

**Table 1 Comparison of Predictive Methods for  $d = 2$ .**

kNN				KS				KRR				LR			
$T$	$n$	Bias <sup>2</sup>	MSE	$T$	$n$	Bias <sup>2</sup>	MSE	$T$	$n$	Bias <sup>2</sup>	MSE	$T$	$n$	Bias <sup>2</sup>	MSE
15	68	$2.12 \times 10^{-2}$	$4.04 \times 10^{-2}$	15	68	$1.88 \times 10^{-2}$	$3.60 \times 10^{-2}$	10	101	$2.43 \times 10^{-2}$	$2.96 \times 10^{-2}$	32	32	$1.01 \times 10^{-2}$	$1.45 \times 10^{-2}$
18	113	$1.19 \times 10^{-2}$	$2.66 \times 10^{-2}$	18	113	$1.27 \times 10^{-2}$	$2.57 \times 10^{-2}$	12	161	$1.70 \times 10^{-2}$	$2.07 \times 10^{-2}$	45	45	$8.17 \times 10^{-3}$	$1.00 \times 10^{-2}$
24	170	$8.87 \times 10^{-3}$	$1.80 \times 10^{-2}$	24	170	$9.50 \times 10^{-3}$	$1.90 \times 10^{-2}$	16	255	$1.03 \times 10^{-2}$	$1.20 \times 10^{-2}$	64	64	$5.98 \times 10^{-3}$	$6.99 \times 10^{-3}$
27	303	$5.15 \times 10^{-3}$	$1.33 \times 10^{-2}$	27	303	$4.17 \times 10^{-3}$	$1.23 \times 10^{-2}$	20	406	$6.21 \times 10^{-3}$	$7.52 \times 10^{-3}$	90	90	$4.91 \times 10^{-3}$	$5.46 \times 10^{-3}$
33	496	$2.90 \times 10^{-3}$	$7.65 \times 10^{-3}$	33	496	$3.17 \times 10^{-3}$	$7.23 \times 10^{-3}$	25	645	$4.54 \times 10^{-3}$	$5.06 \times 10^{-3}$	128	128	$4.43 \times 10^{-3}$	$4.71 \times 10^{-3}$
39	840	$2.46 \times 10^{-3}$	$6.23 \times 10^{-3}$	39	840	$2.44 \times 10^{-3}$	$5.80 \times 10^{-3}$	32	1023	$2.46 \times 10^{-3}$	$2.75 \times 10^{-3}$	181	181	$3.83 \times 10^{-3}$	$3.99 \times 10^{-3}$
48	1365	$1.42 \times 10^{-3}$	$3.61 \times 10^{-3}$	48	1365	$1.50 \times 10^{-3}$	$4.09 \times 10^{-3}$	40	1625	$1.96 \times 10^{-3}$	$2.14 \times 10^{-3}$	256	256	$3.55 \times 10^{-3}$	$3.65 \times 10^{-3}$

**Table 2 Comparison of Predictive Methods for  $d = 5$ .**

kNN				KS				KRR				LR			
$T$	$n$	Bias <sup>2</sup>	MSE	$T$	$n$	Bias <sup>2</sup>	MSE	$T$	$n$	Bias <sup>2</sup>	MSE	$T$	$n$	Bias <sup>2</sup>	MSE
6	170	$9.92 \times 10^{-3}$	$6.70 \times 10^{-2}$	6	170	$1.36 \times 10^{-2}$	$3.62 \times 10^{-2}$	10	101	$2.55 \times 10^{-2}$	$4.13 \times 10^{-2}$	32	32	$6.80 \times 10^{-3}$	$1.67 \times 10^{-2}$
6	341	$1.60 \times 10^{-2}$	$5.93 \times 10^{-2}$	6	341	$1.76 \times 10^{-2}$	$3.31 \times 10^{-2}$	12	161	$1.26 \times 10^{-2}$	$2.42 \times 10^{-2}$	45	45	$4.32 \times 10^{-3}$	$9.59 \times 10^{-3}$
9	455	$8.44 \times 10^{-3}$	$4.26 \times 10^{-2}$	9	455	$9.25 \times 10^{-3}$	$2.21 \times 10^{-2}$	16	255	$6.96 \times 10^{-3}$	$1.58 \times 10^{-2}$	64	64	$4.91 \times 10^{-3}$	$7.27 \times 10^{-3}$
9	910	$9.33 \times 10^{-3}$	$3.36 \times 10^{-2}$	9	910	$9.70 \times 10^{-3}$	$2.16 \times 10^{-2}$	20	406	$3.82 \times 10^{-3}$	$9.50 \times 10^{-3}$	90	90	$4.12 \times 10^{-3}$	$5.56 \times 10^{-3}$
9	1820	$7.84 \times 10^{-3}$	$3.16 \times 10^{-2}$	9	1820	$7.97 \times 10^{-3}$	$1.54 \times 10^{-2}$	25	645	$1.69 \times 10^{-3}$	$4.66 \times 10^{-3}$	128	128	$3.58 \times 10^{-3}$	$4.50 \times 10^{-3}$
12	2730	$4.66 \times 10^{-3}$	$2.41 \times 10^{-2}$	12	2730	$5.04 \times 10^{-3}$	$1.13 \times 10^{-2}$	32	1023	$8.48 \times 10^{-4}$	$3.01 \times 10^{-3}$	181	181	$4.06 \times 10^{-3}$	$4.56 \times 10^{-3}$
12	5461	$5.88 \times 10^{-3}$	$2.40 \times 10^{-2}$	12	5461	$5.35 \times 10^{-3}$	$1.02 \times 10^{-2}$	40	1625	$8.20 \times 10^{-4}$	$2.03 \times 10^{-3}$	256	256	$3.75 \times 10^{-3}$	$4.04 \times 10^{-3}$

