+7)	1.80e+7 (3.16e+7)	6.53e+6 (1.44e+7)	3.77e+6 (6.05e+6)
Kdd-coil-1	4.78e+3 (3.78e+3)	3.22e+3 (2.73e+3)	3.15e+3 (2.88e+3)	5.48e+3 (5.45e+3)	3.06e+3 (2.53e+3)	3.47e+3 (3.42e+3)	3.88e+3 (3.19e+3)
triazines	0.354 (0.463)	0.147 (0.173)	0.147 (0.155)	0.187 (0.225)	0.150 (0.149)	0.304 (0.256)	0.185 (0.224)
airfoild	1.48e+11 (6.15e+10)	9.93e+10 (3.44e+10)	9.30e+10 (2.16e+10)	1.35e+11 (5.68e+10)	9.84e+10 (2.54e+10)	1.48e+11 (6.06e+10)	1.54e+11 (6.49e+10)
treasury	66.772 (53.507)	47.829 (117.536)	20.868 (22.070)	1.78e+3 (7.25e+3)	64.218 (52.480)	31.493 (35.274)	26.485 (26.338)
mortgage	96.469 (237.921)	17.173 (12.856)	14.712 (9.638)	164.677 (225.562)	32.042 (26.088)	24.072 (10.940)	23.309 (22.394)
debutanizer	2.523 (0.633)	0.894 (0.239)	0.833 (0.162)	1.437 (0.384)	1.148 (0.258)	0.747 (0.175)	1.030 (0.321)
fuelCons	2.61e+5 (7.08e+5)	4.30e+5 (5.94e+5)	1.61e+5 (1.47e+5)	1.32e+7 (3.17e+7)	6.53e+5 (1.18e+6)	3.70e+5 (7.87e+5)	4.46e+5 (8.63e+5)
heat	3.94e+4 (2.28e+4)	1.81e+4 (6.64e+3)	1.78e+4 (8.24e+3)	3.90e+4 (1.28e+4)	2.69e+4 (1.26e+4)	-	2.54e+4 (1.54e+4)
california	8.34e+12 (4.24e+11)	4.31e+12 (4.05e+11)	2.99e+12 (1.95e+11)	8.10e+12 (5.02e+11)	2.78e+12 (1.39e+11)	-	9.90e+12 (7.02e+11)
AvailPwr	3.48e+4 (1.13e+4)	5.31e+4 (4.52e+4)	2.44e+4 (6.97e+3)	1.77e+5 (6.06e+5)	4.36e+4 (7.31e+4)	6.68e+4 (6.69e+4)	5.58e+4 (6.37e+4)
cpuSm	4.15e+7 (3.29e+7)	4.83e+7 (6.81e+7)	5.25e+7 (4.89e+7)	3.57e+7 (3.29e+7)	4.14e+7 (4.94e+7)	5.13e+7 (5.49e+7)	5.13e+7 (5.17e+7)
compactiv	6.26e+7 (8.92e+7)	6.08e+7 (5.74e+7)	4.99e+7 (4.51e+7)	5.81e+7 (6.42e+7)	5.40e+7 (5.56e+7)	4.19e+7 (4.77e+7)	3.49e+7 (2.56e+7)
maxTorq	1.48e+5 (1.23e+5)	4.45e+5 (7.35e+5)	3.08e+5 (7.78e+5)	1.69e+5 (9.13e+4)	1.51e+5 (1.28e+5)	1.26e+5 (1.11e+5)	2.47e+5 (5.33e+5)
lungcancer-shedden	163.585 (79.142)	78.351 (87.101)	78.576 (87.861)	86.600 (62.315)	79.381 (80.404)	70.844 (86.043)	78.304 (55.880)
space-ga	3.63e+9 (1.00e+10)	1.35e+10 (3.06e+10)	4.16e+10 (1.54e+11)	4.88e+9 (5.60e+9)	1.42e+10 (3.76e+10)	1.20e+10 (4.53e+10)	1.16e+10 (3.66e+10)
ConcrStr	1.62e+3 (998.569)	1.40e+3 (504.816)	978.456 (355.385)	8.14e+3 (1.38e+4)	1.12e+3 (454.775)	1.29e+3 (513.390)	1.10e+3 (581.194)
Accel	8.17e+3 (1.83e+4)	4.38e+3 (1.45e+4)	4.53e+3 (1.11e+4)	7.41e+5 (2.87e+6)	3.06e+4 (5.11e+4)	4.35e+3 (9.09e+3)	8.39e+3 (1.96e+4)

- Not Executed

Table B10: Mean and standard deviation of the **SERA** metric obtained for each dataset considering **RF** technique. The best results are highlighted in bold.

Dataset	None	SMT	RO	RU	GN	SG	WERCS
Dataset	SERA						
wine-quality	158.269 (20.844)	164.345 (21.051)	152.749 (21.143)	155.611 (20.865)	147.955 (21.238)	-	143.371 (23.580)
analcata-data-apnea3	4.24e+7 (2.99e+7)	5.34e+7 (4.55e+7)	5.02e+7 (3.95e+7)	4.19e+7 (3.06e+7)	3.93e+7 (2.74e+7)	5.94e+7 (6.17e+7)	4.17e+7 (2.92e+7)
meta	3.05e+7 (5.90e+7)	3.06e+7 (5.88e+7)	3.03e+7 (5.84e+7)	3.06e+7 (5.88e+7)	3.01e+7 (5.81e+7)	3.09e+7 (5.85e+7)	3.11e+7 (5.97e+7)
cocomo-numeric	4.76e+5 (6.66e+5)	4.99e+5 (7.30e+5)	5.42e+5 (7.12e+5)	4.75e+5 (6.76e+5)	5.79e+5 (8.53e+5)	6.00e+5 (7.60e+5)	5.02e+5 (7.16e+5)
Abalone	1.40e+3 (274.230)	1.32e+3 (255.620)	1.32e+3 (265.965)	1.20e+3 (234.026)	1.32e+3 (249.592)	1.31e+3 (220.019)	1.17e+3 (215.395)
a3	671.573 (619.360)	577.613 (571.338)	628.792 (585.065)	428.915 (455.985)	386.627 (309.388)	478.054 (474.609)	410.569 (319.569)
forestFires	2.08e+5 (3.70e+5)	2.08e+5 (3.65e+5)	2.10e+5 (3.64e+5)	2.05e+5 (3.58e+5)	2.26e+5 (3.66e+5)	2.13e+5 (3.60e+5)	2.55e+5 (3.98e+5)
a1	3.32e+3 (2.28e+3)	2.98e+3 (2.02e+3)	3.02e+3 (2.12e+3)	2.36e+3 (1.59e+3)	2.30e+3 (1.44e+3)	2.24e+3 (1.46e+3)	2.84e+3 (1.85e+3)
a7	375.942 (268.286)	302.921 (206.242)	327.747 (264.496)	308.665 (198.025)	370.881 (259.358)	326.311 (213.636)	300.822 (231.188)
boston	284.809 (160.878)	340.333 (191.119)	267.037 (169.091)	298.977 (194.083)	255.231 (129.586)	283.325 (130.979)	236.625 (118.780)
pdgfr	0.183 (0.272)	0.148 (0.229)	0.166 (0.257)	0.090 (0.142)	0.039 (0.050)	0.174 (0.268)	0.155 (0.257)
sensory	14.218 (3.442)	16.424 (4.801)	14.164 (3.345)	13.930 (2.483)	14.333 (2.871)	14.509 (3.735)	14.731 (3.972)
a2	1.50e+3 (1.83e+3)	1.34e+3 (1.44e+3)	1.47e+3 (1.80e+3)	830.697 (1.04e+3)	952.670 (1.28e+3)	1.19e+3 (1.49e+3)	1.13e+3 (1.55e+3)
Kdd-coil-1	4.12e+3 (3.11e+3)	4.01e+3 (3.00e+3)	3.73e+3 (3.06e+3)	2.77e+3 (1.97e+3)	3.51e+3 (2.95e+3)	3.38e+3 (2.68e+3)	3.42e+3 (2.65e+3)
triazines	0.164 (0.165)	0.128 (0.101)	0.127 (0.102)	0.070 (0.054)	0.089 (0.089)	0.158 (0.151)	0.115 (0.082)
airfoild	1.64e+8 (1.55e+8)	1.67e+8 (1.69e+8)	1.17e+8 (1.35e+8)	1.46e+8 (1.51e+8)	1.71e+8 (2.29e+8)	1.44e+8 (1.58e+8)	4.92e+10 (6.58e+10)
treasury	3.129 (2.468)	3.693 (2.978)	3.334 (2.034)	3.084 (2.193)	3.082 (2.040)	5.715 (10.982)	3.594 (2.509)
mortgage	1.388 (0.834)	1.618 (0.699)	1.306 (0.772)	2.181 (1.163)	1.755 (0.780)	13.973 (40.910)	1.597 (1.551)
debutanizer	0.543 (0.259)	0.328 (0.201)	0.428 (0.231)	0.427 (0.126)	0.430 (0.126)	0.323 (0.179)	0.469 (0.245)
fuelCons	20.297 (17.493)	25.961 (19.226)	20.891 (17.879)	23.203 (11.429)	23.587 (16.081)	28.325 (20.699)	19.398 (13.448)
heat	1.50e+3 (261.512)	1.11e+3 (207.061)	1.37e+3 (126.230)	2.06e+3 (294.830)	1.52e+3 (275.191)	-	1.37e+3 (261.020)
california	2.31e+12 (1.97e+11)	3.56e+12 (2.36e+11)	2.21e+12 (1.92e+11)	1.87e+12 (1.15e+11)	1.94e+12 (1.73e+11)	-	3.18e+12 (2.53e+11)
AvailPwr	5.05e+3 (4.10e+3)	3.41e+4 (3.31e+4)	6.24e+3 (6.51e+3)	5.70e+3 (4.52e+3)	7.27e+3 (6.83e+3)	2.56e+4 (3.44e+4)	5.50e+3 (5.09e+3)
cpuSm	2.49e+3 (737.995)	2.63e+3 (470.824)	2.38e+3 (517.649)	2.45e+3 (566.625)	2.33e+3 (578.115)	2.46e+3 (679.365)	2.11e+3 (522.044)
compactiv	1.68e+3 (578.302)	2.18e+3 (531.017)	1.69e+3 (650.069)	1.68e+3 (584.005)	1.83e+3 (1.10e+3)	1.69e+3 (615.122)	1.61e+3 (735.972)
maxTorq	8.35e+3 (1.06e+4)	7.52e+4 (6.45e+4)	5.70e+3 (7.68e+3)	8.78e+3 (1.03e+4)	7.84e+3 (1.06e+4)	3.55e+4 (4.21e+4)	8.79e+3 (1.19e+4)
lungcancer-shedden	142.075 (79.931)	133.638 (83.628)	137.651 (82.131)	87.861 (71.954)	79.861 (58.844)	113.287 (73.463)	94.541 (65.151)
space-ga	2.216 (1.639)	2.106 (1.422)	2.113 (1.422)	2.234 (1.543)	2.225 (1.648)	2.308 (1.594)	1.999 (1.357)
ConcrStr	738.360 (608.002)	1.69e+3 (1.22e+3)	700.004 (537.575)	979.690 (778.096)	823.348 (537.907)	1.79e+3 (1.10e+3)	783.189 (637.112)
Accel	35.217 (21.882)	43.940 (25.129)	37.483 (36.235)	46.396 (31.689)	45.276 (23.615)	53.114 (28.081)	37.088 (38.245)

