| HPO | MLS | OLS | GEM | FSR(*) | PCR(AICc) | PLS(AICc) | BST(AICc) | RBST(AIC) | BST(ICM) | RBST(ICM) |
|-----------|------------------------|------------------|------------------|-----------|------------|-----------|-----------|-----------|-----------|-----------|
| | abalone | 2.56e+8(9) | 47.50(3) | 47.50(5) | 49.72(8) | 47.44(1) | 47.50(5) | 47.50(5) | 47.51(7) | |
| Ridge | airfoil_self_noise | 2.05e+7(9) | 48.91(4) | 48.90(2) | 1.06e+4(8) | 50.29(7) | 48.90(2) | 48.90(2) | 48.96(5) | 49.01(6) |
| | auto_mpg | 18.73(9) | 18.50(6) | 18.43(3) | 18.57(8) | 18.43(1) | 18.43(3) | 18.43(3) | 18.43(5) | 18.51(7) |
| | automobile | 2.45e+4(9) | 17.71(2) | 18.81(6) | 413.02(8) | 17.90(3) | 18.81(6) | 18.05(4) | 18.35(5) | 17.56(1) |
| | concrete_data | 488.31(9) | 39.16(8) | 39.16(6) | 39.07(1) | 39.11(2) | 39.16(6) | 39.16(6) | 39.15(3) | 39.15(4) |
| | crime | 2.41e+11(9) | 34.79(6) | | 34.54(1) | 34.81(8) | 34.64(4) | 34.64(4) | 34.63(2) | 34.79(7) |
| | fertility | 4.65e+8(9) | 109.12(8) | 102.78(3) | 107.29(7) | 102.93(5) | 102.78(3) | 102.78(3) | 103.02(6) | 102.73(1) |
| | flow | 1.37e+3(9) | | 63.78(3) | 289.44(8) | 64.68(6) | 63.78(3) | 63.78(3) | 62.10(1) | |
| | forest | 2.93e+9(9) | 112.17(8) | | 101.70(7) | 100.38(2) | 100.75(5) | 100.75(5) | | 100.73(3) |
| | qsar | 75.01(9) | | 43.05(2) | 43.23(8) | 43.05(5) | 43.05(2) | 43.05(2) | 43.05(6) | 43.05(4) |
| | servo | 1.9e+11(9) | 63.80(8) | 60.26(5) | 60.53(7) | 60.21(3) | 60.26(5) | 60.26(5) | 59.77(1) | 60.20(2) |
| | slump | 4.51e+12(9) | 90.91(8) | 85.69(4) | 85.74(6) | 85.85(7) | 85.69(4) | 85.69(4) | 85.48(1) | 85.69(2) |
| | traffic | 2.89e+10(9) | 46.80(8) | 45.06(6) | 43.77(2) | 41.56(1) | 45.06(6) | 45.06(6) | 43.82(3) | 44.65(4) |
| | wine_red | 1.27e+3(9) | 64.96(6) | 64.92(3) | 67.16(8) | 65.05(7) | 64.92(3) | 64.92(3) | 64.91(1) | 64.95(5) |
| | wine_white | 1.59e+3(9) | 72.96(2) | 72.97(4) | 76.79(8) | 73.12(7) | 72.97(4) | 72.97(4) | 72.94(1) | 72.97(6) |
| Avg. Rank | | (9.00) | (6.07) | (4.10) | (6.33) | (4.33) | (4.10) | (3.93) | (3.20) | (3.93) |
| | abalone | 43.96(8) | 43.91(7) | 42.99(4) | 51.96(9) | 43.60(6) | 42.99(4) | 42.99(4) | 42.98(2) | 42.69(1) |
| SVR | airfoil_self_noise | 171.19(8) | 72.69(3) | 73.78(6) | 3.28e+4(9) | 72.04(2) | 73.78(6) | 73.78(6) | 72.88(4) | 71.14(1) |
| | auto_mpg | 9.39e+13(9) | 37.11(1) | 37.33(3) | 76.78(8) | 42.44(7) | 37.33(3) | 37.33(3) | 37.79(6) | 37.61(5) |
| | automobile | 3.61e+10(9) | 110.99(7) | | 385.00(8) | 99.99(1) | 100.17(3) | 100.17(3) | 100.33(6) | 100.28(5) |
| | concrete_data | 333.84(8) | 59.56(6) | 53.86(3) | 369.07(9) | 60.36(7) | 53.86(3) | 53.86(3) | 53.72(1) | 53.93(5) |
| | crime | 41.60(3) | 41.45(2) | 42.49(6) | 46.16(9) | 42.62(8) | 42.49(6) | 42.49(6) | 41.67(4) | 41.22(1) |
| | fertility | 2.83e+11(9) | 100.62(1) | 114.09(5) | 106.90(2) | 116.04(7) | 114.09(5) | 114.09(5) | 116.46(8) | 113.30(3) |
| | flow | 6.06e+15(9) | 76.52(6) | 76.51(3) | 677.39(8) | 74.12(1) | 76.52(5) | 76.51(3) | 75.44(2) | |
| | forest | 1.66e+7(9) | 95.50(1) | 100.80(4) | 104.71(8) | 101.31(7) | 100.80(4) | 100.80(4) | 100.90(6) | 100.29(2) |