**Table 3 Comparison of Predictive Methods for  $d = 8$ .**

kNN				KS				KRR				LR			
$T$	$n$	Bias <sup>2</sup>	MSE	$T$	$n$	Bias <sup>2</sup>	MSE	$T$	$n$	Bias <sup>2</sup>	MSE	$T$	$n$	Bias <sup>2</sup>	MSE
6	170	$1.59 \times 10^{-2}$	$7.08 \times 10^{-2}$	6	170	$1.94 \times 10^{-2}$	$3.25 \times 10^{-2}$	10	101	$1.16 \times 10^{-2}$	$3.43 \times 10^{-2}$	32	32	$9.56 \times 10^{-3}$	$1.94 \times 10^{-2}$
6	341	$1.61 \times 10^{-2}$	$7.44 \times 10^{-2}$	6	341	$1.84 \times 10^{-2}$	$2.85 \times 10^{-2}$	12	161	$8.83 \times 10^{-3}$	$2.49 \times 10^{-2}$	45	45	$8.82 \times 10^{-3}$	$1.35 \times 10^{-2}$
6	682	$1.49 \times 10^{-2}$	$6.91 \times 10^{-2}$	6	682	$1.75 \times 10^{-2}$	$2.51 \times 10^{-2}$	16	255	$4.62 \times 10^{-3}$	$1.77 \times 10^{-2}$	64	64	$9.47 \times 10^{-3}$	$1.20 \times 10^{-2}$
6	2730	$1.01 \times 10^{-2}$	$5.14 \times 10^{-2}$	6	1365	$1.54 \times 10^{-2}$	$2.19 \times 10^{-2}$	20	406	$2.28 \times 10^{-3}$	$1.02 \times 10^{-2}$	90	90	$9.44 \times 10^{-3}$	$1.09 \times 10^{-2}$
6	5461	$1.18 \times 10^{-2}$	$5.03 \times 10^{-2}$	6	2730	$1.36 \times 10^{-2}$	$1.91 \times 10^{-2}$	25	645	$3.01 \times 10^{-3}$	$8.53 \times 10^{-3}$	128	128	$9.69 \times 10^{-3}$	$1.06 \times 10^{-2}$
9	910	$8.61 \times 10^{-3}$	$5.20 \times 10^{-2}$	6	5461	$1.45 \times 10^{-2}$	$1.91 \times 10^{-2}$	32	1023	$1.78 \times 10^{-3}$	$5.89 \times 10^{-3}$	181	181	$9.87 \times 10^{-3}$	$1.04 \times 10^{-2}$
9	7281	$1.22 \times 10^{-2}$	$3.71 \times 10^{-2}$	9	7281	$1.15 \times 10^{-2}$	$1.46 \times 10^{-2}$	40	1625	$1.30 \times 10^{-3}$	$4.36 \times 10^{-3}$	256	256	$9.77 \times 10^{-3}$	$1.01 \times 10^{-2}$

