

KDN and DN

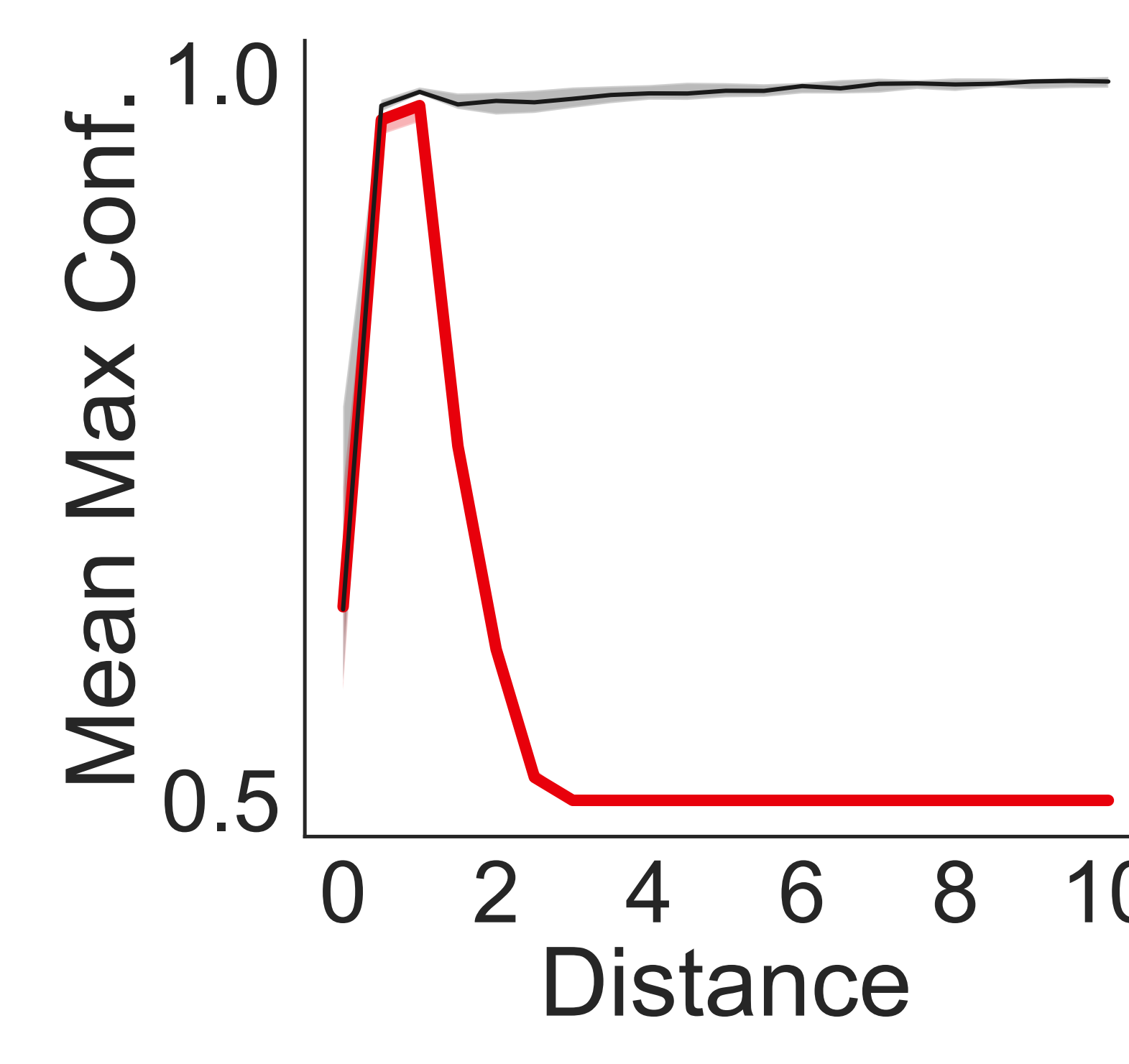
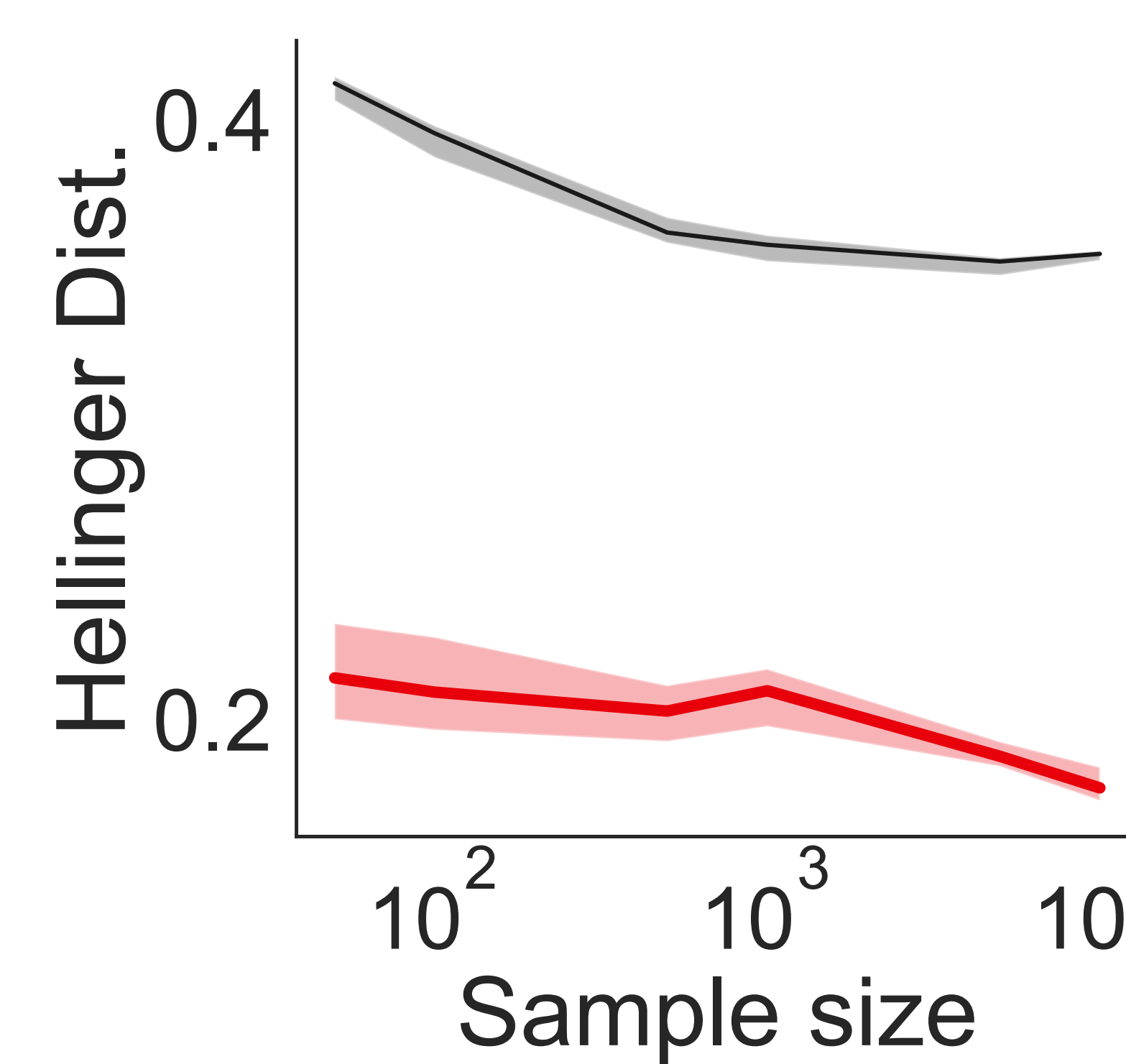