- Not Executed

Table B11: 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						
wine-quality	333.768 (23.354)	343.727 (22.759)	310.215 (31.306)	317.616 (23.519)	326.992 (33.543)	-	271.758 (28.562)
analcata-data-apnea3	4.80e+8 (4.11e+8)	4.73e+8 (4.07e+8)	4.73e+8 (4.07e+8)	4.73e+8 (4.06e+8)	4.41e+8 (3.87e+8)	4.55e+8 (3.96e+8)	4.58e+8 (3.98e+8)
meta	3.11e+7 (5.95e+7)	3.08e+7 (5.92e+7)	3.09e+7 (5.93e+7)	3.09e+7 (5.93e+7)	3.06e+7 (5.89e+7)	3.08e+7 (5.91e+7)	3.09e+7 (5.93e+7)
cocomo-numeric	2.91e+6 (3.64e+6)	1.64e+6 (2.36e+6)	1.64e+6 (2.35e+6)	1.98e+6 (2.61e+6)	1.11e+6 (1.42e+6)	1.67e+6 (2.34e+6)	2.58e+6 (3.39e+6)
Abalone	2.59e+3 (468.656)	2.01e+3 (365.337)	2.10e+3 (382.955)	2.16e+3 (276.973)	1.75e+3 (318.935)	1.72e+3 (231.149)	1.70e+3 (322.539)
a3	1.02e+3 (693.480)	560.151 (533.145)	568.186 (552.599)	537.100 (524.177)	330.435 (276.240)	401.620 (405.692)	484.059 (449.930)
forestFires	2.16e+5 (3.82e+5)	2.04e+5 (3.72e+5)	2.05e+5 (3.73e+5)	2.07e+5 (3.76e+5)	1.92e+5 (3.60e+5)	2.00e+5 (3.69e+5)	2.03e+5 (3.71e+5)
a1	7.89e+3 (3.87e+3)	1.91e+3 (1.36e+3)	1.92e+3 (1.32e+3)	3.07e+3 (2.22e+3)	1.86e+3 (1.19e+3)	1.63e+3 (1.01e+3)	3.58e+3 (2.44e+3)
a7	583.077 (427.213)	454.835 (383.786)	455.077 (368.074)	414.944 (364.477)	297.549 (227.816)	350.567 (301.746)	358.781 (309.926)
boston	3.08e+3 (821.177)	2.56e+3 (1.85e+3)	2.57e+3 (1.83e+3)	929.075 (372.266)	2.09e+3 (1.39e+3)	784.456 (252.141)	2.18e+3 (793.045)
pdgfr	0.158 (0.262)	0.161 (0.258)	0.177 (0.301)	0.091 (0.157)	0.077 (0.123)	0.158 (0.262)	0.166 (0.273)
sensory	20.637 (4.890)	21.064 (4.786)	19.761 (4.971)	20.826 (4.347)	21.061 (4.977)	21.576 (5.141)	20.105 (4.671)
a2	2.29e+3 (1.92e+3)	1.06e+3 (1.40e+3)	1.12e+3 (1.51e+3)	821.152 (1.11e+3)	690.717 (831.500)	828.615 (1.26e+3)	1.24e+3 (1.47e+3)
Kdd-coil-1	9.09e+3 (5.69e+3)	5.99e+3 (5.06e+3)	3.50e+3 (3.14e+3)	2.43e+3 (1.44e+3)	3.45e+3 (3.05e+3)	3.18e+3 (2.66e+3)	4.95e+3 (3.48e+3)
triazines	0.215 (0.215)	0.191 (0.188)	0.181 (0.174)	0.124 (0.116)	0.127 (0.104)	0.215 (0.215)	0.164 (0.174)
airfoild	2.05e+11 (5.24e+10)	1.60e+11 (4.05e+10)	1.59e+11 (4.05e+10)	1.55e+11 (3.97e+10)	1.59e+11 (4.06e+10)	2.05e+11 (5.24e+10)	2.05e+11 (5.20e+10)
treasury	198.348 (65.025)	119.603 (27.824)	119.686 (29.701)	123.919 (23.971)	120.664 (26.630)	119.952 (25.614)	122.386 (33.730)
mortgage	88.888 (21.982)	66.919 (17.684)	64.755 (17.220)	66.002 (15.424)	64.592 (17.497)	66.196 (17.737)	60.692 (17.012)
debutanizer	1.641 (0.416)	0.575 (0.187)	0.560 (0.177)	0.736 (0.193)	0.639 (0.142)	0.559 (0.170)	0.725 (0.185)
fuelCons	139.886 (38.858)	87.651 (22.755)	92.083 (25.609)	151.222 (36.779)	139.886 (38.858)	139.886 (38.858)	90.033 (25.447)
heat	2.57e+5 (4.76e+4)	1.03e+5 (1.86e+4)	1.03e+5 (1.88e+4)	1.09e+5 (2.44e+4)	1.03e+5 (1.95e+4)	-	1.22e+5 (2.82e+4)
california	1.92e+13 (7.97e+11)	2.83e+12 (6.15e+10)	2.83e+12 (6.15e+10)	2.99e+12 (1.05e+11)	2.83e+12 (6.09e+10)	-	1.69e+13 (7.28e+11)
AvailPwr	1.24e+5 (4.22e+4)	6.39e+4 (1.71e+4)	6.34e+4 (1.56e+4)	7.52e+4 (2.47e+4)	6.65e+4 (1.68e+4)	5.98e+4 (1.57e+4)	8.44e+4 (2.48e+4)
cpuSm	2.52e+4 (2.81e+3)	1.26e+4 (1.51e+3)	1.19e+4 (1.48e+3)	1.49e+4 (2.09e+3)	1.12e+4 (909.395)	2.52e+4 (2.81e+3)	1.13e+4 (1.89e+3)
compactiv	2.52e+4 (3.55e+3)	1.27e+4 (1.62e+3)	1.20e+4 (1.53e+3)	1.48e+4 (2.16e+3)	1.13e+4 (905.854)	2.52e+4 (3.55e+3)	1.15e+4 (1.84e+3)
maxTorq	1.17e+6 (3.94e+5)	3.94e+5 (3.98e+5)	3.12e+5 (1.57e+5)	4.64e+5 (2.00e+5)	3.34e+5 (1.68e+5)	3.03e+5 (1.31e+5)	1.05e+6 (3.88e+5)
lungcancer-shedden	216.189 (101.847)	61.105 (48.943)	58.779 (48.820)	94.963 (68.303)	57.473 (46.105)	136.988 (121.399)	68.969 (50.040)
space-ga	4.191 (2.088)	4.012 (1.671)	3.945 (1.699)	3.867 (2.047)	4.314 (2.032)	4.191 (2.088)	3.454 (1.782)
ConcrStr	9.27e+3 (3.45e+3)	2.26e+3 (1.14e+3)	2.41e+3 (1.05e+3)	9.09e+3 (3.36e+3)	9.27e+3 (3.45e+3)	9.27e+3 (3.45e+3)	4.53e+3 (1.96e+3)
Accel	863.503 (397.802)	441.161 (261.213)	445.004 (259.265)	844.580 (389.164)	863.503 (397.802)	863.503 (397.802)	690.074 (362.646)

- Not Executed

Table B12: Mean and standard deviation of the **SERA** metric obtained for each dataset considering **XG** technique. The best results are highlighted in bold.

	None	SMT	RO	RU	GN	SG	WERCS
Dataset	SERA						
wine-quality	162.548 (21.663)	175.156 (26.725)	163.583 (19.890)	162.814 (23.443)	170.732 (25.283)	-	152.714 (22.441)
analcata-data-apnea3	5.10e+7 (5.06e+7)	5.55e+7 (5.89e+7)	5.20e+7 (5.10e+7)	5.05e+7 (5.05e+7)	4.30e+7 (3.09e+7)	6.36e+7 (7.21e+7)	5.14e+7 (5.02e+7)
meta	3.05e+7 (5.91e+7)	3.04e+7 (5.87e+7)	3.00e+7 (5.80e+7)	3.02e+7 (5.86e+7)	2.97e+7 (5.74e+7)	3.00e+7 (5.79e+7)	2.93e+7 (5.68e+7)
cocomo-numeric	5.83e+5 (8.08e+5)	4.16e+5 (5.19e+5)	7.97e+5 (1.14e+6)	6.69e+5 (8.84e+5)	6.48e+5 (9.39e+5)	7.98e+5 (1.28e+6)	6.03e+5 (1.01e+6)
Abalone	1.47e+3 (278.466)	1.46e+3 (281.623)	1.44e+3 (284.432)	1.29e+3 (214.803)	1.39e+3 (252.612)	1.40e+3 (248.738)	1.25e+3 (228.392)
a3	725.359 (683.132)	695.334 (581.012)	711.748 (667.489)	512.210 (547.348)	529.464 (420.796)	587.544 (618.490)	502.438 (408.770)
forestFires	2.32e+5 (3.73e+5)	2.18e+5 (3.73e+5)	2.31e+5 (3.70e+5)	2.13e+5 (3.43e+5)	2.79e+5 (3.52e+5)	2.54e+5 (3.72e+5)	2.44e+5 (3.80e+5)
a1	4.14e+3 (2.80e+3)	4.04e+3 (2.78e+3)	3.95e+3 (2.72e+3)	2.85e+3 (1.41e+3)	2.36e+3 (1.30e+3)	3.51e+3 (2.48e+3)	3.33e+3 (2.64e+3)
a7	318.630 (256.897)	300.656 (262.346)	315.569 (223.079)	257.519 (242.438)	358.734 (260.348)	290.389 (265.099)	283.826 (254.439)
boston	275.311 (126.634)	279.685 (122.798)	299.360 (148.747)	298.862 (131.818)	247.889 (128.224)	302.370 (139.504)	285.520 (105.402)
pdgfr	0.161 (0.240)	0.157 (0.254)	0.172 (0.259)	0.210 (0.299)	0.065 (0.080)	0.161 (0.240)	0.174 (0.316)
sensory	15.138 (4.408)	15.484 (4.324)	14.879 (3.893)	14.184 (2.758)	14.366 (2.946)	15.020 (4.395)	15.568 (3.659)
a2	1.65e+3 (1.88e+3)	1.63e+3 (1.90e+3)	1.65e+3 (1.82e+3)	1.18e+3 (825.469)	1.26e+3 (1.35e+3)	1.50e+3 (1.91e+3)	1.47e+3 (1.64e+3)
Kdd-coil-1	4.55e+3 (3.12e+3)	4.58e+3 (3.36e+3)	4.94e+3 (3.53e+3)	4.27e+3 (3.18e+3)	3.90e+3 (3.17e+3)	4.01e+3 (2.81e+3)	4.23e+3 (3.40e+3)
triazines	0.147 (0.124)	0.137 (0.103)	0.144 (0.114)	0.098 (0.070)	0.097 (0.066)	0.147 (0.124)	0.153 (0.140)
airfoild	2.01e+8 (1.89e+8)	2.36e+8 (1.84e+8)	6.78e+7 (2.44e+7)	1.70e+8 (1.21e+8)	2.01e+8 (1.89e+8)	2.01e+8 (1.89e+8)	8.46e+10 (4.25e+10)
treasury	4.212 (3.182)	3.755 (3.946)	3.384 (1.804)	4.635 (2.780)	3.828 (2.601)	11.172 (22.579)	3.109 (1.864)
mortgage	1.397 (0.589)	1.966 (1.052)	1.295 (0.505)	1.652 (0.693)	1.853 (0.897)	5.905 (15.983)	1.434 (0.803)
debutanizer	0.508 (0.240)	0.470 (0.252)	0.435 (0.227)	0.474 (0.193)	0.532 (0.226)	0.365 (0.219)	0.506 (0.221)
fuelCons	15.208 (14.111)	19.516 (15.766)	15.329 (12.246)	21.103 (10.435)	15.208 (14.111)	15.208 (14.111)	16.488 (12.574)
heat	641.616 (171.346)	855.052 (136.633)	715.683 (111.692)	806.521 (189.633)	641.616 (171.346)	-	671.004 (173.617)
california	2.09e+12 (2.09e+11)	3.18e+12 (2.74e+11)	1.91e+12 (2.28e+11)	1.90e+12 (1.53e+11)	1.92e+12 (1.54e+11)	-	2.57e+12 (2.39e+11)
AvailPwr	4.72e+3 (5.28e+3)	2.58e+4 (2.53e+4)	6.06e+3 (6.48e+3)	5.19e+3 (5.48e+3)	5.48e+3 (5.63e+3)	4.72e+3 (5.28e+3)	5.41e+3 (5.15e+3)
cpuSm	2.46e+3 (1.48e+3)	2.89e+3 (1.28e+3)	2.57e+3 (1.76e+3)	2.50e+3 (1.21e+3)	2.69e+3 (1.46e+3)	2.46e+3 (1.48e+3)	2.47e+3 (1.51e+3)
compactiv	1.82e+3 (1.75e+3)	2.28e+3 (1.23e+3)	1.93e+3 (1.90e+3)	1.94e+3 (1.87e+3)	2.05e+3 (1.60e+3)	1.82e+3 (1.75e+3)	1.83e+3 (1.74e+3)
maxTorq	4.63e+3 (7.48e+3)	7.17e+4 (6.47e+4)	6.85e+3 (1.10e+4)	5.66e+3 (7.62e+3)	4.63e+3 (7.48e+3)	4.63e+3 (7.48e+3)	4.73e+3 (7.45e+3)
lungcancer-shedden	152.142 (82.344)	141.510 (81.452)	153.980 (72.360)	119.645 (74.909)	91.433 (76.893)	134.401 (103.893)	113.055 (68.296)
space-ga	1.790 (1.212)	1.871 (1.173)	1.916 (1.204)	1.875 (1.335)	1.790 (1.212)	1.934 (1.176)	1.782 (1.116)
ConcrStr	602.890 (583.103)	1.57e+3 (919.629)	649.416 (636.984)	819.033 (521.668)	602.890 (583.103)	602.890 (583.103)	564.488 (445.784)
Accel	23.427 (12.015)	53.070 (29.027)	23.964 (15.465)	31.313 (12.923)	23.427 (12.015)	23.427 (12.015)	25.530 (13.216)

- Not Executed

Table B13: Mean and standard deviation of the **RMSE** metric obtained for each dataset considering **BG** technique. The best results are highlighted in bold.

