Table 1: The Δ of model accuracy for creating significant improvements on tuning quality under sequential model-based tuners. $+\Delta$ and $-\Delta$ denote the improvements in tuning quality are the results of enhanced and worsened accuracy, respectively. M&P, R&P, M&E, and R&Erespectively denote the combined metric set of MAPE-performance, μRD-performance, MAPE-efficiency, and μRD-efficiency. "-" means no samples have reached that accuracy.

	MAPE		μRD	
Range	M&P+Δ	M&P$-\Delta$	R&P+Δ	R&P$-\Delta$
>100	68.0±57.6	55.6±50.2	-	-
90–100	35.1±25.0	27.3±17.4	-	-
80–90	38.3±23.2	15.3±12.6	-	-
70–80	30.5±18.2	25.3±20.0	-	-
60–70	22.6±13.0	23.5±21.5	-	-
50–60	21.4±15.1	20.3±11.6	-	-
40–50	23.5±11.7	9.2±6.8	-	-
30–40	13.0±7.8	8.2±4.7	7.8±7.5	6.6±6.9
20–30	9.3±7.2	4.7±5.6	4.8±5.4	4.0±4.3
10–20	6.1±4.8	4.2±4.8	1.9±2.6	1.4±1.5
0–10	0.7±1.1	0.6±0.9	0.6±0.7	1.1±0.9

	MAPE		μRD	
Range	M&E+Δ	M&E$-\Delta$	R&E+Δ	R&E$-\Delta$
>100	60.1±55.6	56.8±50.8	-	-
90–100	41.3±17.6	27.9±18.3	-	-
80–90	36.8±21.1	39.4±24.3	-	-
70–80	30.5±17.7	39.5±23.6	-	-
60–70	25.8±16.5	25.0±21.0	-	-
50–60	23.7±16.1	20.1±15.3	-	-
40–50	18.9±13.1	15.8±11.5	-	-
30–40	13.4±9.9	10.7±7.8	8.3±8.3	6.0±6.3
20–30	7.7±6.8	7.0±7.4	4.7±5.0	4.2±4.5
10–20	5.5±4.6	3.4±2.8	1.8±2.2	1.5±2.0
0–10	0.8±1.4	0.8±1.2	1.0±0.8	1.1±0.9

Table 2: The Δ of model accuracy for creating significant improvements on tuning quality under batch model-based tuners. 0.0±0.0 means we found no samples that can significantly improve the tuning for a range. The formats are the same as Table 1.

	MAPE		μRD	
Range	M&P+Δ	M&P$-\Delta$	R&P+Δ	R&P$-\Delta$
>100	72.6±39.1	47.0±29.1	-	-
90–100	80.6±18.3	39.7±5.0	-	-
80–90	66.5±13.3	31.1±17.9	-	-
70–80	11.4±9.0	0.0±0.0	-	-
60–70	41.5±10.2	0.0±0.0	-	-
50–60	28.9±18.3	0.0±0.0	-	-
40–50	33.2±13.7	13.7±13.8	-	-
30–40	23.2±9.7	18.0±7.4	11.7±11.2	12.0±9.4
20–30	14.9±7.0	8.5±6.6	10.0±7.6	8.0±8.9
10–20	9.1±4.4	8.2±4.0	4.8±3.9	2.9±2.9
0–10	0.8±1.3	0.7±1.0	1.3±1.4	0.9±1.3

	MAPE		μRD	
Range	M&E+Δ	M&E$-\Delta$	R&E+Δ	R&E$-\Delta$
>100	85.9±45.5	48.8±32.1	-	-
90–100	77.4±25.0	87.9±12.7	-	-
80–90	68.2±14.8	64.2±20.8	-	-
70–80	50.6±27.5	0.0±0.0	-	-
60–70	46.4±14.2	49.9±0.0	-	-
50–60	31.9±16.6	20.5±3.8	-	-
40–50	31.4±13.9	22.7±14.4	-	-
30–40	23.1±10.1	14.8±9.1	14.8±10.5	10.7±9.7
20–30	15.6±8.6	15.5±9.2	10.6±7.1	8.0±7.0
10–20	10.1±5.0	9.7±4.5	6.3±4.6	3.7±2.9
0–10	1.1±1.4	1.1±1.7	1.6±1.0	0.6±0.7