| | qsar | 2.81e+12(9) | 36.65(2) | 39.34(6) | 41.09(8) | 38.04(4) | 39.34(6) | 38.28(5) | 36.89(3) | 36.59(1) |
| | servo | 2.21e+4(9) | 18.14(6) | 17.35(4) | 17.16(3) | 20.01(8) | 16.01(2) | 15.89(1) | 17.44(5) | 18.39(7) |
| | slump | 1.29e+14(9) | 75.60(7) | 74.17(4) | 210.01(8) | 74.59(6) | 72.51(1) | 74.36(5) | 72.62(2) | 74.01(3) |
| | traffic | 457.72(9) | 37.64(1) | 39.35(3) | 61.08(8) | 50.16(7) | 39.35(3) | 39.35(3) | 40.61(6) | 39.60(5) |
| | wine_red | 92.52(9) | 60.06(5) | 65.39(7) | 64.17(6) | 58.05(4) | 57.52(3) | 65.39(7) | 56.97(2) | 56.50(1) |
| | wine_white | 55.89 (1) | 60.59(7) | 73.37(9) | 65.01(8) | 59.24(6) | 58.83(5) | 58.79(4) | 58.52(3) | 55.92(2) |
| Avg. Rank | | (7.87) | (4.13) | (4.77) | (7.40) | (5.40) | (3.97) | (4.20) | (4.00) | (3.27) |
| | abalone | 44.58(3) | 44.30(1) | 44.95(6) | 60.76(9) | 45.68(8) | 44.95(6) | 44.95(6) | 44.89(4) | 44.40(2) |
| RFR | $airfoil_self_noise$ | 20.40(1) | 25.30(8) | 23.43(6) | 3.29e+4(9) | 22.70(2) | 23.43(6) | 23.43(6) | 23.27(4) | 22.91(3) |
| | auto_mpg | 15.79(8) | 14.02(2) | 14.62(5) | 612.96(9) | 13.71(1) | 14.62(5) | 14.62(5) | 14.63(7) | 14.36(3) |
| | automobile | 15.22(7) | 17.33(8) | 14.93(3) | 408.94(9) | 15.09(6) | 14.93(3) | 14.93(3) | 14.90(1) | 14.99(5) |
| | concrete_data | 16.23(1) | 26.26(8) | 22.79(6) | 471.77(9) | 17.07(3) | 22.79(6) | 17.40(4) | 20.46(5) | 16.54(2) |
| | crime | 35.56(5) | 35.20(2) | 36.13(7) | 37.11(9) | 35.54(4) | 36.13(7) | 36.13(7) | 35.23(3) | 35.10(1) |
| | fertility | 163.56(9) | 96.63(2) | 99.66(4) | 100.19(6) | 105.33(7) | 99.66(4) | 99.66(4) | 107.90(8) | 94.58(1) |
| | flow | 71.44(7) | 59.02 (1) | 66.93(4) | 871.96(9) | 76.66(8) | 66.93(4) | 66.93(4) | 67.41(6) | 61.24(2) |
| | forest | 115.62(9) | 106.05(7) | 105.26(5) | 105.20(3) | 104.74(2) | 105.26(5) | 105.26(5) | 102.88(1) | 106.29(8) |
| | qsar | 38.78(5) | 37.68(2) | 39.17(7) | 44.05(9) | 38.40(4) | 39.17(7) | 39.17(7) | 38.36(3) | 37.51(1) |
| | servo | 24.35(9) | 14.52(5) | 14.06(3) | 21.59(8) | 15.48(7) | 14.06(3) | 13.73(1) | 13.82(2) | 14.55(6) |
| | slump | 96.41(8) | 72.16(1) | 73.55(5) | 503.21(9) | 72.62(3) | 73.55(5) | 73.55(5) | 73.69(7) | 72.21(2) |
| | traffic | 117.24(8) | 43.67(1) | 47.56(4) | 235.82(9) | 57.48(7) | 47.56(4) | 47.56(4) | 48.48(6) | 45.17(2) |
| | wine_red | 56.06(2) | 55.97(1) | 57.64(6) | 73.95(9) | 58.51(8) | 57.64(6) | 57.64(6) | 57.30(4) | 56.56(3) |
| | wine_white | 57.91(1) | 59.25(3) | 60.32(6) | 73.72(9) | 60.62(8) | 60.32(6) | 60.32(6) | 60.02(4) | 59.05(2) |
| Avg. Rank | | (5.53) | (3.47) | (5.20) | (8.33) | (5.20) | (5.20) | (4.87) | (4.33) | (2.87) |
| Mean Rank | | (7.47) | (4.56) | (4.69) | (7.36) | (4.98) | (4.42) | (4.33) | (3.84) | (3.36) |

Table 3: The 3-fold cross validation relative mean squared error and Friedman ranks for all the datasets when OLS and GEM and the best stop criteria among AIC, AICc, BIC, HQIC, GMDL for FSR, PCR, PLS, BST and RBST and the novel stop criterion ICM for BST and RBST, taking into account some baseline systems (Ridge, SVR and RFR) and the BO sampling strategy.