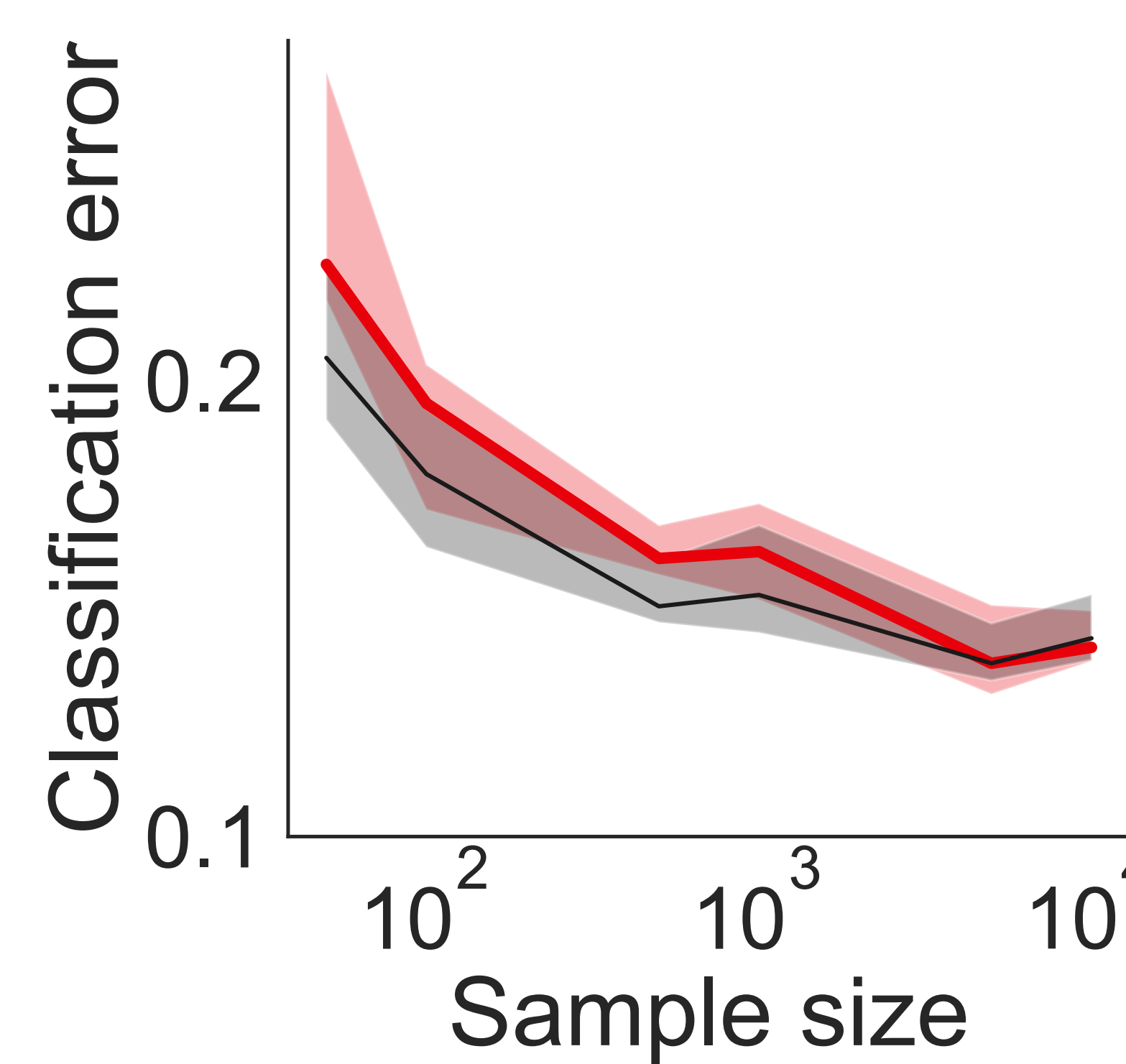
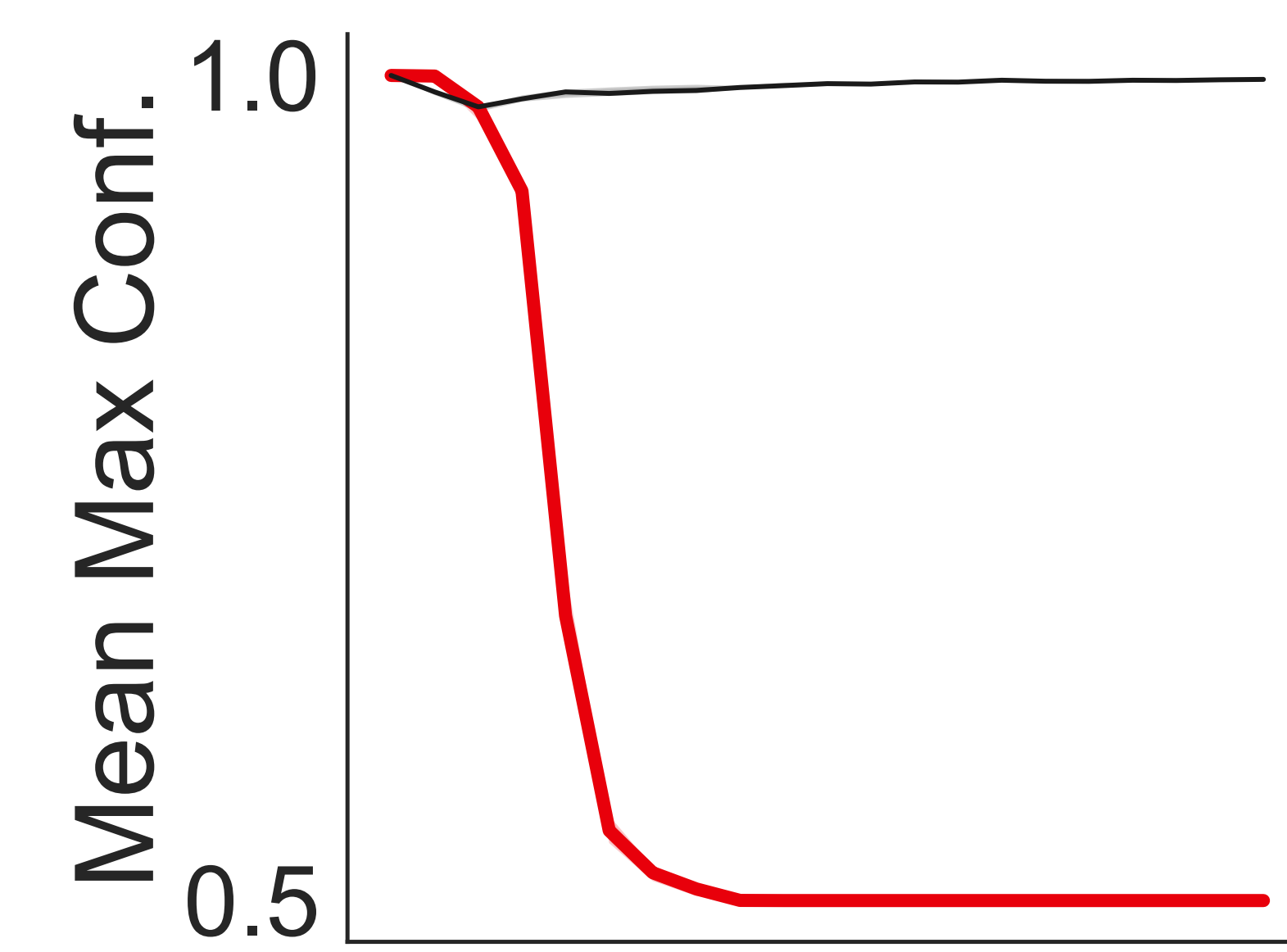