**Table 4 Total Computation Time across Different Dimensions.**

d = 2				d = 5				d = 8			
kNN	KS	KRR	LR	kNN	KS	KRR	LR	kNN	KS	KRR	LR
0.24	0.24	0.85	0.48	0.22	0.25	0.76	0.22	0.24	0.25	1.33	0.23
0.34	0.36	0.73	0.33	0.43	0.38	1.30	0.39	0.44	0.45	2.29	0.43
0.66	0.68	1.49	0.72	0.68	0.70	2.69	0.71	0.71	0.76	4.79	0.71
1.28	1.35	3.64	1.31	1.34	1.37	6.93	1.28	1.39	1.46	12.71	1.31
2.51	2.51	9.17	2.50	2.65	2.71	18.84	2.52	2.74	2.79	35.33	2.57
4.96	5.03	29.72	4.95	5.23	5.26	70.07	5.01	5.49	5.67	136.67	5.17
9.89	9.93	138.85	9.86	10.35	10.50	346.84	9.96	10.59	10.75	688.34	10.12

**Table 5 Comparison of Predictive Methods in High Dimension for  $d = 20$ .**

kNN				KS				KRR				LR			
$T$	$n$	Bias <sup>2</sup>	MSE	$T$	$n$	Bias <sup>2</sup>	MSE	$T$	$n$	Bias <sup>2</sup>	MSE	$T$	$n$	Bias <sup>2</sup>	MSE
3	5461	$4.33 \times 10^{-1}$	$8.64 \times 10^{-1}$	3	5461	$4.25 \times 10^{-1}$	$4.26 \times 10^{-1}$	50	327	$9.82 \times 10^{-2}$	$1.05 \times 10^{-1}$	128	128	$3.18 \times 10^{-2}$	$4.89 \times 10^{-2}$
3	10922	$4.15 \times 10^{-1}$	$8.20 \times 10^{-1}$	3	10922	$4.25 \times 10^{-1}$	$4.25 \times 10^{-1}$	62	528	$7.26 \times 10^{-2}$	$7.75 \times 10^{-2}$	181	181	$2.08 \times 10^{-2}$	$2.79 \times 10^{-2}$
3	21845	$4.31 \times 10^{-1}$	$8.49 \times 10^{-1}$	3	21845	$4.25 \times 10^{-1}$	$4.25 \times 10^{-1}$	80	819	$5.60 \times 10^{-2}$	$5.88 \times 10^{-2}$	256	256	$1.51 \times 10^{-2}$	$1.90 \times 10^{-2}$
3	43690	$4.20 \times 10^{-1}$	$8.21 \times 10^{-1}$	3	43690	$4.25 \times 10^{-1}$	$4.25 \times 10^{-1}$	100	1310	$4.11 \times 10^{-2}$	$4.28 \times 10^{-2}$	362	362	$1.19 \times 10^{-2}$	$1.34 \times 10^{-2}$
3	87381	$4.42 \times 10^{-1}$	$8.56 \times 10^{-1}$	3	87381	$4.25 \times 10^{-1}$	$4.25 \times 10^{-1}$	126	2080	$3.05 \times 10^{-2}$	$3.16 \times 10^{-2}$	512	512	$9.74 \times 10^{-3}$	$1.05 \times 10^{-2}$

**Table 6 Comparison of Predictive Methods in High Dimension for  $d = 50$ .**

kNN				KS				KRR				LR			
$T$	$n$	Bias <sup>2</sup>	MSE	$T$	$n$	Bias <sup>2</sup>	MSE	$T$	$n$	Bias <sup>2</sup>	MSE	$T$	$n$	Bias <sup>2</sup>	MSE
3	5461	$3.87 \times 10^{-1}$	$1.05 \times 10^0$	3	5461	$3.95 \times 10^{-1}$	$3.95 \times 10^{-1}$	50	327	$7.49 \times 10^{-2}$	$8.18 \times 10^{-2}$	128	128	$4.01 \times 10^{-2}$	$6.16 \times 10^{-2}$
3	10922	$3.65 \times 10^{-1}$	$1.04 \times 10^0$	3	10922	$3.95 \times 10^{-1}$	$3.95 \times 10^{-1}$	62	528	$6.46 \times 10^{-2}$	$6.90 \times 10^{-2}$	181	181	$3.15 \times 10^{-2}$	$3.97 \times 10^{-2}$
3	21845	$4.06 \times 10^{-1}$	$1.09 \times 10^0$	3	21845	$3.95 \times 10^{-1}$	$3.95 \times 10^{-1}$	80	819	$5.37 \times 10^{-2}$	$5.67 \times 10^{-2}$	256	256	$2.19 \times 10^{-2}$	$2.54 \times 10^{-2}$
3	43690	$3.73 \times 10^{-1}$	$1.03 \times 10^0$	3	43690	$3.95 \times 10^{-1}$	$3.95 \times 10^{-1}$	100	1310	$4.64 \times 10^{-2}$	$4.81 \times 10^{-2}$	362	362	$1.44 \times 10^{-2}$	$1.61 \times 10^{-2}$
3	87381	$3.64 \times 10^{-1}$	$1.04 \times 10^0$	3	87381	$3.95 \times 10^{-1}$	$3.95 \times 10^{-1}$	126	2080	$4.00 \times 10^{-2}$	$4.08 \times 10^{-2}$	512	512	$1.08 \times 10^{-2}$	$1.16 \times 10^{-2}$