	None	SMT	RO	RU	GN	SG	WERCS
Dataset	RMSE						
wine-quality	0.625 (0.027)	0.639 (0.029)	0.630 (0.030)	0.681 (0.027)	0.691 (0.026)	-	0.706 (0.055)
analcata-data-apnea3	934.411 (284.644)	1.04e+3 (433.894)	958.421 (350.448)	968.845 (337.771)	1.03e+3 (333.489)	1.07e+3 (435.881)	952.934 (337.666)
meta	452.869 (621.019)	488.689 (617.394)	465.488 (627.909)	488.165 (637.912)	489.279 (609.543)	517.756 (603.203)	527.102 (613.911)
cocomo-numeric	270.148 (249.115)	261.383 (218.926)	268.435 (262.849)	273.377 (243.179)	280.661 (208.584)	264.979 (206.717)	269.700 (244.506)
Abalone	2.391 (0.138)	2.466 (0.135)	2.425 (0.146)	2.577 (0.117)	2.782 (0.123)	2.892 (0.222)	2.790 (0.159)
a3	7.593 (1.904)	7.785 (1.856)	8.124 (2.229)	9.964 (1.848)	10.805 (1.572)	8.936 (1.764)	10.735 (2.379)
forestFires	60.597 (41.809)	64.575 (38.773)	64.815 (42.467)	71.149 (43.061)	89.718 (43.512)	86.888 (44.479)	81.012 (39.250)
al	17.311 (4.504)	17.819 (3.313)	18.622 (4.131)	21.517 (5.406)	28.542 (6.474)	21.317 (4.801)	21.383 (3.709)
a7	5.046 (1.336)	5.320 (1.363)	5.121 (1.470)	6.534 (1.855)	6.819 (1.511)	6.148 (1.650)	6.604 (1.407)
boston	3.629 (0.507)	3.963 (0.783)	3.623 (0.593)	4.036 (0.637)	3.939 (0.604)	4.591 (1.245)	3.954 (0.598)
pdgfr	0.177 (0.084)	0.175 (0.069)	0.176 (0.078)	0.264 (0.069)	0.328 (0.098)	0.174 (0.079)	0.238 (0.077)
sensory	0.748 (0.063)	0.887 (0.129)	0.781 (0.049)	0.773 (0.060)	0.783 (0.063)	0.760 (0.070)	0.808 (0.072)
a2	10.340 (3.730)	11.137 (3.472)	11.166 (3.584)	16.666 (3.553)	23.503 (5.504)	13.554 (3.551)	14.837 (3.950)
Kdd-coil-1	15.472 (2.939)	15.508 (3.514)	15.652 (3.550)	22.974 (6.071)	18.263 (3.420)	19.136 (3.233)	19.369 (2.621)
triazines	0.119 (0.031)	0.127 (0.034)	0.131 (0.028)	0.185 (0.031)	0.215 (0.042)	0.118 (0.035)	0.150 (0.031)
airfoild	2.33e+3 (836.887)	2.94e+3 (1.24e+3)	1.82e+3 (201.778)	3.11e+3 (1.06e+3)	2.31e+3 (431.236)	2.12e+3 (521.151)	1.06e+4 (1.20e+4)
treasury	0.240 (0.056)	0.289 (0.107)	0.250 (0.050)	0.265 (0.060)	0.256 (0.053)	0.301 (0.168)	0.270 (0.054)
mortgage	0.151 (0.031)	0.181 (0.044)	0.159 (0.034)	0.207 (0.053)	0.187 (0.054)	0.764 (0.381)	0.187 (0.033)
debutanizer	0.072 (0.008)	0.070 (0.006)	0.070 (0.008)	0.129 (0.021)	0.180 (0.042)	0.075 (0.009)	0.092 (0.014)
fuelCons	0.474 (0.104)	0.495 (0.113)	0.501 (0.111)	0.624 (0.089)	0.635 (0.113)	0.563 (0.157)	0.546 (0.111)
heat	2.284 (0.155)	2.119 (0.173)	2.222 (0.091)	3.057 (0.169)	2.356 (0.269)	-	2.453 (0.274)
california	5.11e+4 (1.94e+3)	7.39e+4 (2.83e+3)	5.24e+4 (1.99e+3)	7.27e+4 (2.07e+3)	7.10e+4 (2.09e+3)	-	5.63e+4 (2.04e+3)
AvailPwr	6.209 (2.275)	18.947 (2.912)	5.940 (2.615)	6.992 (1.843)	6.920 (2.096)	11.074 (6.942)	6.308 (2.122)
cpuSm	2.999 (0.205)	3.179 (0.135)	3.020 (0.191)	3.212 (0.265)	3.204 (0.271)	3.001 (0.184)	3.467 (0.282)
compactiv	2.591 (0.205)	2.804 (0.158)	2.570 (0.158)	2.656 (0.185)	2.673 (0.176)	2.583 (0.193)	2.837 (0.228)
maxTorq	8.251 (3.734)	23.761 (8.739)	6.295 (3.052)	9.988 (4.228)	7.587 (3.626)	11.574 (9.771)	8.088 (4.406)
lungcancer-shedden	2.731 (0.346)	2.903 (0.395)	2.953 (0.352)	3.971 (0.578)	5.270 (0.506)	3.204 (0.428)	3.311 (0.438)
space-ga	0.120 (0.019)	0.126 (0.019)	0.124 (0.016)	0.130 (0.015)	0.122 (0.021)	0.131 (0.021)	0.136 (0.015)
ConcrStr	5.103 (0.684)	6.143 (1.275)	5.120 (0.781)	9.766 (10.132)	6.966 (2.051)	6.704 (1.552)	6.054 (0.817)
Accel	0.818 (0.114)	0.886 (0.138)	0.834 (0.133)	1.430 (1.620)	1.183 (0.349)	0.936 (0.191)	0.848 (0.119)

^{*} Not Executed

Table B14: Mean and standard deviation of the **RMSE** metric obtained for each dataset considering **DT** technique. The best results are highlighted in bold.

	None	SMT	RO	RU	GN	SG	WERCs
Dataset	RMSE						
wine-quality	0.815 (0.035)	0.840 (0.040)	0.807 (0.033)	0.941 (0.029)	0.826 (0.064)	-	0.896 (0.045)
analcata-data-apnea3	1.14e+3 (426.100)	1.24e+3 (460.231)	1.14e+3 (441.099)	1.20e+3 (401.258)	1.28e+3 (667.053)	1.21e+3 (454.092)	1.17e+3 (419.742)
meta	458.459 (633.425)	530.721 (674.791)	480.039 (624.276)	470.533 (618.539)	471.325 (622.907)	532.493 (683.903)	612.195 (733.334)
cocomo-numeric	339.048 (291.051)	340.909 (291.051)	341.365 (311.201)	365.503 (283.673)	309.633 (210.697)	303.405 (235.415)	326.232 (256.659)
Abalone	3.172 (0.173)	3.452 (0.176)	3.197 (0.134)	3.488 (0.160)	3.193 (0.182)	3.228 (0.309)	3.417 (0.258)
a3	9.911 (2.590)	10.685 (3.333)	10.323 (2.626)	12.282 (3.428)	12.906 (2.534)	11.301 (2.388)	12.783 (3.517)
forestFires	72.422 (46.403)	88.353 (54.652)	92.041 (60.555)	91.071 (51.103)	97.667 (58.512)	99.675 (64.410)	79.076 (46.480)
a1	22.254 (4.857)	22.881 (3.567)	23.070 (5.093)	27.603 (5.263)	32.842 (5.986)	26.921 (4.696)	25.295 (5.229)
a7	6.873 (1.760)	6.523 (1.988)	6.469 (1.476)	6.834 (2.222)	8.318 (2.249)	7.433 (1.826)	7.450 (2.176)
boston	4.482 (0.806)	5.257 (1.343)	4.354 (0.697)	5.523 (2.058)	4.867 (0.951)	5.410 (1.792)	4.932 (0.842)
pdgfr	0.208 (0.067)	0.233 (0.079)	0.200 (0.084)	0.345 (0.107)	0.369 (0.092)	0.209 (0.066)	0.316 (0.099)
sensory	0.984 (0.071)	1.075 (0.199)	0.961 (0.088)	1.025 (0.099)	1.036 (0.095)	1.087 (0.254)	1.032 (0.102)
a2	11.814 (4.225)	13.961 (5.394)	14.108 (5.052)	20.680 (6.415)	23.038 (6.092)	16.996 (5.510)	18.858 (5.826)
Kdd-coil-1	20.157 (3.169)	21.869 (5.437)	22.147 (3.882)	23.791 (6.452)	25.419 (5.827)	23.096 (4.126)	23.103 (5.299)
triazines	0.142 (0.038)	0.140 (0.049)	0.152 (0.037)	0.201 (0.049)	0.232 (0.055)	0.156 (0.043)	0.174 (0.039)
airfoild	2.26e+3 (258.489)	3.02e+3 (2.17e+3)	2.33e+3 (238.784)	3.03e+3 (349.027)	2.27e+3 (263.585)	2.27e+3 (282.930)	1.42e+4 (1.36e+4)
treasury	0.328 (0.072)	0.449 (0.232)	0.311 (0.083)	0.336 (0.054)	0.340 (0.062)	0.395 (0.181)	0.342 (0.087)
mortgage	0.205 (0.036)	0.242 (0.120)	0.195 (0.046)	0.269 (0.055)	0.241 (0.056)	1.121 (0.667)	0.253 (0.063)
debutanizer	0.100 (0.013)	0.096 (0.014)	0.098 (0.014)	0.141 (0.035)	0.152 (0.018)	0.107 (0.012)	0.113 (0.019)
fuelCons	0.633 (0.153)	0.647 (0.150)	0.628 (0.145)	0.815 (0.159)	0.863 (0.174)	0.759 (0.264)	0.694 (0.128)
heat	2.695 (0.198)	2.576 (0.221)	2.801 (0.272)	4.112 (0.206)	2.679 (0.181)	-	3.364 (0.328)
california	6.83e+4 (2.37e+3)	1.06e+5 (3.92e+3)	6.97e+4 (2.01e+3)	8.28e+4 (1.41e+4)	6.84e+4 (2.53e+3)	-	7.33e+4 (2.37e+3)
AvailPwr	5.828 (2.677)	18.598 (3.618)	6.306 (2.746)	7.592 (2.816)	6.630 (3.202)	12.717 (6.930)	8.051 (3.109)
cpuSm	4.088 (0.273)	4.677 (0.357)	4.157 (0.361)	4.283 (0.372)	4.246 (0.244)	4.051 (0.157)	4.641 (0.449)
compactiv	3.507 (0.124)	4.406 (0.411)	3.507 (0.251)	3.754 (0.377)	3.722 (0.369)	3.544 (0.256)	3.897 (0.372)
maxTorq	9.787 (6.429)	21.120 (9.109)	8.530 (4.169)	11.537 (5.314)	8.929 (6.513)	12.255 (9.292)	10.052 (5.197)
lungcancer-shedden	3.733 (0.640)	3.766 (0.568)	3.818 (0.533)	4.977 (0.693)	5.748 (0.922)	4.277 (0.612)	4.378 (0.624)
space-ga	0.155 (0.018)	0.164 (0.019)	0.154 (0.016)	0.172 (0.012)	0.155 (0.019)	0.160 (0.018)	0.164 (0.017)
ConcrStr	6.488 (1.052)	6.899 (1.017)	6.225 (0.863)	8.222 (1.772)	7.842 (1.186)	7.542 (1.405)	7.810 (1.068)
Accel	1.100 (0.293)	1.128 (0.189)	1.052 (0.143)	1.811 (1.607)	1.572 (0.397)	1.256 (0.235)	1.132 (0.134)

- Not Executed

Table B15: Mean and standard deviation of the **RMSE** metric obtained for each dataset considering **MLP** technique. The best results are highlighted in bold.