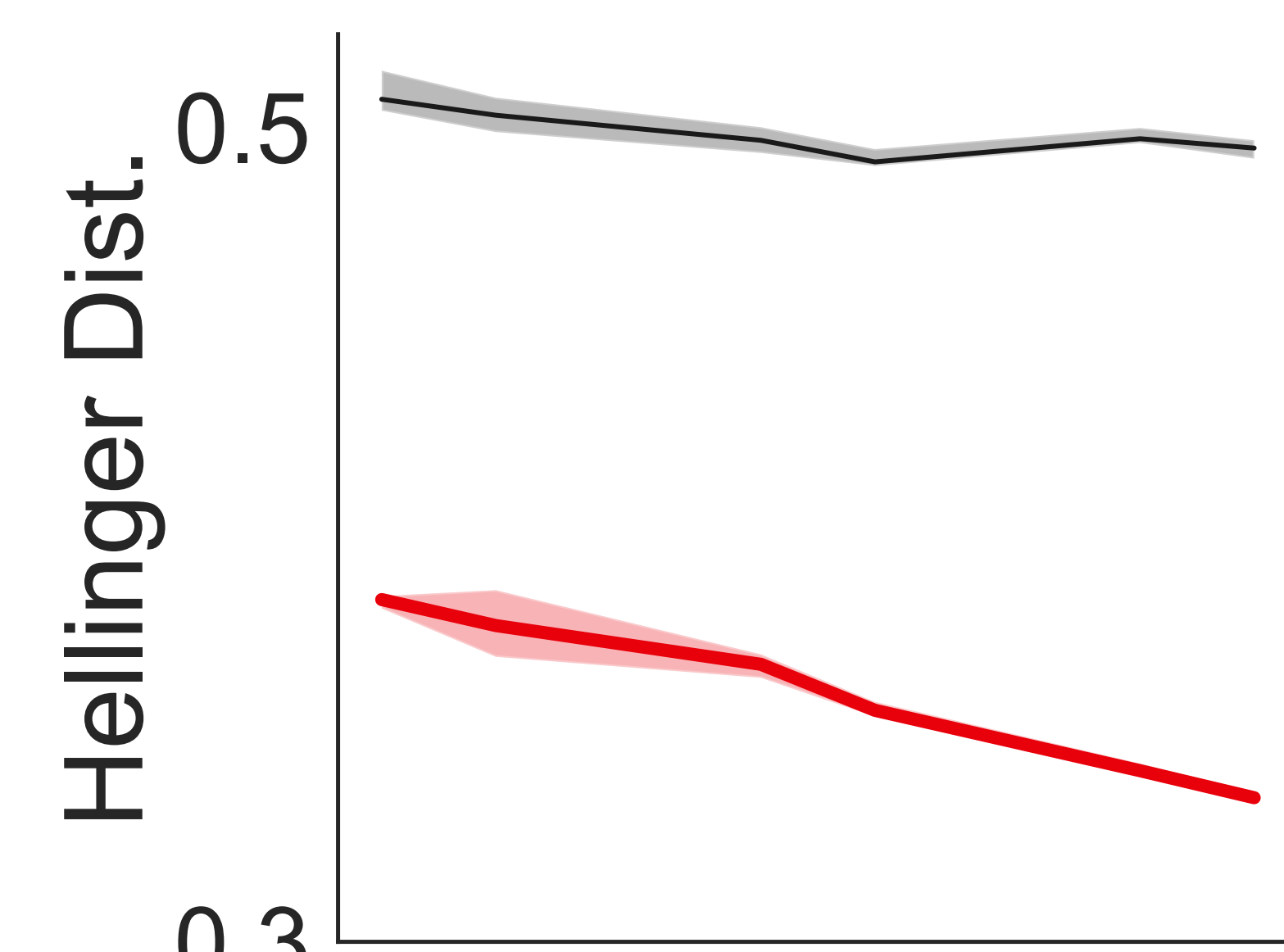
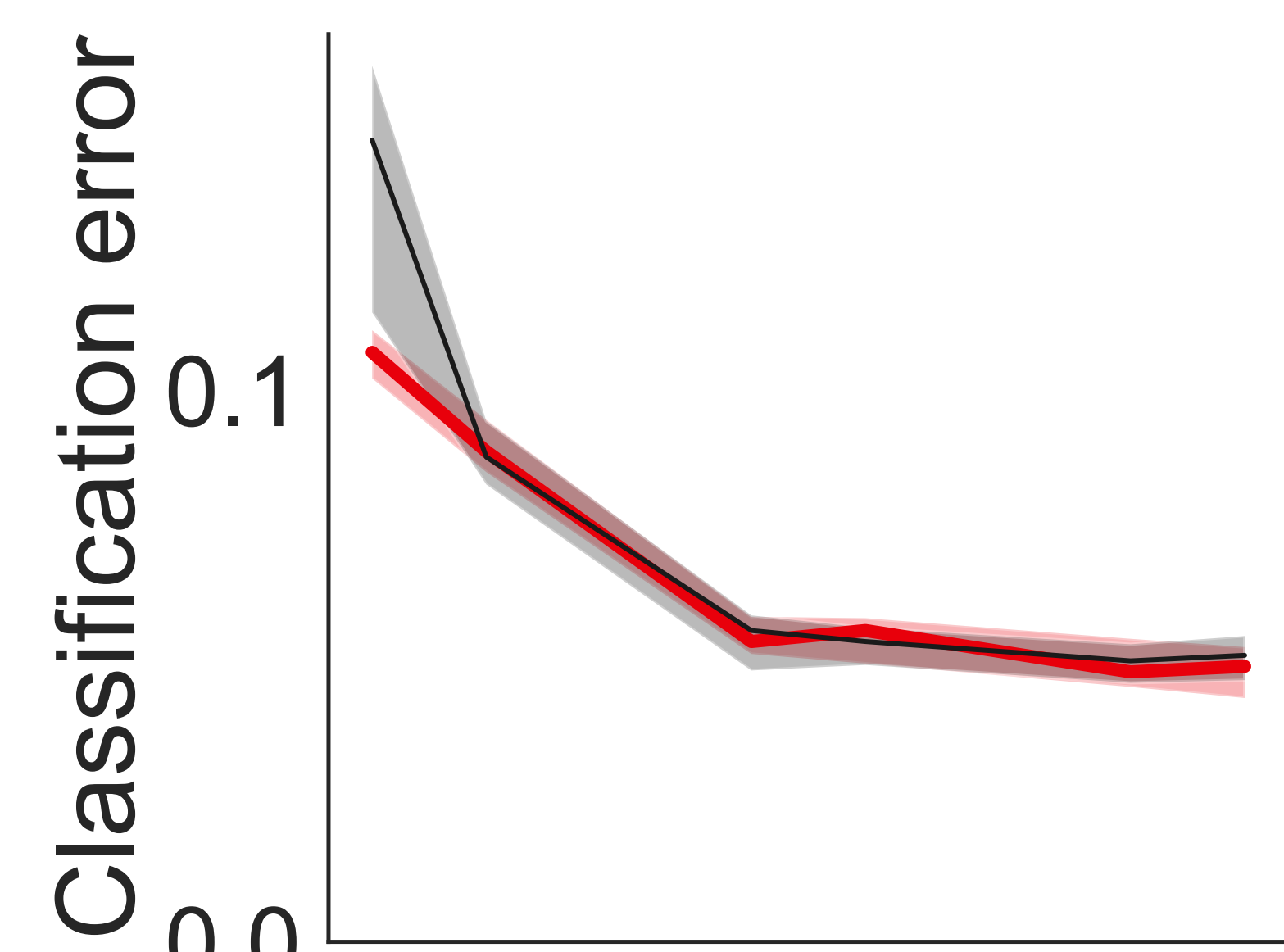