**Table 7 Comparison of Predictive Methods in High Dimension for  $d = 100$ .**

kNN				KS				KRR				LR			
$T$	$n$	Bias <sup>2</sup>	MSE	$T$	$n$	Bias <sup>2</sup>	MSE	$T$	$n$	Bias <sup>2</sup>	MSE	$T$	$n$	Bias <sup>2</sup>	MSE
3	5461	$1.42 \times 10^0$	$2.33 \times 10^0$	3	5461	$1.42 \times 10^0$	$1.42 \times 10^0$	50	327	$1.08 \times 10^0$	$1.08 \times 10^0$	128	128	$8.93 \times 10^{-1}$	$1.81 \times 10^0$
3	10922	$1.41 \times 10^0$	$2.31 \times 10^0$	3	10922	$1.42 \times 10^0$	$1.42 \times 10^0$	62	528	$1.04 \times 10^0$	$1.04 \times 10^0$	181	181	$8.45 \times 10^{-1}$	$1.06 \times 10^0$
3	21845	$1.43 \times 10^0$	$2.31 \times 10^0$	3	21845	$1.42 \times 10^0$	$1.42 \times 10^0$	80	819	$9.80 \times 10^{-1}$	$9.86 \times 10^{-1}$	256	256	$7.92 \times 10^{-1}$	$8.71 \times 10^{-1}$
3	43690	$1.42 \times 10^0$	$2.35 \times 10^0$	3	43690	$1.42 \times 10^0$	$1.42 \times 10^0$	100	1310	$9.40 \times 10^{-1}$	$9.46 \times 10^{-1}$	362	362	$7.27 \times 10^{-1}$	$7.62 \times 10^{-1}$
3	87381	$1.39 \times 10^0$	$2.33 \times 10^0$	3	87381	$1.42 \times 10^0$	$1.42 \times 10^0$	126	2080	$8.84 \times 10^{-1}$	$8.92 \times 10^{-1}$	512	512	$6.71 \times 10^{-1}$	$6.87 \times 10^{-1}$