	None	SMT	RO	RU	GN	SG	WERCS
Dataset	RMSE						
wine-quality	0.748 (0.046)	0.901 (0.092)	0.787 (0.036)	0.766 (0.038)	0.830 (0.041)	-	0.805 (0.044)
analcata-data-apnea3	2.83e+3 (1.56e+3)	2.81e+3 (1.47e+3)	2.83e+3 (1.44e+3)	2.85e+3 (1.57e+3)	2.84e+3 (1.52e+3)	2.82e+3 (1.49e+3)	2.81e+3 (1.50e+3)
meta	533.089 (546.375)	506.542 (562.575)	593.825 (515.632)	608.998 (527.173)	570.144 (508.710)	532.037 (552.192)	614.953 (500.445)
cocomo-numeric	253.205 (246.647)	257.013 (255.379)	243.455 (239.648)	243.099 (248.062)	261.123 (254.974)	246.280 (247.001)	250.107 (252.346)
Abalone	3.029 (0.195)	3.260 (0.239)	3.182 (0.232)	3.616 (0.206)	3.414 (0.462)	3.690 (0.513)	3.524 (0.495)
a3	1.19e+3 (1.18e+3)	608.937 (346.438)	766.267 (544.309)	1.68e+3 (1.65e+3)	962.121 (789.420)	684.778 (521.336)	773.506 (678.005)
forestFires	46.867 (44.434)	56.275 (38.599)	59.073 (37.839)	63.044 (37.068)	64.362 (35.957)	64.618 (34.001)	64.180 (36.786)
a1	1.18e+3 (1.21e+3)	496.137 (246.322)	547.284 (315.051)	1.42e+3 (1.70e+3)	1.58e+3 (1.31e+3)	624.667 (487.209)	944.300 (599.989)
a7	667.154 (486.523)	644.219 (374.365)	768.453 (589.033)	1.50e+3 (1.34e+3)	1.33e+3 (1.80e+3)	567.248 (649.275)	1.08e+3 (614.093)
boston	86.777 (86.060)	57.346 (59.181)	71.919 (91.095)	2.79e+3 (4.60e+3)	64.889 (57.103)	56.616 (63.195)	93.328 (141.365)
pdgfr	0.186 (0.081)	0.231 (0.099)	0.214 (0.087)	0.290 (0.097)	0.333 (0.113)	0.201 (0.093)	0.250 (0.099)
sensory	1.917 (0.179)	2.497 (0.349)	1.502 (0.215)	2.285 (0.255)	1.887 (0.269)	1.679 (0.245)	1.623 (0.227)
a2	770.968 (574.737)	671.613 (657.915)	680.555 (453.875)	1.43e+3 (926.057)	1.37e+3 (863.452)	758.629 (890.560)	586.505 (296.585)
Kdd-coil-1	15.915 (3.346)	19.353 (3.567)	19.603 (3.507)	26.175 (8.119)	21.401 (3.154)	22.506 (3.062)	19.546 (5.700)
triazines	0.206 (0.077)	0.171 (0.035)	0.167 (0.031)	0.227 (0.045)	0.240 (0.061)	0.197 (0.052)	0.207 (0.045)
airfoild	9.01e+4 (2.54e+3)	9.01e+4 (1.98e+3)	9.07e+4 (1.99e+3)	9.15e+4 (2.37e+3)	9.47e+4 (1.62e+3)	9.02e+4 (2.52e+3)	8.98e+4 (2.74e+3)
treasury	1.765 (0.902)	1.246 (0.672)	1.278 (0.736)	6.595 (17.784)	2.154 (0.908)	1.608 (0.594)	1.471 (0.700)
mortgage	1.429 (0.796)	1.060 (0.346)	1.074 (0.519)	2.746 (1.516)	1.668 (0.667)	1.639 (0.608)	1.418 (0.617)
debutanizer	0.131 (0.010)	0.149 (0.011)	0.148 (0.013)	0.187 (0.022)	0.250 (0.069)	0.154 (0.011)	0.150 (0.014)
fuelCons	47.955 (60.529)	61.563 (58.190)	41.519 (17.628)	273.461 (418.401)	85.177 (93.638)	60.337 (77.409)	64.911 (68.474)
heat	9.980 (2.284)	8.846 (2.198)	8.375 (2.174)	11.291 (1.613)	11.581 (2.148)	-	9.557 (2.327)
california	9.34e+4 (1.60e+3)	1.28e+5 (3.45e+3)	1.09e+5 (2.42e+3)	1.01e+5 (2.53e+3)	2.11e+5 (2.50e+3)	-	9.99e+4 (4.95e+3)
AvailPwr	34.353 (67.342)	29.971 (24.498)	38.179 (67.699)	59.155 (108.630)	48.982 (74.862)	59.696 (107.769)	36.341 (44.410)
cpuSm	333.719 (95.645)	471.090 (354.856)	455.712 (238.788)	361.379 (228.719)	375.037 (122.784)	341.167 (125.602)	413.697 (221.117)
compactiv	430.173 (292.117)	464.161 (217.344)	440.045 (234.965)	411.821 (152.532)	403.519 (228.050)	318.692 (113.486)	366.037 (156.974)
maxTorq	96.642 (138.718)	178.915 (339.630)	162.775 (358.881)	89.647 (91.970)	80.946 (116.271)	84.311 (128.492)	154.528 (278.160)
lungcancer-shedden	2.781 (0.398)	3.616 (0.372)	3.784 (0.377)	3.749 (1.034)	4.202 (0.898)	4.254 (0.561)	3.492 (0.613)
space-ga	4.80e+3 (5.16e+3)	8.79e+3 (1.08e+4)	9.97e+3 (2.04e+4)	6.99e+3 (4.62e+3)	7.75e+3 (1.10e+4)	6.24e+3 (1.11e+4)	6.51e+3 (1.07e+4)
ConcrStr	7.148 (1.063)	8.325 (0.847)	7.426 (0.698)	20.767 (24.502)	10.896 (5.059)	9.401 (1.440)	7.115 (0.898)
Accel	24.283 (40.728)	13.383 (13.428)	19.421 (29.588)	85.635 (190.220)	58.411 (59.551)	18.869 (26.548)	20.160 (30.167)

- Not Executed

Table B16: Mean and standard deviation of the **RMSE** metric obtained for each dataset considering **RF** technique. The best results are highlighted in bold.

	None	SMT	RO	RU	GN	SG	WERCS
Dataset	RMSE						
wine-quality	0.593 (0.027)	0.603 (0.027)	0.598 (0.028)	0.648 (0.037)	0.644 (0.026)	-	0.687 (0.048)
analcata-data-apnea3	937.983 (329.449)	1.04e+3 (416.328)	1.02e+3 (389.665)	963.111 (311.918)	934.422 (300.067)	1.06e+3 (513.124)	932.968 (318.820)
meta	452.131 (627.989)	463.595 (621.349)	451.081 (626.566)	476.101 (615.659)	472.759 (610.537)	498.918 (608.316)	474.763 (623.310)
cocomo-numeric	229.302 (209.615)	232.760 (231.206)	257.361 (227.557)	258.500 (207.060)	280.583 (204.748)	290.332 (237.584)	238.680 (217.854)
Abalone	2.281 (0.145)	2.338 (0.138)	2.317 (0.142)	2.426 (0.121)	2.594 (0.128)	2.800 (0.105)	2.633 (0.161)
a3	7.239 (1.940)	7.508 (1.708)	7.912 (2.066)	9.690 (1.652)	10.747 (1.961)	8.679 (1.517)	10.403 (2.253)
forestFires	57.035 (42.186)	62.830 (42.719)	64.591 (42.936)	72.576 (41.428)	93.129 (41.048)	75.030 (37.996)	93.628 (61.547)
a1	16.795 (4.332)	17.727 (3.691)	17.291 (4.312)	21.410 (3.936)	27.333 (5.022)	20.247 (3.187)	21.373 (2.759)
a7	4.957 (1.324)	4.907 (1.058)	5.089 (1.312)	6.470 (1.303)	6.925 (2.132)	6.104 (1.542)	6.264 (1.433)
boston	3.464 (0.449)	3.831 (0.752)	3.394 (0.568)	4.266 (2.002)	3.686 (0.493)	3.930 (0.679)	3.661 (0.346)
pdgfr	0.167 (0.077)	0.172 (0.065)	0.174 (0.075)	0.262 (0.075)	0.320 (0.076)	0.163 (0.076)	0.231 (0.063)
sensory	0.706 (0.055)	0.801 (0.088)	0.757 (0.045)	0.741 (0.047)	0.757 (0.053)	0.723 (0.063)	0.805 (0.062)
a2	9.987 (3.703)	11.067 (2.986)	10.763 (3.466)	17.154 (4.272)	21.637 (4.062)	12.487 (3.195)	13.895 (2.549)
Kdd-coil-1	14.881 (3.185)	15.409 (3.180)	15.561 (3.138)	20.676 (5.029)	17.216 (2.931)	18.643 (3.430)	18.535 (3.289)
triazines	0.117 (0.037)	0.116 (0.032)	0.124 (0.029)	0.177 (0.034)	0.199 (0.021)	0.116 (0.034)	0.141 (0.035)
airfoild	1.82e+3 (324.541)	2.37e+3 (725.552)	1.76e+3 (250.020)	2.47e+3 (680.240)	1.82e+3 (364.381)	1.77e+3 (301.270)	1.30e+4 (1.33e+4)
treasury	0.229 (0.059)	0.242 (0.058)	0.237 (0.046)	0.240 (0.051)	0.232 (0.051)	0.263 (0.125)	0.259 (0.060)
mortgage	0.138 (0.027)	0.150 (0.026)	0.138 (0.028)	0.210 (0.058)	0.169 (0.029)	0.259 (0.293)	0.185 (0.081)
debutanizer	0.066 (0.008)	0.066 (0.008)	0.067 (0.008)	0.126 (0.011)	0.160 (0.026)	0.071 (0.009)	0.085 (0.012)
fuelCons	0.439 (0.107)	0.492 (0.107)	0.462 (0.111)	0.578 (0.079)	0.573 (0.097)	0.542 (0.160)	0.538 (0.104)
heat	1.962 (0.089)	1.872 (0.104)	1.956 (0.072)	2.644 (0.129)	1.965 (0.094)	-	2.349 (0.472)
california	4.87e+4 (1.65e+3)	6.84e+4 (2.50e+3)	5.01e+4 (1.90e+3)	6.83e+4 (1.90e+3)	6.64e+4 (1.94e+3)	-	5.37e+4 (1.84e+3)
AvailPwr	5.679 (1.927)	12.326 (7.050)	6.026 (2.662)	6.690 (1.898)	7.240 (2.512)	10.186 (7.429)	6.482 (2.260)
cpuSm	2.841 (0.163)	2.901 (0.136)	2.845 (0.126)	3.030 (0.243)	2.976 (0.140)	2.838 (0.154)	3.535 (0.237)
compactiv	2.429 (0.155)	2.560 (0.146)	2.434 (0.170)	2.478 (0.153)	2.556 (0.242)	2.429 (0.167)	2.797 (0.225)
maxTorq	6.909 (3.629)	19.591 (9.231)	6.019 (3.203)	8.391 (3.308)	6.801 (3.496)	13.031 (8.098)	7.029 (4.033)
lungcancer-shedden	2.667 (0.331)	2.816 (0.375)	2.746 (0.343)	3.829 (0.428)	4.906 (0.407)	3.037 (0.370)	3.292 (0.477)
space-ga	0.115 (0.020)	0.125 (0.017)	0.118 (0.017)	0.127 (0.019)	0.116 (0.021)	0.120 (0.020)	0.131 (0.019)
ConcrStr	4.824 (0.725)	5.725 (1.210)	4.954 (0.705)	7.431 (7.757)	5.920 (1.339)	6.646 (1.827)	5.870 (0.928)
Accel	0.774 (0.119)	0.816 (0.123)	0.774 (0.112)	0.992 (0.209)	1.049 (0.259)	0.939 (0.142)	0.847 (0.208)

- Not Executed

Table B17: Mean and standard deviation of the **RMSE** metric obtained for each dataset considering **SVM** technique. The best results are highlighted in bold.