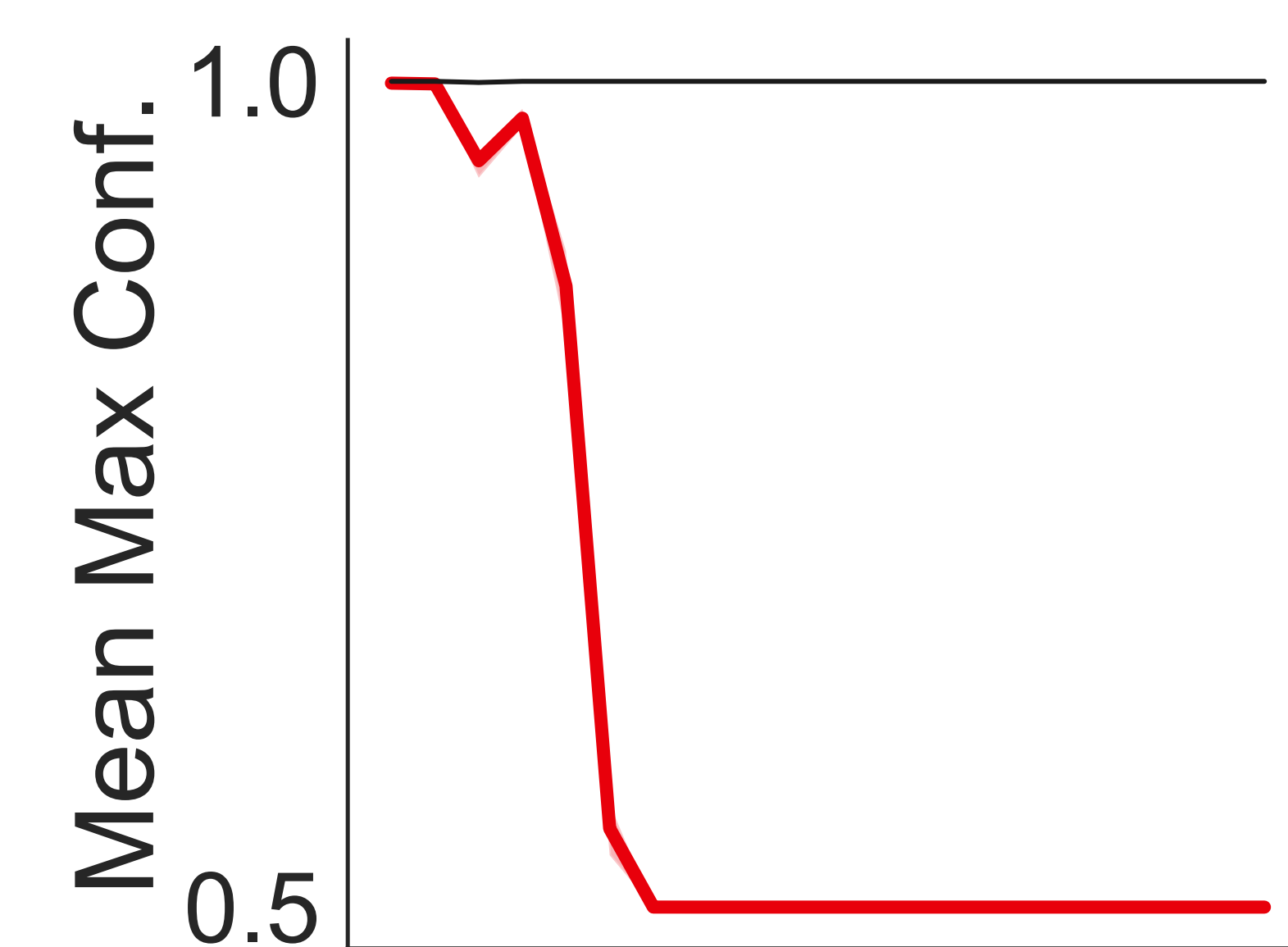
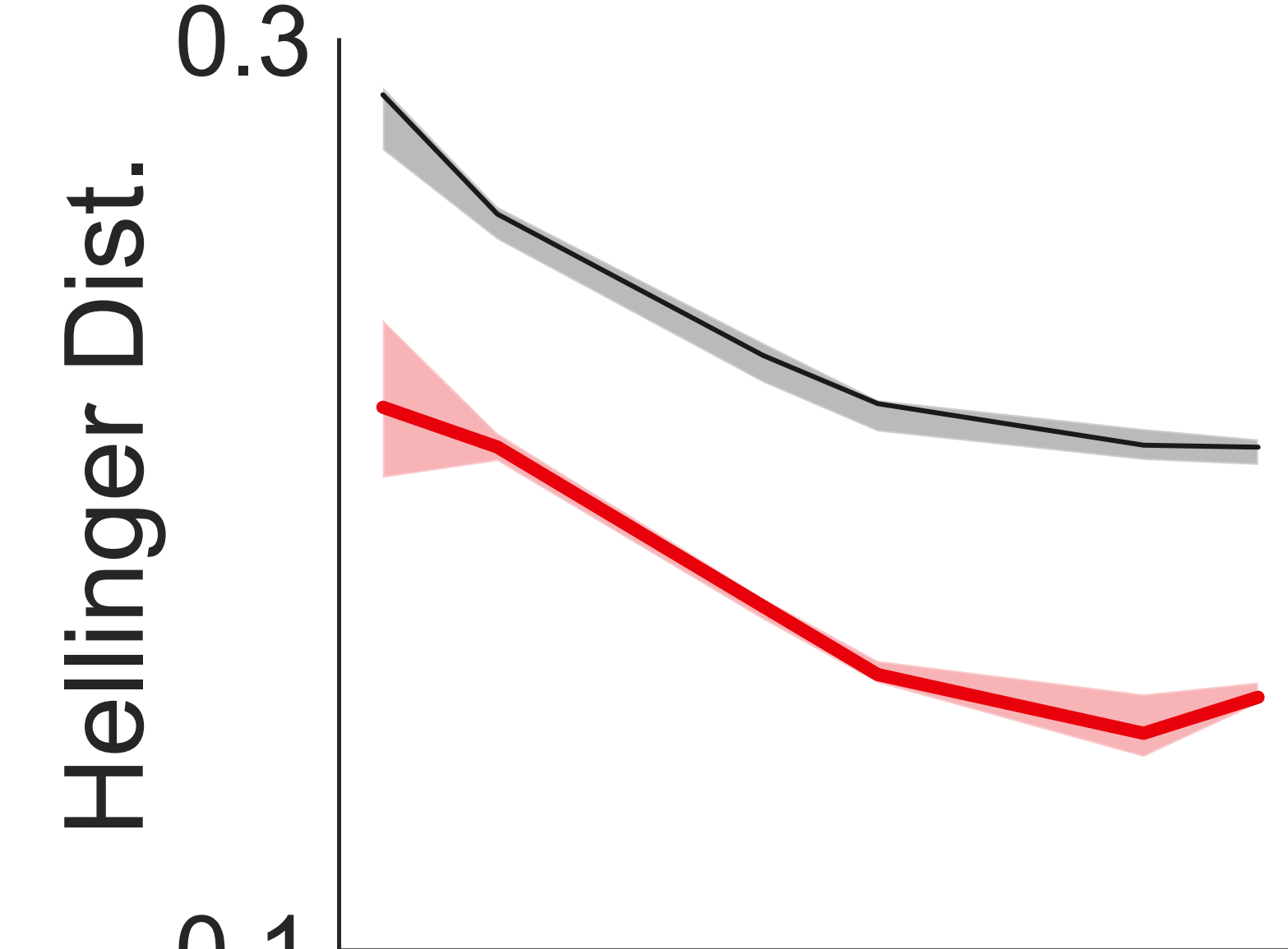
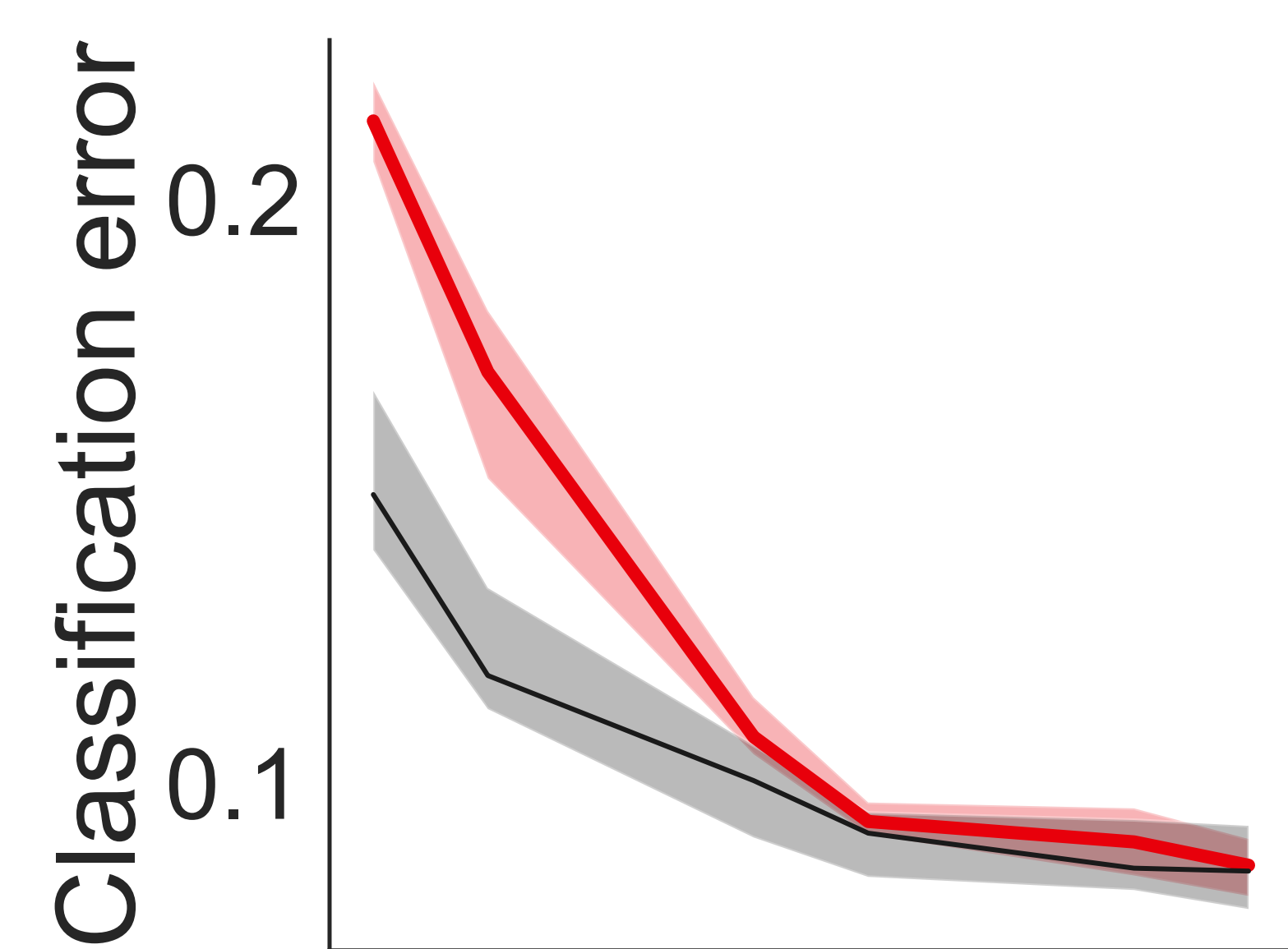
