kNNR	Best	LR	LRX	SWR	SWRX	SWRSC	SWRSCX
automobile	25.92(7)	23.95(2)	**20.09**(1)	25.35(4)	25.57(5)	24.41(3)	25.73(6)
fertility	94.03(3)	**93.25**(1)	105.91(7)	94.04(4)	93.49(2)	96.23(5)	102.26(6)
flow	84.84(5)	91.92(7)	67.85(3)	82.97(4)	67.64(2)	89.79(6)	**59.19**(1)
forest	102.95(7)	99.74(5)	101.76(6)	98.77(3)	**98.40**(1)	98.48(2)	99.47(4)
servo	52.69(7)	44.25(2)	**39.87**(1)	48.38(5)	49.84(6)	45.19(3)	45.36(4)
slump	92.59(5)	99.48(7)	86.98(3)	90.97(4)	**81.00**(1)	93.50(6)	85.03(2)
traffic	33.44(2)	33.89(3)	45.37(7)	33.92(4)	34.03(5)	**32.14**(1)	34.71(6)
wine_red	85.29(7)	79.13(3)	**61.83**(1)	85.04(6)	82.04(5)	80.14(4)	64.04(2)
wine_white	85.24(7)	78.64(3)	**65.55**(1)	85.03(6)	85.01(5)	79.88(4)	65.69(2)
Avg. Rank	(5.56)	(3.67)	(**3.33**)	(4.44)	(3.56)	(3.78)	(3.67)
Ridge	Best	LR	LRX	SWR	SWRX	SWRSC	SWRSCX
automobile	18.35(3)	2.85E+04(7)	1.04E+04(6)	18.52(4)	18.72(5)	18.20(2)	**16.23**(1)
fertility	102.35(2)	5.18E+08(7)	3.87E+08(6)	102.46(3)	103.96(4)	**95.11**(1)	103.98(5)
flow	65.31(4)	1.55E+03(7)	78.00(6)	65.22(3)	66.37(5)	64.67(2)	**57.16**(1)
forest	99.34(5)	5.09E+08(7)	1.34E+08(6)	98.15(2)	**98.02**(1)	98.18(3)	99.20(4)
servo	62.42(5)	1.82E+11(6)	2.23E+12(7)	61.46(4)	**60.85**(1)	61.05(2)	61.10(3)
slump	87.34(5)	4.63E+12(7)	7.15E+08(6)	86.67(4)	85.35(2)	85.62(3)	**78.98**(1)
traffic	39.51(5)	2.67E+10(6)	1.68E+11(7)	38.95(3)	39.32(4)	37.97(2)	**37.97**(1)
wine_red	64.85(4)	1.27E+03(7)	1.11E+03(6)	64.81(3)	65.08(5)	64.81(2)	**64.77**(1)
wine_white	72.82(2)	1.58E+03(6)	1.16E+05(7)	72.90(4)	73.00(5)	72.82(3)	**72.75**(1)
Avg. Rank	(3.89)	(6.67)	(6.33)	(3.33)	(3.56)	(2.22)	(**2.00**)
Lasso	Best	LR	LRX	SWR	SWRX	SWRSC	SWRSCX
automobile	18.53(3)	19.27(4)	18.27(2)	19.60(7)	19.60(6)	19.37(5)	**16.44**(1)
fertility	92.95(3)	95.16(5)	116.79(7)	**92.95**(1)	92.95(1)	94.34(4)	102.93(6)
flow	64.84(4)	191.60(6)	238.46(7)	64.74(3)	66.02(5)	64.63(2)	**57.34**(1)
forest	99.55(5)	102.38(6)	196.51(7)	98.20(2)	**98.02**(1)	98.31(3)	99.33(4)
servo	62.81(4)	62.43(3)	66.16(6)	61.92(2)	**61.80**(1)	63.72(5)	66.21(7)
slump	85.77(5)	90.98(6)	92.67(7)	85.22(4)	84.61(2)	84.82(3)	**79.15**(1)
traffic	38.22(4)	6.56E+06(6)	2.18E+08(7)	37.83(3)	37.83(2)	**36.09**(1)	38.72(5)
wine_red	66.69(7)	66.50(4)	**64.92**(1)	66.65(6)	66.53(5)	66.49(3)	66.13(2)
wine_white	74.80(5)	74.67(4)	**72.99**(1)	74.92(6)	75.03(7)	74.67(3)	73.08(2)
Avg. Rank	(4.44)	(4.89)	(5.00)	(3.83)	(3.39)	(**3.22**)	(**3.22**)
SVR	Best	LR	LRX	SWR	SWRX	SWRSC	SWRSCX
automobile	114.69(5)	3.18E+10(6)	1.46E+11(7)	99.46(3)	44.41(2)	99.68(4)	**16.77**(1)
fertility	**92.71**(1)	2.64E+11(7)	1.20E+11(6)	92.95(2)	92.95(2)	103.79(4)	108.64(5)
flow	78.58(3)	4.85E+15(7)	3.01E+11(6)	78.65(4)	80.61(5)	78.27(2)	**59.11**(1)
forest	**97.99**(1)	4.42E+06(6)	7.40E+06(7)	98.25(3)	98.05(2)	98.35(4)	99.70(5)
servo	21.31(4)	4.13E+04(6)	1.05E+15(7)	**20.54**(1)	20.55(2)	20.75(3)	22.48(5)
slump	78.83(4)	1.22E+14(7)	6.48E+13(6)	77.02(2)	82.95(5)	**72.75**(1)	77.71(3)
traffic	**31.31**(1)	398.84(7)	279.16(6)	31.46(2)	31.47(3)	33.54(4)	39.86(5)
wine_red	65.68(5)	92.29(6)	5.16E+13(7)	65.53(4)	65.27(3)	**56.87**(1)	56.88(2)
wine_white	73.27(6)	55.78(2)	**55.37**(1)	73.16(5)	73.32(7)	58.40(3)	58.40(4)
Avg. Rank	(3.33)	(6.00)	(5.89)	(2.94)	(3.50)	(**2.89**)	(3.44)

Table 3: The 3-fold cross validation relative mean squared error and Friedman ranks for all datasets when the best hyperparameter configuration trial (Best), linear regression via least squared with the option of adding features (LRX) or not (LR), non-hyperparametric stepwise regression adding features (SWRX) or not (SWR) and non-hyperparametric stepwise regression adaptation with stop criterion adding features (SWRSCX) or not (SWRSC), all taking into account several baseline systems (kNNR, Ridge, Lasso and SVR) and the BO sampling strategy.