	None	SMT	RO	RU	GN	SG	WERCS
Dataset	RMSE						
wine-quality	0.797 (0.022)	0.824 (0.022)	0.834 (0.030)	0.820 (0.022)	0.890 (0.031)	-	0.806 (0.028)
analcata-apnea3	2.89e+3 (1.57e+3)	2.86e+3 (1.57e+3)	2.86e+3 (1.57e+3)	2.86e+3 (1.57e+3)	2.82e+3 (1.49e+3)	2.82e+3 (1.54e+3)	2.82e+3 (1.55e+3)
meta	457.751 (630.265)	452.964 (630.357)	453.169 (630.769)	454.384 (630.557)	457.655 (625.164)	452.584 (629.834)	454.298 (630.053)
cocomo-numeric	556.538 (443.945)	644.521 (240.714)	644.956 (240.059)	701.353 (237.333)	1.02e+3 (105.078)	750.097 (185.298)	542.788 (409.593)
Abalone	2.758 (0.201)	2.700 (0.171)	2.792 (0.175)	4.521 (0.124)	3.286 (0.149)	3.644 (0.108)	3.196 (0.138)
a3	7.020 (2.385)	7.437 (1.475)	7.460 (1.544)	7.479 (1.364)	12.043 (0.988)	9.160 (0.982)	8.118 (1.202)
forestFires	47.506 (45.525)	46.510 (44.864)	46.401 (45.011)	46.405 (45.226)	52.418 (40.811)	47.587 (43.932)	46.688 (44.678)
a1	21.344 (4.587)	26.834 (2.629)	26.642 (2.444)	25.407 (4.632)	27.358 (2.321)	31.524 (2.684)	22.711 (1.949)
a7	5.120 (2.131)	5.373 (1.795)	5.244 (1.829)	5.100 (1.990)	8.358 (0.936)	6.128 (1.282)	5.857 (1.526)
boston	9.179 (0.969)	11.605 (1.262)	11.463 (1.222)	13.974 (2.314)	12.065 (3.076)	14.453 (0.873)	10.007 (0.874)
pdgfr	0.162 (0.076)	0.175 (0.070)	0.174 (0.080)	0.251 (0.065)	0.278 (0.069)	0.162 (0.076)	0.203 (0.074)
sensory	0.775 (0.061)	0.886 (0.087)	0.894 (0.064)	0.819 (0.060)	0.859 (0.120)	0.822 (0.104)	0.874 (0.066)
a2	11.025 (3.558)	13.832 (2.675)	13.258 (2.858)	17.068 (2.577)	22.005 (1.790)	16.493 (1.783)	12.081 (2.716)
Kdd-coil-1	18.178 (4.975)	17.529 (3.769)	20.123 (3.502)	34.113 (4.304)	20.379 (3.457)	23.560 (3.699)	19.284 (3.164)
triazines	0.138 (0.032)	0.158 (0.024)	0.151 (0.023)	0.223 (0.028)	0.258 (0.037)	0.138 (0.032)	0.183 (0.029)
airfoild	3.70e+4 (4.97e+3)	3.57e+4 (3.87e+3)	3.58e+4 (3.86e+3)	3.60e+4 (3.65e+3)	3.58e+4 (3.86e+3)	3.70e+4 (4.97e+3)	3.70e+4 (4.94e+3)
treasury	1.695 (0.184)	1.750 (0.159)	1.753 (0.172)	2.090 (0.136)	1.832 (0.154)	1.814 (0.159)	1.656 (0.164)
mortgage	1.388 (0.129)	1.486 (0.217)	1.477 (0.212)	1.822 (0.208)	1.532 (0.207)	1.563 (0.207)	1.485 (0.170)
debutanizer	0.108 (0.008)	0.126 (0.007)	0.126 (0.007)	0.150 (0.012)	0.220 (0.010)	0.129 (0.007)	0.132 (0.010)
fuelCons	1.058 (0.100)	0.967 (0.083)	0.982 (0.087)	1.127 (0.089)	1.058 (0.100)	1.058 (0.100)	0.954 (0.085)
heat	23.670 (1.350)	28.164 (1.003)	28.069 (0.991)	30.144 (0.856)	28.388 (1.030)	-	26.353 (1.033)
california	1.18e+5 (1.80e+3)	2.20e+5 (1.49e+3)	2.20e+5 (1.50e+3)	2.03e+5 (3.94e+3)	2.21e+5 (1.61e+3)	-	1.16e+5 (1.74e+3)
AvailPwr	31.031 (3.699)	29.130 (2.776)	26.728 (2.082)	45.083 (3.979)	27.451 (2.104)	29.273 (2.603)	28.081 (2.587)
cpuSm	7.470 (0.205)	8.476 (0.242)	8.482 (0.251)	10.771 (0.452)	17.911 (0.603)	7.470 (0.205)	9.299 (0.770)
compactiv	7.503 (0.315)	8.485 (0.245)	8.537 (0.257)	10.989 (0.498)	18.172 (0.644)	7.503 (0.315)	9.081 (0.606)
maxTorq	96.947 (11.029)	141.454 (12.196)	137.106 (7.585)	131.942 (15.143)	140.781 (7.772)	164.101 (7.182)	95.570 (10.247)
lungcancer-shedden	2.987 (0.385)	5.060 (0.338)	4.933 (0.341)	3.619 (0.472)	4.807 (0.362)	4.375 (1.265)	4.103 (0.433)
space-ga	0.154 (0.020)	0.207 (0.015)	0.203 (0.016)	0.156 (0.020)	0.168 (0.037)	0.154 (0.020)	0.174 (0.017)
ConcrStr	14.377 (1.083)	16.392 (2.033)	15.291 (2.802)	14.878 (1.057)	14.377 (1.083)	14.377 (1.083)	15.219 (1.362)
Accel	2.904 (0.378)	3.542 (0.214)	3.430 (0.215)	2.953 (0.354)	2.904 (0.378)	2.904 (0.378)	2.855 (0.328)

- Not Executed

Table B18: Mean and standard deviation of the **RMSE** metric obtained for each dataset considering **XG** technique. The best results are highlighted in bold.

	None	SMT	RO	RU	GN	SG	WERCS
Dataset	RMSE						
wine-quality	0.628 (0.026)	0.645 (0.032)	0.655 (0.026)	0.693 (0.026)	0.714 (0.030)	-	0.703 (0.039)
analcatdata-apnea3	997.687 (456.981)	1.03e+3 (500.529)	1.02e+3 (461.132)	1.03e+3 (436.750)	1.02e+3 (305.036)	1.10e+3 (548.003)	1.05e+3 (431.689)
meta	444.842 (631.676)	445.126 (629.280)	442.348 (625.725)	445.628 (627.609)	465.584 (646.042)	441.773 (625.714)	455.373 (645.955)
cocomo-numeric	263.214 (245.435)	219.808 (184.592)	298.399 (273.626)	292.623 (245.496)	308.451 (204.774)	340.080 (289.718)	257.877 (260.481)
Abalone	2.370 (0.148)	2.447 (0.136)	2.428 (0.138)	2.557 (0.126)	2.667 (0.122)	2.767 (0.129)	2.704 (0.135)
a3	8.305 (2.678)	8.004 (2.097)	8.045 (2.833)	10.479 (2.671)	10.712 (1.520)	8.938 (2.151)	10.869 (3.316)
forestFires	80.267 (54.648)	68.193 (46.256)	77.526 (56.003)	83.724 (55.439)	88.882 (45.917)	90.766 (53.881)	112.849 (69.120)
a1	18.692 (4.881)	19.359 (4.120)	18.770 (4.703)	22.492 (4.556)	27.243 (4.428)	20.957 (3.849)	21.298 (3.429)
a7	5.031 (1.346)	4.888 (1.389)	5.149 (1.219)	6.266 (2.164)	6.155 (1.426)	5.451 (1.490)	6.136 (1.524)
boston	3.333 (0.478)	3.440 (0.642)	3.444 (0.431)	3.697 (0.492)	3.836 (0.799)	3.604 (0.686)	3.931 (0.688)
pdgfr	0.166 (0.070)	0.174 (0.072)	0.177 (0.078)	0.275 (0.113)	0.314 (0.084)	0.166 (0.070)	0.220 (0.086)
sensory	0.770 (0.073)	0.788 (0.076)	0.778 (0.070)	0.821 (0.068)	0.818 (0.058)	0.781 (0.069)	0.833 (0.075)
a2	10.494 (3.520)	10.775 (3.661)	11.421 (3.944)	16.350 (3.973)	23.113 (6.830)	11.552 (3.602)	15.704 (5.400)
Kdd-coil-1	15.955 (2.849)	16.402 (3.062)	16.687 (4.101)	18.761 (4.778)	18.584 (2.621)	19.527 (3.448)	18.358 (2.995)
triazines	0.122 (0.035)	0.123 (0.032)	0.131 (0.026)	0.175 (0.047)	0.205 (0.046)	0.122 (0.035)	0.152 (0.033)
airfoild	1.86e+3 (298.199)	2.41e+3 (483.063)	1.70e+3 (165.999)	2.69e+3 (1.02e+3)	1.86e+3 (298.199)	1.86e+3 (298.199)	2.31e+4 (6.41e+3)
treasury	0.245 (0.058)	0.236 (0.064)	0.235 (0.038)	0.280 (0.052)	0.264 (0.048)	0.313 (0.193)	0.236 (0.046)
mortgage	0.152 (0.021)	0.171 (0.033)	0.146 (0.022)	0.174 (0.023)	0.181 (0.035)	0.218 (0.153)	0.186 (0.052)
debutanizer	0.068 (0.008)	0.068 (0.007)	0.069 (0.008)	0.102 (0.026)	0.135 (0.044)	0.074 (0.007)	0.085 (0.011)
fuelCons	0.390 (0.096)	0.435 (0.105)	0.402 (0.095)	0.544 (0.080)	0.390 (0.096)	0.390 (0.096)	0.477 (0.085)
heat	1.361 (0.106)	1.678 (0.072)	1.543 (0.109)	1.718 (0.122)	1.361 (0.106)	-	1.665 (0.218)
california	4.76e+4 (1.73e+3)	6.49e+4 (2.16e+3)	5.20e+4 (2.20e+3)	6.74e+4 (2.16e+3)	6.36e+4 (1.97e+3)	-	5.23e+4 (1.72e+3)
AvailPwr	5.125 (2.421)	10.573 (6.402)	5.712 (2.834)	6.092 (2.324)	6.324 (2.178)	5.125 (2.421)	6.104 (2.133)
cpuSm	2.793 (0.312)	2.995 (0.249)	2.860 (0.338)	2.932 (0.280)	3.014 (0.265)	2.793 (0.312)	3.234 (0.338)
compactiv	2.383 (0.384)	2.609 (0.285)	2.431 (0.397)	2.500 (0.388)	2.579 (0.337)	2.383 (0.384)	2.606 (0.321)
maxTorq	5.325 (3.076)	18.914 (9.697)	6.043 (3.700)	6.985 (2.835)	5.325 (3.076)	5.325 (3.076)	5.559 (2.912)
lungcancer-shedden	2.863 (0.378)	2.859 (0.405)	2.958 (0.329)	3.951 (0.650)	4.881 (0.532)	3.090 (0.531)	3.424 (0.356)
space-ga	0.108 (0.016)	0.113 (0.015)	0.116 (0.015)	0.123 (0.018)	0.108 (0.016)	0.116 (0.014)	0.117 (0.016)
ConcrStr	4.289 (0.829)	5.366 (0.891)	4.436 (0.890)	5.589 (0.798)	4.289 (0.829)	4.289 (0.829)	5.074 (0.970)
Accel	0.682 (0.084)	0.833 (0.133)	0.682 (0.079)	0.839 (0.087)	0.682 (0.084)	0.682 (0.084)	0.769 (0.095)

- Not Executed

Table B19: Mean and standard deviation of the **MAE** metric obtained for each dataset considering **BG** technique. The best results are highlighted in bold.