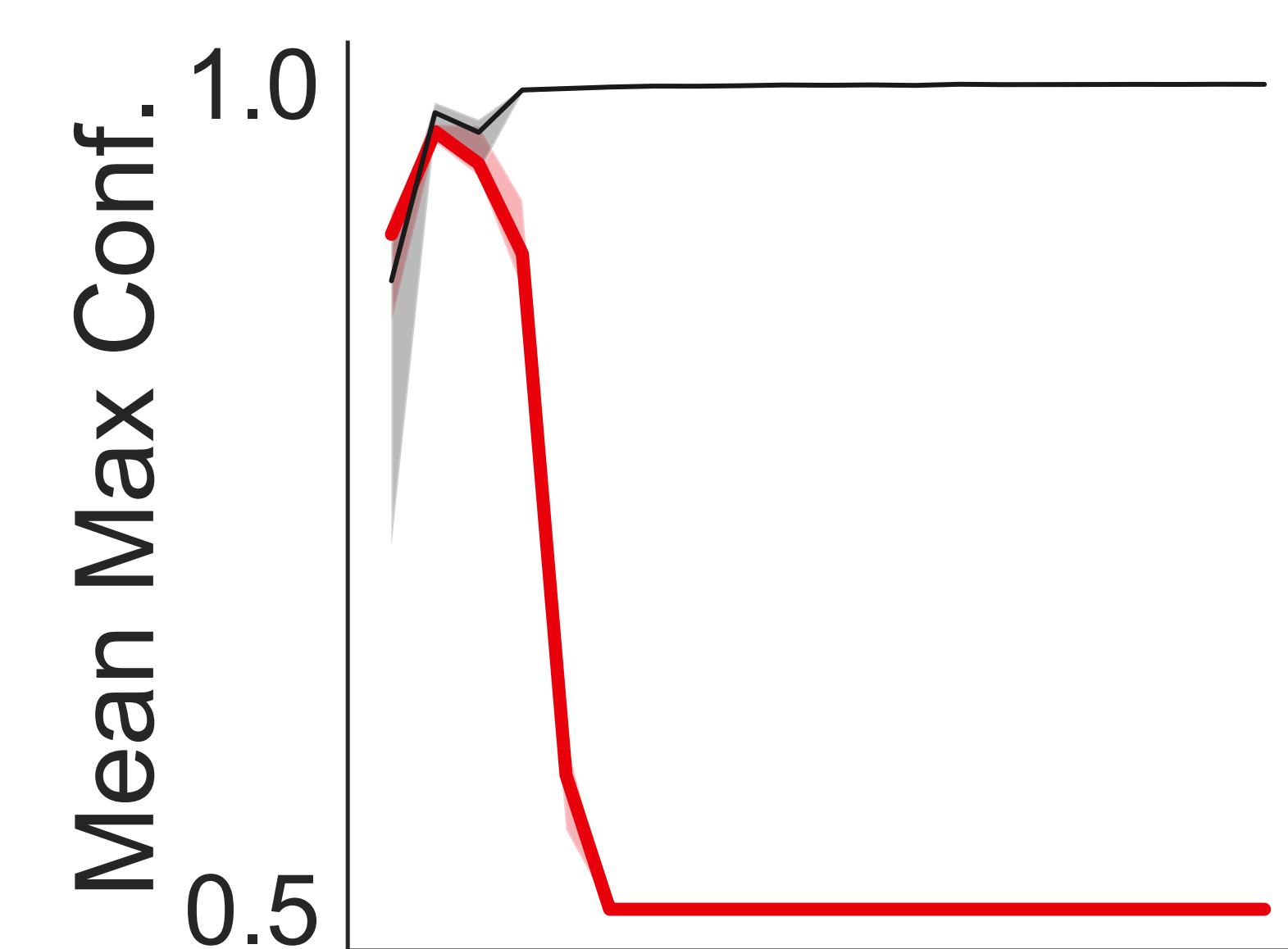
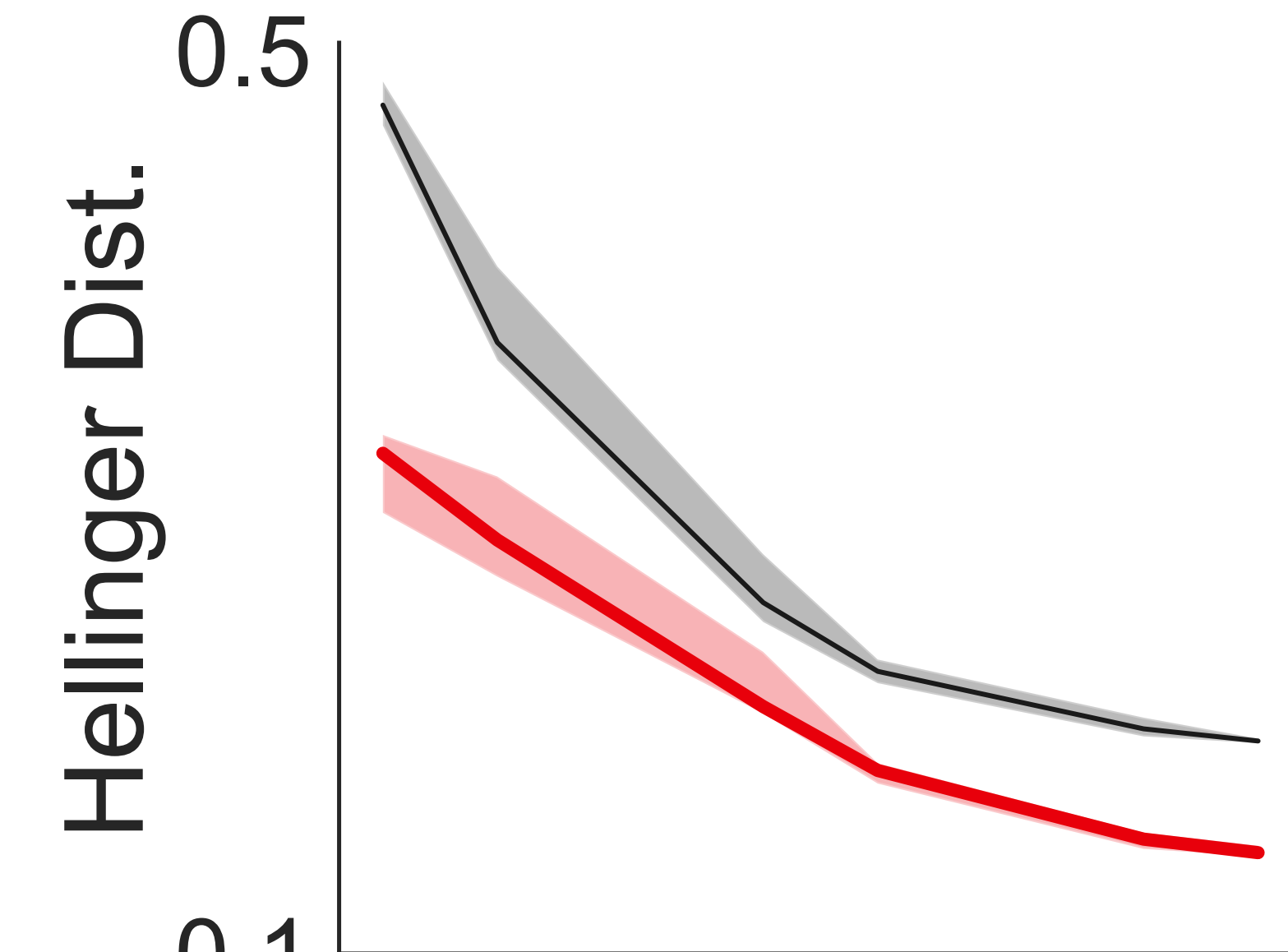
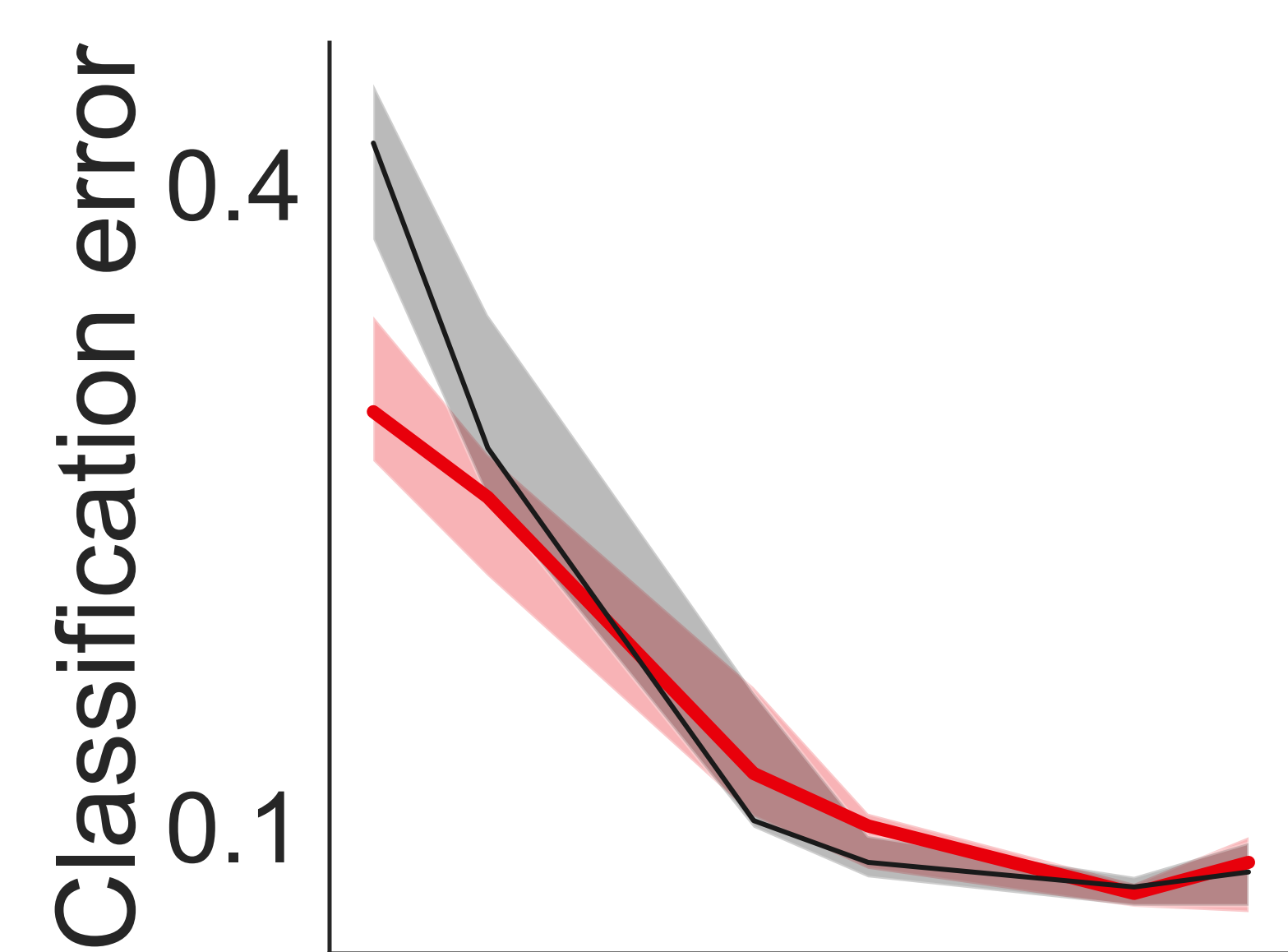
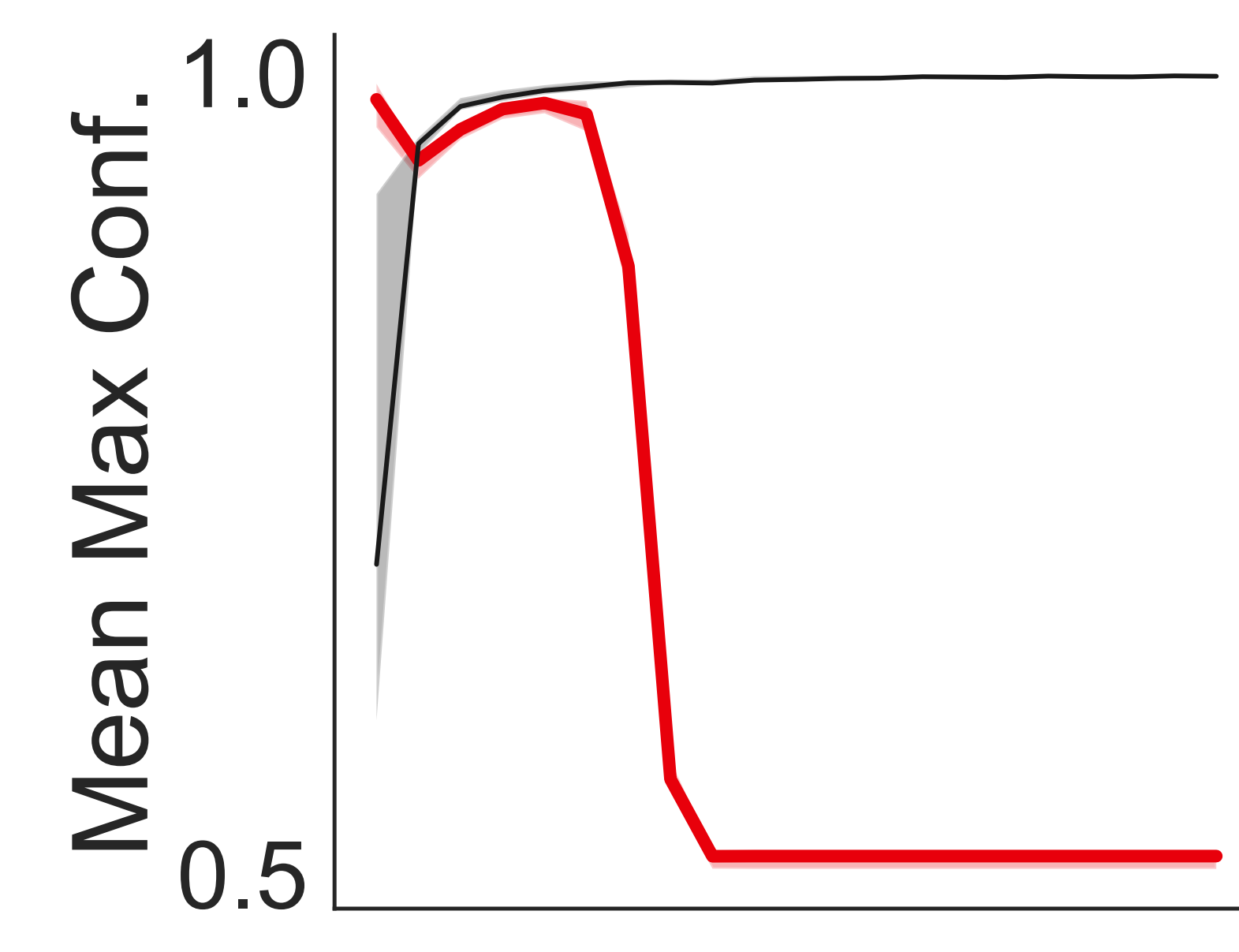