	None	SMT	RO	RU	GN	SG	WERCS
Dataset	MAE						
wine-quality	0.439 (0.015)	0.455 (0.017)	0.441 (0.018)	0.502 (0.016)	0.512 (0.019)	-	0.506 (0.047)
analcatdata-apnea3	356.081 (90.020)	382.774 (141.491)	383.251 (121.745)	419.087 (124.031)	448.867 (130.936)	452.998 (139.635)	375.971 (118.346)
meta	95.437 (101.819)	106.817 (108.121)	101.495 (113.167)	112.963 (121.844)	108.353 (102.825)	0.132 (0.054)	127.552 (114.979)
cocomo-numeric	160.169 (154.894)	154.711 (140.361)	164.236 (169.504)	181.867 (168.743)	195.833 (140.853)	1.798 (0.061)	170.175 (160.022)
Abalone	1.711 (0.069)	1.809 (0.088)	1.759 (0.087)	1.940 (0.080)	2.133 (0.103)	2.207 (0.183)	2.149 (0.143)
a3	5.276 (1.253)	5.749 (1.233)	5.688 (1.361)	8.222 (1.668)	9.072 (1.319)	6.885 (1.384)	8.835 (1.903)
forestFires	22.965 (9.310)	26.890 (8.507)	25.040 (9.823)	31.070 (13.037)	43.266 (16.379)	0.363 (0.081)	36.845 (13.520)
a1	12.179 (3.154)	12.992 (2.979)	13.604 (3.176)	17.398 (4.836)	23.412 (6.181)	16.521 (4.211)	17.456 (3.284)
a7	3.150 (0.645)	3.557 (0.864)	3.260 (0.799)	5.009 (1.534)	5.001 (1.397)	4.482 (1.290)	5.085 (1.167)
boston	2.485 (0.229)	2.709 (0.376)	2.509 (0.250)	2.846 (0.461)	2.770 (0.318)	3.075 (0.679)	2.812 (0.353)
pdgfr	0.131 (0.053)	0.138 (0.048)	0.135 (0.052)	0.221 (0.061)	0.281 (0.090)	0.091 (0.008)	0.190 (0.062)
sensory	0.597 (0.058)	0.681 (0.073)	0.622 (0.050)	0.622 (0.054)	0.632 (0.057)	0.156 (0.069)	0.643 (0.064)
a2	7.156 (2.127)	7.921 (2.124)	7.757 (2.142)	13.657 (3.019)	20.211 (4.873)	10.222 (2.234)	12.110 (3.135)
Kdd-coil-1	10.393 (2.043)	10.551 (2.354)	10.804 (2.087)	17.525 (5.642)	12.710 (2.875)	3.738 (3.439)	15.233 (2.733)
triazines	0.086 (0.018)	0.091 (0.021)	0.095 (0.017)	0.150 (0.026)	0.178 (0.039)	-	0.112 (0.026)
airfoild	1.39e+3 (272.395)	1.55e+3 (292.831)	1.23e+3 (95.224)	1.84e+3 (322.219)	1.39e+3 (191.087)	1.31e+3 (148.568)	3.77e+3 (3.53e+3)
treasury	0.128 (0.021)	0.140 (0.026)	0.133 (0.022)	0.146 (0.026)	0.140 (0.023)	-	0.156 (0.028)
mortgage	0.091 (0.010)	0.100 (0.014)	0.093 (0.013)	0.136 (0.042)	0.115 (0.023)	0.595 (0.052)	0.121 (0.027)
debutanizer	0.044 (0.004)	0.043 (0.004)	0.043 (0.004)	0.093 (0.015)	0.134 (0.038)	39.757 (15.783)	0.058 (0.012)
fuelCons	0.306 (0.032)	0.316 (0.037)	0.309 (0.035)	0.418 (0.041)	0.425 (0.064)	13.408 (2.624)	0.354 (0.060)
heat	1.543 (0.077)	1.451 (0.082)	1.546 (0.060)	2.093 (0.093)	1.580 (0.166)	2.532 (0.319)	1.770 (0.211)
california	3.31e+4 (1.08e+3)	4.74e+4 (1.66e+3)	3.40e+4 (876.224)	5.21e+4 (1.34e+3)	4.91e+4 (1.48e+3)	170.769 (143.862)	3.80e+4 (1.55e+3)
AvailPwr	2.015 (0.557)	5.546 (1.374)	1.734 (0.534)	2.888 (0.593)	2.600 (0.664)	3.830 (2.637)	2.201 (0.628)
cpuSm	2.070 (0.062)	2.180 (0.076)	2.098 (0.090)	2.261 (0.188)	2.224 (0.074)	0.047 (0.006)	2.532 (0.207)
compactiv	1.805 (0.050)	1.919 (0.075)	1.796 (0.061)	1.879 (0.090)	1.887 (0.064)	4.534 (0.892)	2.051 (0.141)
maxTorq	2.375 (0.816)	6.491 (2.856)	1.780 (0.578)	3.606 (0.952)	2.296 (0.829)	0.291 (0.130)	2.192 (0.849)
lungcancer-shedden	2.085 (0.233)	2.238 (0.293)	2.283 (0.224)	3.243 (0.543)	4.550 (0.548)	115.674 (101.982)	2.686 (0.361)
space-ga	0.084 (0.006)	0.090 (0.008)	0.088 (0.006)	0.092 (0.005)	0.085 (0.010)	0.085 (0.022)	0.097 (0.007)
ConcrStr	3.535 (0.327)	4.001 (0.632)	3.544 (0.404)	7.866 (9.541)	5.100 (1.509)	2.087 (0.078)	4.299 (0.634)
Accel	0.559 (0.045)	0.583 (0.048)	0.555 (0.037)	1.115 (1.549)	0.810 (0.178)	0.627 (0.096)	0.587 (0.049)

- Not Executed

Table B20: Mean and standard deviation of the **MAE** metric obtained for each dataset considering **DT** technique. The best results are highlighted in bold.

	None	SMT	RO	RU	GN	SG	WERCs
Dataset	MAE						
wine-quality	0.466 (0.025)	0.484 (0.031)	0.459 (0.024)	0.595 (0.032)	0.475 (0.051)	-	0.548 (0.046)
analcata-data-apnea3	424.972 (146.317)	446.993 (143.919)	434.029 (164.852)	479.174 (126.321)	500.899 (224.391)	488.209 (152.145)	465.393 (172.053)
meta	97.456 (102.609)	109.314 (113.559)	100.354 (101.501)	104.444 (100.306)	97.967 (97.561)	0.155 (0.041)	133.613 (133.533)
cocomo-numeric	201.160 (183.951)	209.958 (203.740)	205.363 (195.576)	219.888 (168.965)	215.044 (159.009)	2.427 (0.086)	196.277 (151.623)
Abalone	2.209 (0.114)	2.388 (0.136)	2.220 (0.082)	2.470 (0.119)	2.225 (0.113)	2.263 (0.222)	2.446 (0.202)
a3	6.246 (1.693)	6.878 (2.074)	6.537 (1.756)	8.901 (2.897)	9.634 (1.894)	7.839 (1.742)	9.415 (2.720)
forestFires	22.303 (9.999)	28.656 (13.806)	27.692 (14.499)	33.917 (14.212)	34.042 (19.470)	0.400 (0.128)	29.040 (11.535)
a1	15.074 (4.068)	15.165 (2.894)	15.190 (3.672)	19.250 (4.467)	24.579 (5.741)	18.438 (3.574)	18.578 (3.974)
a7	3.806 (0.874)	3.947 (1.368)	3.658 (0.688)	4.286 (1.489)	5.208 (1.380)	4.394 (1.049)	4.810 (1.535)
boston	3.076 (0.444)	3.441 (0.584)	3.040 (0.345)	3.856 (1.632)	3.384 (0.538)	3.549 (0.924)	3.567 (0.588)
pdgfr	0.156 (0.047)	0.171 (0.053)	0.155 (0.057)	0.283 (0.107)	0.294 (0.076)	0.113 (0.007)	0.241 (0.085)
sensory	0.784 (0.063)	0.814 (0.102)	0.756 (0.094)	0.800 (0.095)	0.810 (0.083)	0.182 (0.041)	0.816 (0.085)
a2	7.667 (2.462)	9.040 (3.651)	8.749 (2.431)	14.065 (4.931)	16.391 (5.311)	11.714 (4.287)	12.568 (3.487)
Kdd-coil-1	12.435 (2.363)	13.455 (4.396)	13.703 (2.850)	15.381 (5.667)	16.494 (4.257)	2.351 (1.869)	15.096 (4.007)
triazines	0.099 (0.025)	0.097 (0.031)	0.106 (0.024)	0.152 (0.042)	0.182 (0.047)	-	0.128 (0.030)
airfoild	1.56e+3 (150.548)	1.72e+3 (306.137)	1.60e+3 (140.955)	2.09e+3 (226.303)	1.56e+3 (151.770)	1.56e+3 (159.246)	4.63e+3 (3.61e+3)
treasury	0.164 (0.026)	0.183 (0.038)	0.163 (0.033)	0.192 (0.038)	0.181 (0.031)	-	0.191 (0.034)
mortgage	0.125 (0.013)	0.130 (0.027)	0.120 (0.017)	0.169 (0.041)	0.142 (0.025)	0.808 (0.100)	0.164 (0.039)
debutanizer	0.049 (0.006)	0.048 (0.007)	0.049 (0.006)	0.084 (0.025)	0.080 (0.011)	33.121 (17.784)	0.063 (0.012)
fuelCons	0.320 (0.037)	0.330 (0.037)	0.334 (0.041)	0.488 (0.075)	0.495 (0.086)	14.839 (2.840)	0.411 (0.066)
heat	1.994 (0.074)	1.853 (0.071)	2.035 (0.096)	2.916 (0.109)	1.997 (0.075)	3.181 (0.428)	2.490 (0.236)
california	4.32e+4 (1.42e+3)	6.09e+4 (1.84e+3)	4.39e+4 (1.28e+3)	5.29e+4 (9.48e+3)	4.33e+4 (1.44e+3)	189.728 (156.734)	4.87e+4 (1.79e+3)
AvailPwr	1.245 (0.535)	4.724 (1.313)	1.334 (0.575)	2.168 (0.764)	1.466 (0.722)	3.066 (2.177)	2.403 (0.688)
cpuSm	2.778 (0.107)	2.963 (0.134)	2.823 (0.102)	2.946 (0.177)	2.902 (0.129)	0.054 (0.008)	3.219 (0.234)
compactiv	2.428 (0.078)	2.688 (0.133)	2.432 (0.083)	2.570 (0.165)	2.517 (0.138)	4.681 (0.810)	2.686 (0.164)
maxTorq	1.817 (1.069)	3.871 (2.322)	1.658 (0.838)	2.775 (1.142)	1.758 (1.190)	0.364 (0.194)	2.197 (1.187)
lungcancer-shedden	2.776 (0.454)	2.772 (0.405)	2.906 (0.376)	3.748 (0.540)	4.616 (0.920)	117.817 (124.106)	3.343 (0.464)
space-ga	0.110 (0.006)	0.117 (0.009)	0.110 (0.007)	0.121 (0.005)	0.109 (0.007)	0.104 (0.026)	0.116 (0.005)
ConcrStr	4.083 (0.347)	4.301 (0.523)	4.037 (0.414)	5.663 (1.365)	5.270 (0.771)	2.787 (0.101)	5.304 (0.695)
Accel	0.663 (0.080)	0.660 (0.072)	0.637 (0.067)	1.327 (1.553)	1.041 (0.257)	0.761 (0.109)	0.719 (0.083)

- Not Executed

Table B21: Mean and standard deviation of the **MAE** metric obtained for each dataset considering **MLP** technique. The best results are highlighted in bold.