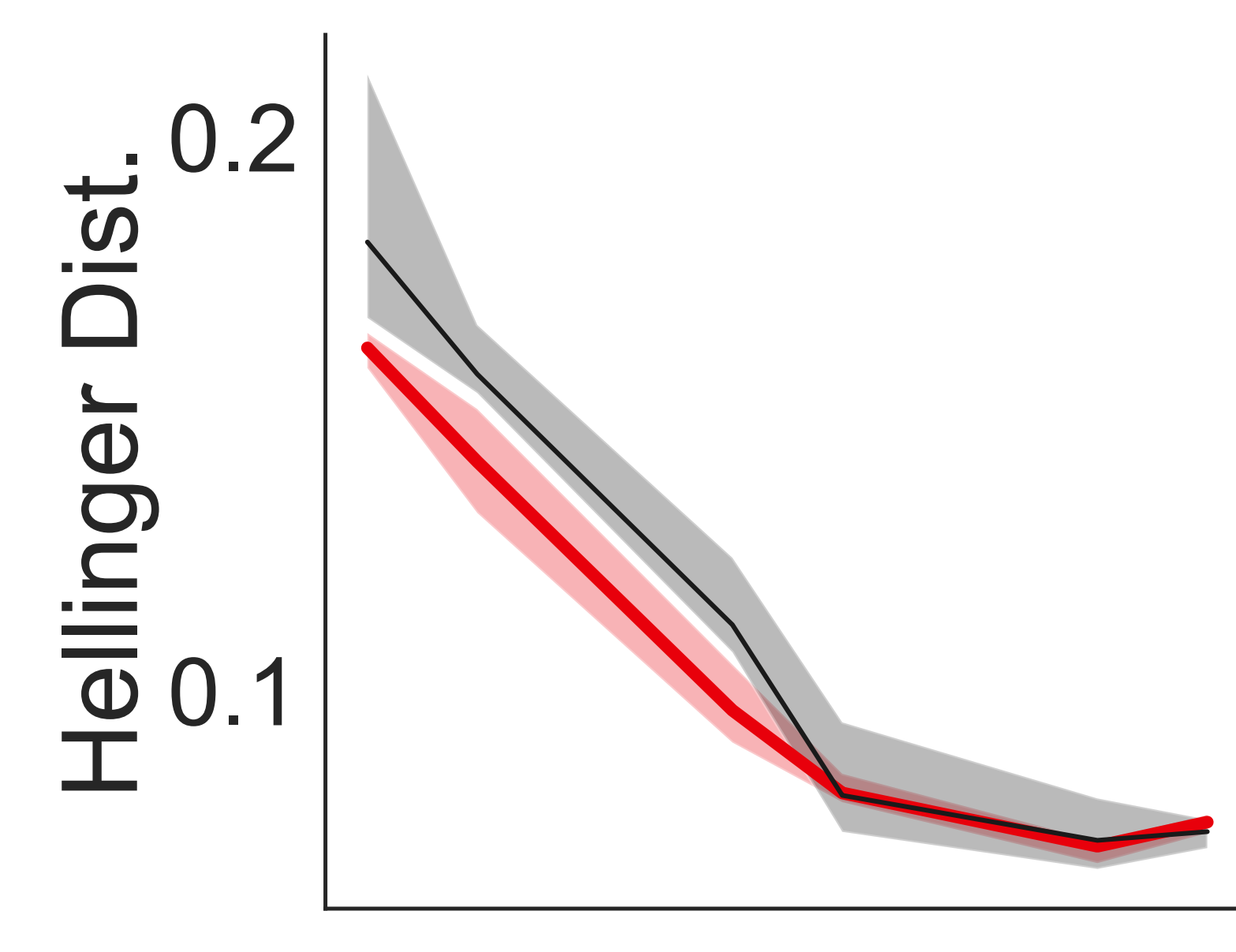
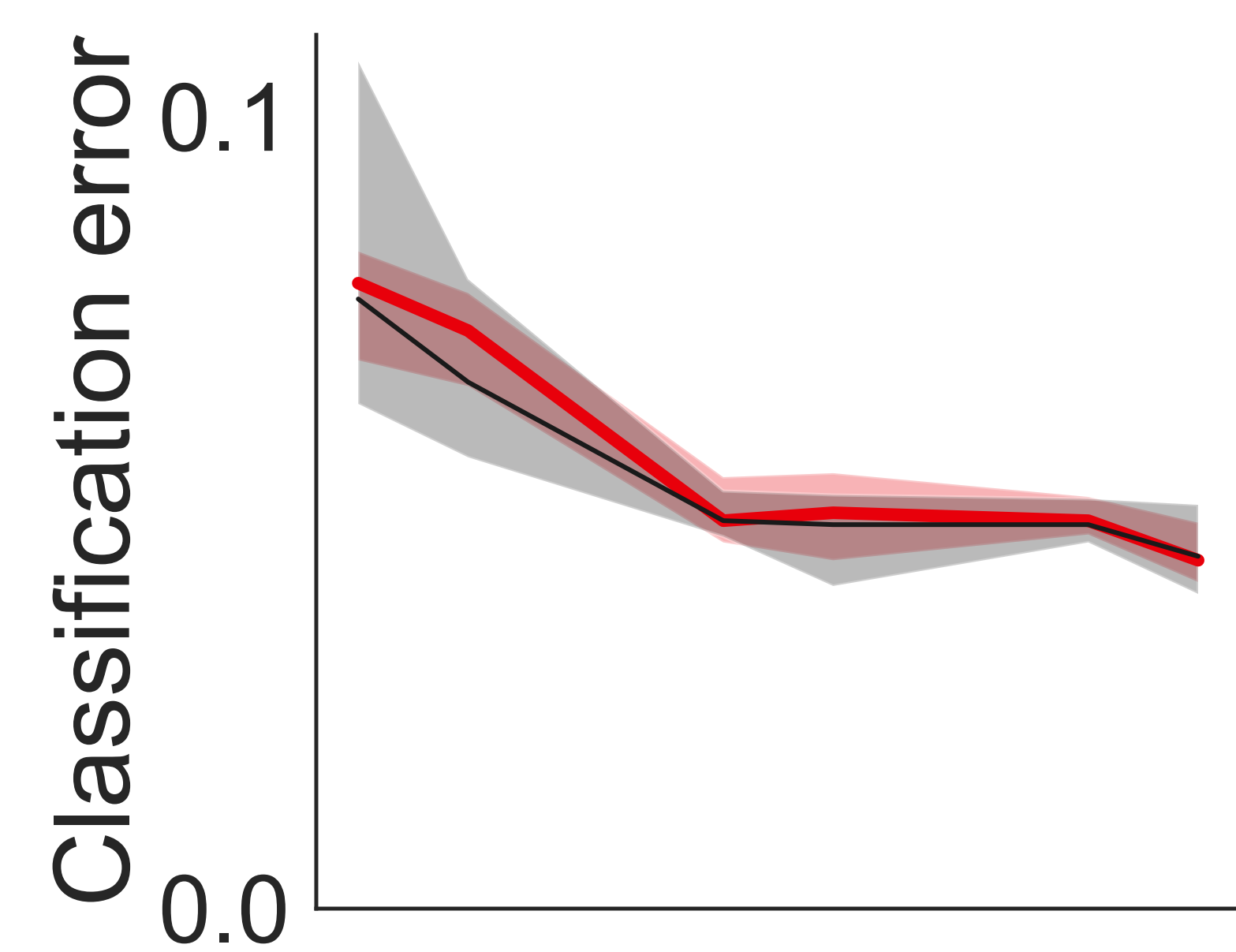
Gxor

Spiral

Circle

Sinewave

Polynomial



— KDN — DN

KDF and RF

Number of Samples	Red Line (Ours) Error	Black Line (Baseline) Error
100	0.08	0.10
200	0.07	0.06
400	0.05	0.04
800	0.03	0.025
1600	0.025	0.02
3200	0.02	0.02

The graph shows the Mean Max Conf. (Y-axis, 0.5 to 1.0) versus Epochs (X-axis, 0 to 100). The black line (baseline) rises sharply to ~0.95 by epoch 5 and remains stable. The red line (proposed) rises to ~1.0 by epoch 5, then drops sharply to ~0.5 by epoch 10 and remains stable.

The graph shows the classification error on the y-axis (ranging from 0.1 to 0.4) against the number of iterations on the x-axis (ranging from 0 to 100). Two methods are compared: the proposed method (red line) and the baseline method (black line). Both methods show a decrease in error as iterations increase. The proposed method consistently achieves a lower error rate than the baseline method across all iterations shown.

Number of iterations	Proposed method (Classification error)	Baseline method (Classification error)
0	~0.38	~0.40
25	~0.25	~0.28
50	~0.13	~0.15
75	~0.11	~0.12
100	~0.09	~0.10

The graph shows the Mean Max Conf. (Y-axis, 0.5 to 1.0) versus Epochs (X-axis, 0 to 100). The red line (top) starts at ~0.95, peaks at ~0.98, and then drops sharply to ~0.5 by epoch 100. The black line (bottom) starts at ~0.65, peaks at ~0.85, and then drops sharply to ~0.5 by epoch 100. Both lines have shaded confidence intervals.

The graph plots 'Classification error' on the y-axis (ranging from 0.1 to 0.3) against an unlabeled x-axis representing iterations (ranging from 0 to 100,000). The red line, representing the proposed method, starts at approximately 0.28 and decreases to about 0.11. The black line, representing the baseline, starts at approximately 0.25 and decreases to about 0.10. Both lines include shaded regions indicating variance or confidence intervals.

Epoch	Mean Max Conf. (Noisy)	Mean Max Conf. (Clean)
0	1.00	1.00
50	0.98	0.98
100	0.98	0.98
125	0.95	0.98
150	0.50	0.98
200	0.50	0.98

Number of samples	Proposed method (red line)	Baseline (grey line)
10^3	~0.15	~0.22
10^4	~0.09	~0.12
10^5	~0.05	~0.05

Epoch	Ours (Red)	w/o. self-supervision (Black)
0	1.00	1.00
2	0.98	0.90
4	0.95	0.85
6	0.80	0.80
8	0.60	0.78
10	0.50	0.75
12	0.50	0.78
14	0.50	0.75
16	0.50	0.80
18	0.50	0.78
20	0.50	0.75

Figure 1 is a line plot showing Classification error (Y-axis, ranging from 0.1 to 0.3) versus Sample size (X-axis, logarithmic scale from 10^1 to 10^4). The plot compares the proposed method (red line) and the baseline (grey line). Both methods show a decrease in classification error as sample size increases. The proposed method consistently achieves a lower classification error than the baseline across the entire range of sample sizes. Shaded regions around the lines indicate confidence intervals.

Sample size	Proposed method (red)	Baseline (grey)
10^1	~0.26	~0.29
10^2	~0.21	~0.24
10^3	~0.17	~0.17
10^4	~0.16	~0.17

Figure 1 is a line plot showing the Hellinger distance (Y-axis, ranging from 0.1 to 0.2) versus Sample size (X-axis, logarithmic scale from 10^1 to 10^4). Two curves are plotted: a black curve (top) and a red curve (bottom). Both curves show a decreasing trend as sample size increases. The black curve starts around 0.19 and ends around 0.195. The red curve starts around 0.15 and ends around 0.115. Shaded regions around the lines indicate confidence intervals.

Distance	Ours (Mean Max Conf.)	Baseline (Mean Max Conf.)
0	0.85	0.65
1	1.00	0.85
2	0.55	0.70
3	0.50	0.68
4	0.50	0.65
5	0.50	0.68
6	0.50	0.65
7	0.50	0.68
8	0.50	0.65
9	0.50	0.68
10	0.50	0.65

— KDF — RF