	None	SMT	RO	RU	GN	SG	WERCS
Dataset	MAE						
wine-quality	0.582 (0.034)	0.723 (0.083)	0.616 (0.027)	0.602 (0.028)	0.653 (0.033)	-	0.636 (0.038)
analcattdata-apnea3	932.899 (489.507)	1.21e+3 (495.484)	1.20e+3 (475.853)	913.568 (478.038)	1.05e+3 (461.920)	1.13e+3 (477.165)	1.15e+3 (492.027)
meta	155.773 (88.472)	148.597 (93.361)	195.579 (82.338)	213.651 (126.377)	191.187 (91.210)	0.147 (0.053)	203.419 (92.214)
cocomo-numeric	159.675 (142.447)	158.917 (146.090)	156.205 (141.638)	153.127 (144.281)	161.737 (141.683)	184.580 (83.447)	155.084 (140.561)
Abalone	2.221 (0.171)	2.479 (0.228)	2.358 (0.162)	2.702 (0.191)	2.576 (0.433)	2.901 (0.467)	2.725 (0.448)
a3	587.647 (604.022)	258.878 (136.268)	326.936 (207.051)	788.168 (788.803)	493.292 (395.990)	300.849 (208.145)	368.159 (344.600)
forestFires	18.561 (7.978)	31.686 (5.651)	35.632 (8.533)	39.657 (13.181)	41.957 (9.554)	25.134 (11.350)	43.326 (12.957)
a1	561.379 (554.780)	225.997 (114.710)	241.012 (122.753)	746.859 (943.453)	803.874 (614.138)	272.062 (213.934)	403.219 (237.444)
a7	332.417 (281.174)	268.121 (131.961)	299.535 (153.810)	739.208 (712.965)	626.648 (850.680)	272.718 (310.755)	505.085 (327.311)
boston	57.197 (56.718)	34.300 (25.564)	41.981 (41.591)	2.34e+3 (3.89e+3)	42.369 (34.381)	31.561 (14.276)	58.629 (88.083)
pdgfr	0.136 (0.050)	0.183 (0.076)	0.164 (0.056)	0.230 (0.079)	0.283 (0.098)	5.29e+3 (1.11e+4)	0.192 (0.073)
sensory	1.541 (0.148)	1.999 (0.275)	1.219 (0.176)	1.838 (0.216)	1.521 (0.225)	1.290 (0.513)	1.313 (0.188)
a2	372.487 (310.521)	253.979 (179.830)	286.613 (164.349)	735.620 (557.902)	665.332 (397.121)	355.332 (421.076)	286.377 (137.344)
Kdd-coil-1	11.423 (2.042)	14.863 (3.133)	15.150 (3.255)	20.380 (6.424)	17.325 (3.022)	28.419 (8.946)	15.329 (4.327)
triazines	0.168 (0.066)	0.136 (0.033)	0.133 (0.027)	0.184 (0.044)	0.202 (0.058)	-	0.167 (0.038)
airfoild	8.13e+4 (2.10e+3)	8.37e+4 (2.17e+3)	8.47e+4 (2.15e+3)	8.30e+4 (2.25e+3)	8.79e+4 (2.07e+3)	8.13e+4 (2.15e+3)	8.08e+4 (2.28e+3)
treasury	1.389 (0.750)	0.953 (0.490)	1.003 (0.583)	5.116 (13.411)	1.763 (0.778)	-	1.104 (0.517)
mortgage	1.120 (0.591)	0.842 (0.279)	0.835 (0.384)	2.208 (1.265)	1.337 (0.524)	1.349 (0.194)	1.066 (0.450)
debutanizer	0.091 (0.007)	0.118 (0.010)	0.117 (0.013)	0.159 (0.025)	0.225 (0.072)	40.884 (5.338)	0.116 (0.010)
fuelCons	20.673 (6.841)	20.840 (7.973)	19.165 (3.271)	207.106 (365.725)	29.461 (12.558)	18.142 (3.211)	24.683 (9.858)
heat	6.973 (1.499)	6.619 (1.894)	6.388 (1.804)	8.234 (1.287)	8.894 (1.808)	3.678 (0.523)	7.017 (1.832)
california	7.26e+4 (1.40e+3)	9.95e+4 (3.15e+3)	8.70e+4 (2.47e+3)	8.05e+4 (2.12e+3)	1.89e+5 (2.57e+3)	155.846 (142.991)	7.83e+4 (4.92e+3)
AvailPwr	13.816 (5.268)	16.893 (3.868)	12.981 (5.126)	17.308 (10.171)	15.979 (5.192)	20.992 (9.545)	13.729 (5.154)
cpuSm	192.608 (101.659)	378.548 (362.339)	347.004 (251.292)	209.043 (121.118)	242.523 (104.987)	0.121 (0.009)	286.648 (212.534)
compactiv	299.445 (292.438)	349.073 (201.120)	337.222 (246.448)	236.364 (116.423)	263.281 (239.459)	7.084 (0.945)	263.196 (171.179)
maxTorq	31.114 (10.988)	48.187 (28.422)	34.474 (27.383)	35.431 (7.964)	30.128 (10.099)	1.299 (0.469)	35.678 (21.717)
lungcancer-shedden	2.206 (0.325)	3.059 (0.318)	3.217 (0.324)	3.149 (1.007)	3.615 (0.909)	173.192 (83.044)	2.979 (0.565)
space-ga	2.88e+3 (5.16e+3)	6.92e+3 (1.11e+4)	9.05e+3 (2.05e+4)	3.07e+3 (2.05e+3)	5.67e+3 (1.11e+4)	0.158 (0.045)	5.32e+3 (1.09e+4)
ConcrStr	5.478 (0.754)	6.310 (0.620)	5.682 (0.483)	18.164 (23.568)	8.416 (4.632)	196.794 (87.378)	5.482 (0.604)
Accel	8.491 (6.021)	5.954 (2.031)	6.602 (3.854)	26.810 (51.700)	17.686 (13.319)	7.658 (3.200)	6.978 (3.253)

- Not Executed

Table B22: Mean and standard deviation of the **MAE** metric obtained for each dataset considering **RF** technique. The best results are highlighted in bold.

	None	SMT	RO	RU	GN	SG	WERCS
Dataset	MAE						
wine-quality	0.418 (0.016)	0.428 (0.019)	0.416 (0.016)	0.478 (0.025)	0.479 (0.017)	-	0.496 (0.037)
analcatdata-apnea3	363.298 (105.384)	385.011 (122.517)	393.468 (131.053)	429.328 (103.874)	423.584 (107.353)	422.295 (138.896)	369.698 (103.670)
meta	95.976 (107.359)	102.728 (108.877)	96.779 (108.399)	113.504 (109.617)	107.802 (96.623)	0.121 (0.048)	111.358 (112.364)
cocomo-numeric	141.907 (134.789)	143.793 (153.140)	149.323 (137.477)	172.756 (138.695)	184.213 (132.197)	1.694 (0.055)	150.898 (143.792)
Abalone	1.635 (0.085)	1.723 (0.089)	1.680 (0.077)	1.836 (0.086)	2.002 (0.095)	2.177 (0.077)	2.043 (0.135)
a3	5.030 (1.182)	5.352 (0.987)	5.574 (1.194)	8.016 (1.260)	9.307 (1.636)	6.924 (1.111)	8.785 (1.821)
forestFires	21.954 (8.899)	27.035 (11.138)	25.450 (9.946)	35.198 (15.140)	47.475 (14.656)	0.343 (0.082)	41.969 (18.677)
a1	11.974 (3.072)	12.851 (3.193)	12.384 (3.233)	17.093 (3.890)	22.555 (4.609)	15.628 (2.555)	18.130 (2.729)
a7	3.088 (0.642)	3.336 (0.653)	3.261 (0.594)	5.248 (1.315)	5.335 (2.073)	4.559 (1.043)	5.134 (1.163)
boston	2.393 (0.221)	2.590 (0.348)	2.367 (0.266)	3.080 (1.753)	2.575 (0.246)	2.764 (0.488)	2.644 (0.231)
pdgfr	0.124 (0.051)	0.128 (0.040)	0.131 (0.050)	0.218 (0.069)	0.267 (0.059)	0.083 (0.007)	0.186 (0.046)
sensory	0.564 (0.051)	0.624 (0.060)	0.600 (0.047)	0.590 (0.047)	0.602 (0.051)	0.132 (0.039)	0.645 (0.051)
a2	6.931 (2.037)	7.862 (1.903)	7.665 (2.023)	14.331 (3.390)	18.752 (3.718)	9.584 (2.346)	11.546 (1.880)
Kdd-coil-1	10.025 (1.952)	10.435 (2.163)	10.630 (2.071)	16.462 (4.896)	12.287 (2.116)	4.034 (2.902)	14.798 (3.174)
triazines	0.084 (0.021)	0.083 (0.019)	0.088 (0.015)	0.141 (0.028)	0.167 (0.019)	-	0.104 (0.024)
airfoild	1.22e+3 (159.350)	1.38e+3 (210.739)	1.17e+3 (99.683)	1.66e+3 (292.210)	1.23e+3 (139.825)	1.21e+3 (132.713)	4.58e+3 (4.25e+3)
treasury	0.121 (0.022)	0.125 (0.020)	0.125 (0.021)	0.135 (0.021)	0.125 (0.021)	-	0.143 (0.021)
mortgage	0.081 (0.009)	0.085 (0.011)	0.081 (0.011)	0.135 (0.044)	0.103 (0.013)	0.574 (0.050)	0.123 (0.052)
debutanizer	0.041 (0.004)	0.041 (0.004)	0.041 (0.004)	0.092 (0.008)	0.120 (0.022)	36.971 (11.342)	0.054 (0.008)
fuelCons	0.279 (0.027)	0.310 (0.039)	0.288 (0.032)	0.388 (0.030)	0.373 (0.051)	13.608 (3.068)	0.340 (0.052)
heat	1.345 (0.053)	1.298 (0.056)	1.375 (0.053)	1.831 (0.078)	1.345 (0.049)	2.404 (0.283)	1.707 (0.352)
california	3.15e+4 (920.495)	4.42e+4 (1.26e+3)	3.23e+4 (941.361)	4.96e+4 (1.34e+3)	4.64e+4 (1.25e+3)	176.194 (154.359)	3.56e+4 (1.19e+3)
AvailPwr	1.847 (0.469)	3.713 (2.027)	1.718 (0.569)	2.718 (0.577)	2.728 (0.759)	3.279 (2.509)	2.358 (0.731)
cpuSm	1.968 (0.064)	2.016 (0.084)	1.984 (0.066)	2.140 (0.169)	2.099 (0.065)	0.045 (0.004)	2.646 (0.191)
compactiv	1.696 (0.050)	1.765 (0.062)	1.696 (0.055)	1.745 (0.060)	1.781 (0.062)	4.244 (0.902)	2.050 (0.178)
maxTorq	2.050 (0.770)	5.486 (2.942)	1.640 (0.591)	2.952 (0.744)	2.031 (0.717)	0.129 (0.109)	1.995 (0.793)
lungcancer-shedden	2.060 (0.215)	2.175 (0.254)	2.130 (0.221)	3.173 (0.357)	4.248 (0.418)	120.270 (110.523)	2.706 (0.414)
space-ga	0.080 (0.006)	0.087 (0.007)	0.083 (0.006)	0.088 (0.006)	0.081 (0.008)	0.083 (0.020)	0.093 (0.010)
ConcrStr	3.305 (0.325)	3.680 (0.532)	3.394 (0.329)	5.782 (7.418)	4.304 (1.037)	1.967 (0.068)	4.152 (0.542)
Accel	0.529 (0.041)	0.545 (0.049)	0.522 (0.034)	0.705 (0.129)	0.725 (0.155)	0.633 (0.085)	0.566 (0.058)

- Not Executed

Table B23: Mean and standard deviation of the MAE metric obtained for each dataset considering SVM technique. The best results are highlighted in bold.

	None	SMT	RO	RU	GN	SG	WERCs
Dataset	MAE						
wine-quality	0.620 (0.017)	0.631 (0.017)	0.651 (0.022)	0.650 (0.017)	0.698 (0.024)	-	0.628 (0.020)
analcata-data-apnea3	830.653 (494.753)	872.265 (487.591)	873.246 (487.366)	873.446 (492.483)	1.18e+3 (464.481)	1.04e+3 (472.319)	1.01e+3 (477.923)
meta	94.044 (99.767)	97.185 (99.106)	97.092 (99.208)	98.792 (98.536)	128.553 (97.490)	0.121 (0.049)	102.094 (100.155)
cocomo-numeric	346.599 (257.065)	559.615 (144.858)	560.301 (144.685)	593.217 (137.884)	975.360 (121.066)	5.347 (0.165)	365.968 (228.152)
Abalone	1.870 (0.118)	1.989 (0.110)	2.026 (0.112)	3.791 (0.138)	2.624 (0.121)	3.068 (0.108)	2.555 (0.145)
a3	4.033 (1.224)	5.896 (0.803)	5.749 (0.843)	6.323 (0.899)	11.341 (1.136)	8.342 (0.925)	7.153 (0.919)
forestFires	12.869 (8.497)	18.005 (7.953)	17.478 (8.080)	16.690 (7.701)	30.963 (7.016)	0.729 (0.046)	18.675 (8.208)
a1	14.354 (3.040)	22.264 (2.511)	22.399 (2.369)	22.954 (5.004)	24.134 (2.396)	28.758 (2.898)	19.946 (1.959)
a7	2.416 (0.778)	3.730 (0.846)	3.480 (0.792)	3.549 (1.292)	7.706 (0.875)	5.128 (0.856)	4.803 (1.073)
boston	6.464 (0.869)	9.358 (1.937)	9.214 (1.878)	12.515 (2.513)	10.124 (3.609)	13.120 (0.918)	8.106 (0.862)
pdgfr	0.121 (0.049)	0.137 (0.046)	0.134 (0.050)	0.204 (0.058)	0.229 (0.059)	0.112 (0.008)	0.162 (0.050)
sensory	0.618 (0.050)	0.692 (0.064)	0.715 (0.057)	0.666 (0.047)	0.690 (0.103)	1.224 (0.105)	0.705 (0.057)
a2	6.681 (1.707)	12.157 (2.252)	11.451 (2.001)	15.629 (2.840)	20.706 (2.051)	15.125 (1.447)	10.377 (2.013)
Kdd-coil-1	11.812 (3.013)	12.235 (2.985)	15.657 (3.517)	31.967 (4.799)	16.349 (3.542)	146.335 (7.706)	16.381 (3.133)
triazines	0.103 (0.018)	0.118 (0.017)	0.117 (0.015)	0.188 (0.028)	0.221 (0.035)	-	0.149 (0.025)
airfoild	1.59e+4 (2.68e+3)	2.29e+4 (2.24e+3)	2.29e+4 (2.20e+3)	2.42e+4 (1.96e+3)	2.29e+4 (2.18e+3)	1.59e+4 (2.68e+3)	1.59e+4 (2.68e+3)
treasury	1.117 (0.102)	1.175 (0.100)	1.183 (0.109)	1.594 (0.134)	1.261 (0.106)	-	1.136 (0.128)
mortgage	1.032 (0.101)	1.037 (0.124)	1.031 (0.123)	1.386 (0.163)	1.093 (0.126)	0.651 (0.079)	1.107 (0.106)
debutanizer	0.076 (0.005)	0.097 (0.005)	0.097 (0.005)	0.116 (0.009)	0.182 (0.010)	21.672 (7.666)	0.101 (0.007)
fuelCons	0.729 (0.046)	0.721 (0.060)	0.723 (0.057)	0.814 (0.048)	0.729 (0.046)	20.263 (4.068)	0.697 (0.048)
heat	17.130 (0.703)	21.278 (0.732)	21.195 (0.722)	23.643 (0.626)	21.582 (0.752)	3.753 (1.287)	20.598 (0.756)
california	8.83e+4 (1.51e+3)	2.01e+5 (1.63e+3)	2.01e+5 (1.64e+3)	1.85e+5 (3.76e+3)	2.02e+5 (1.80e+3)	660.880 (116.849)	8.93e+4 (1.57e+3)
AvailPwr	18.995 (1.776)	20.395 (2.070)	17.852 (1.441)	38.765 (4.317)	18.859 (1.433)	21.644 (1.940)	17.880 (1.486)
cpuSm	5.297 (0.130)	6.215 (0.205)	6.301 (0.206)	8.449 (0.377)	15.988 (0.674)	0.099 (0.005)	7.598 (0.783)
compactiv	5.347 (0.165)	6.240 (0.173)	6.347 (0.193)	8.614 (0.395)	16.288 (0.727)	11.525 (0.797)	7.349 (0.601)
maxTorq	67.132 (6.200)	118.741 (14.529)	115.657 (7.772)	114.987 (15.069)	121.750 (8.595)	1.111 (0.131)	68.660 (6.465)
lungcancer-shedden	2.358 (0.283)	4.391 (0.306)	4.282 (0.320)	3.058 (0.440)	4.183 (0.336)	103.743 (100.048)	3.545 (0.436)
space-ga	0.112 (0.008)	0.154 (0.008)	0.151 (0.008)	0.114 (0.008)	0.123 (0.027)	0.103 (0.018)	0.125 (0.009)
ConcrStr	11.525 (0.797)	13.548 (1.773)	12.592 (0.703)	11.991 (0.790)	11.525 (0.797)	5.297 (0.130)	12.734 (1.260)
Accel	2.068 (0.180)	2.756 (0.156)	2.689 (0.149)	2.170 (0.174)	2.068 (0.180)	2.068 (0.180)	2.102 (0.150)

- Not Executed

Table B24: Mean and standard deviation of the **MAE** metric obtained for each dataset considering **XG** technique. The best results are highlighted in bold.

	None	SMT	RO	RU	GN	SG	WERCS
Dataset	MAE						
wine-quality	0.455 (0.017)	0.477 (0.029)	0.481 (0.018)	0.506 (0.017)	0.545 (0.019)	-	0.514 (0.032)
analcatdata-apnea3	414.516 (154.175)	421.723 (155.142)	423.089 (156.830)	456.816 (145.748)	518.292 (100.806)	469.149 (156.452)	479.090 (139.860)
meta	91.220 (98.856)	91.126 (98.452)	92.661 (99.160)	97.159 (99.924)	120.873 (146.435)	0.117 (0.047)	117.275 (151.055)
cocomo-numeric	151.905 (145.431)	133.517 (114.962)	170.145 (161.723)	179.747 (154.154)	210.806 (139.962)	1.633 (0.060)	152.405 (150.111)
Abalone	1.706 (0.089)	1.793 (0.087)	1.757 (0.076)	1.911 (0.094)	2.019 (0.080)	2.113 (0.096)	2.071 (0.124)
a3	5.583 (1.700)	5.505 (1.246)	5.375 (1.742)	7.973 (1.816)	8.734 (1.190)	6.430 (1.482)	8.208 (2.401)
forestFires	25.287 (12.563)	25.067 (11.184)	25.644 (12.654)	29.220 (13.135)	39.476 (15.839)	0.239 (0.023)	42.702 (22.065)
a1	13.022 (3.636)	13.262 (3.079)	12.976 (3.514)	16.965 (4.300)	21.316 (4.219)	15.160 (3.894)	16.887 (2.418)
a7	3.043 (0.623)	3.058 (0.593)	3.070 (0.624)	4.491 (1.474)	4.274 (0.981)	3.736 (0.937)	4.525 (1.085)
boston	2.361 (0.299)	2.390 (0.341)	2.412 (0.262)	2.647 (0.250)	2.797 (0.517)	2.568 (0.435)	2.831 (0.436)
pdgfr	0.117 (0.047)	0.126 (0.046)	0.130 (0.049)	0.226 (0.096)	0.256 (0.070)	0.082 (0.005)	0.169 (0.064)
sensory	0.610 (0.062)	0.623 (0.063)	0.614 (0.062)	0.662 (0.066)	0.659 (0.053)	0.153 (0.042)	0.670 (0.061)
a2	6.935 (1.989)	7.192 (2.117)	7.394 (2.235)	12.426 (3.321)	19.614 (6.376)	8.053 (2.391)	11.715 (3.643)
Kdd-coil-1	10.350 (1.758)	10.624 (2.024)	10.834 (2.830)	12.858 (3.651)	12.487 (2.102)	1.284 (0.637)	13.331 (2.128)
triazines	0.087 (0.022)	0.088 (0.020)	0.092 (0.016)	0.132 (0.040)	0.166 (0.038)	-	0.106 (0.025)
airfoild	1.21e+3 (89.037)	1.72e+3 (303.071)	1.22e+3 (126.934)	1.71e+3 (278.390)	1.21e+3 (89.037)	1.21e+3 (89.037)	6.69e+3 (2.20e+3)
treasury	0.136 (0.021)	0.133 (0.020)	0.134 (0.018)	0.165 (0.031)	0.159 (0.018)	-	0.143 (0.022)
mortgage	0.098 (0.011)	0.105 (0.013)	0.095 (0.010)	0.115 (0.011)	0.118 (0.016)	0.617 (0.050)	0.128 (0.037)
debutanizer	0.044 (0.004)	0.045 (0.003)	0.047 (0.004)	0.071 (0.019)	0.098 (0.036)	34.388 (18.001)	0.057 (0.008)
fuelCons	0.239 (0.023)	0.269 (0.040)	0.252 (0.035)	0.358 (0.038)	0.239 (0.023)	13.295 (2.543)	0.304 (0.038)
heat	0.960 (0.057)	1.190 (0.039)	1.083 (0.067)	1.215 (0.072)	0.960 (0.057)	2.423 (0.377)	1.225 (0.157)
california	3.17e+4 (884.404)	4.45e+4 (1.37e+3)	3.61e+4 (1.37e+3)	4.82e+4 (1.48e+3)	4.56e+4 (1.32e+3)	215.397 (201.270)	3.59e+4 (921.360)
AvailPwr	1.347 (0.381)	2.902 (1.879)	1.468 (0.574)	2.033 (0.539)	2.325 (0.470)	1.347 (0.381)	1.930 (0.472)
cpuSm	1.932 (0.070)	2.057 (0.087)	1.965 (0.076)	2.042 (0.135)	2.082 (0.076)	0.049 (0.004)	2.350 (0.176)
compactiv	1.633 (0.060)	1.780 (0.091)	1.661 (0.072)	1.725 (0.067)	1.777 (0.088)	2.716 (0.304)	1.836 (0.124)
maxTorq	1.284 (0.637)	5.950 (3.156)	1.370 (0.576)	2.051 (0.587)	1.284 (0.637)	0.121 (0.043)	1.422 (0.563)
lungcancer-shedden	2.218 (0.271)	2.216 (0.303)	2.245 (0.212)	3.163 (0.586)	4.099 (0.477)	93.131 (98.600)	2.725 (0.303)
space-ga	0.077 (0.005)	0.081 (0.006)	0.083 (0.004)	0.087 (0.005)	0.077 (0.005)	0.087 (0.022)	0.085 (0.006)
ConcrStr	2.716 (0.304)	3.135 (0.343)	2.813 (0.298)	3.748 (0.412)	2.716 (0.304)	1.932 (0.070)	3.420 (0.632)
Accel	0.449 (0.035)	0.527 (0.056)	0.448 (0.036)	0.561 (0.046)	0.449 (0.035)	0.449 (0.035)	0.506 (0.038)

- Not Executed