**Table 8 Comparison of Predictive Methods in Wireless Networks for  $d = 2$ .**

kNN				KS				KRR				LR			
$T$	$n$	Bias <sup>2</sup>	MSE	$T$	$n$	Bias <sup>2</sup>	MSE	$T$	$n$	Bias <sup>2</sup>	MSE	$T$	$n$	Bias <sup>2</sup>	MSE
12	21	$1.49 \times 10^{-1}$	$1.73 \times 10^{-1}$	12	21	$1.48 \times 10^{-1}$	$1.58 \times 10^{-1}$	12	21	$8.55 \times 10^{-2}$	$9.38 \times 10^{-2}$	16	16	$9.40 \times 10^{-2}$	$9.93 \times 10^{-2}$
12	42	$1.44 \times 10^{-1}$	$1.59 \times 10^{-1}$	12	42	$1.48 \times 10^{-1}$	$1.53 \times 10^{-1}$	14	36	$6.46 \times 10^{-2}$	$6.87 \times 10^{-2}$	22	22	$4.71 \times 10^{-2}$	$4.89 \times 10^{-2}$
15	68	$9.32 \times 10^{-2}$	$1.02 \times 10^{-1}$	15	68	$9.27 \times 10^{-2}$	$9.55 \times 10^{-2}$	20	51	$2.87 \times 10^{-2}$	$3.04 \times 10^{-2}$	32	32	$2.30 \times 10^{-2}$	$2.36 \times 10^{-2}$
18	113	$6.38 \times 10^{-2}$	$6.96 \times 10^{-2}$	18	113	$6.63 \times 10^{-2}$	$6.78 \times 10^{-2}$	24	85	$2.15 \times 10^{-2}$	$2.23 \times 10^{-2}$	45	45	$1.19 \times 10^{-2}$	$1.21 \times 10^{-2}$
24	170	$3.35 \times 10^{-2}$	$3.59 \times 10^{-2}$	24	170	$3.52 \times 10^{-2}$	$3.59 \times 10^{-2}$	30	136	$1.47 \times 10^{-2}$	$1.51 \times 10^{-2}$	64	64	$6.02 \times 10^{-3}$	$6.10 \times 10^{-3}$
27	303	$2.82 \times 10^{-2}$	$3.01 \times 10^{-2}$	27	303	$2.82 \times 10^{-2}$	$2.87 \times 10^{-2}$	40	204	$7.93 \times 10^{-3}$	$8.05 \times 10^{-3}$	90	90	$3.19 \times 10^{-3}$	$3.22 \times 10^{-3}$
33	496	$1.69 \times 10^{-2}$	$1.81 \times 10^{-2}$	33	496	$1.79 \times 10^{-2}$	$1.82 \times 10^{-2}$	50	327	$5.43 \times 10^{-3}$	$5.48 \times 10^{-3}$	128	128	$1.66 \times 10^{-3}$	$1.67 \times 10^{-3}$

**Table 9 Comparison of Predictive Methods in Wireless Networks for  $d = 4$ .**

kNN				KS				KRR				LR			
$T$	$n$	Bias <sup>2</sup>	MSE	$T$	$n$	Bias <sup>2</sup>	MSE	$T$	$n$	Bias <sup>2</sup>	MSE	$T$	$n$	Bias <sup>2</sup>	MSE
6	42	$1.28 \times 10^0$	$1.55 \times 10^0$	6	42	$1.31 \times 10^0$	$1.35 \times 10^0$	6	42	$1.12 \times 10^0$	$1.16 \times 10^0$	16	16	$2.58 \times 10^{-1}$	$2.82 \times 10^{-1}$
6	85	$1.26 \times 10^0$	$1.53 \times 10^0$	6	85	$1.30 \times 10^0$	$1.32 \times 10^0$	7	73	$8.19 \times 10^{-1}$	$8.39 \times 10^{-1}$	22	22	$1.42 \times 10^{-1}$	$1.51 \times 10^{-1}$
9	113	$6.86 \times 10^{-1}$	$8.60 \times 10^{-1}$	9	113	$7.16 \times 10^{-1}$	$7.28 \times 10^{-1}$	10	102	$3.79 \times 10^{-1}$	$3.90 \times 10^{-1}$	32	32	$7.20 \times 10^{-2}$	$7.48 \times 10^{-2}$
9	227	$7.38 \times 10^{-1}$	$8.43 \times 10^{-1}$	9	227	$7.18 \times 10^{-1}$	$7.25 \times 10^{-1}$	12	170	$2.81 \times 10^{-1}$	$2.88 \times 10^{-1}$	45	45	$3.85 \times 10^{-2}$	$3.95 \times 10^{-2}$
9	455	$6.47 \times 10^{-1}$	$7.50 \times 10^{-1}$	9	455	$6.96 \times 10^{-1}$	$7.01 \times 10^{-1}$	15	273	$2.01 \times 10^{-1}$	$2.06 \times 10^{-1}$	64	64	$2.05 \times 10^{-2}$	$2.08 \times 10^{-2}$
15	546	$2.41 \times 10^{-1}$	$2.80 \times 10^{-1}$	12	682	$4.10 \times 10^{-1}$	$4.13 \times 10^{-1}$	20	409	$1.23 \times 10^{-1}$	$1.24 \times 10^{-1}$	90	90	$1.16 \times 10^{-2}$	$1.17 \times 10^{-2}$
15	1092	$2.61 \times 10^{-1}$	$2.96 \times 10^{-1}$	15	1092	$2.68 \times 10^{-1}$	$2.70 \times 10^{-1}$	25	655	$8.06 \times 10^{-2}$	$8.13 \times 10^{-2}$	128	128	$6.57 \times 10^{-3}$	$6.62 \times 10^{-3}$

**Table 10 Comparison of Predictive Methods in Wireless Networks for  $d = 9$ .**

kNN				KS				KRR				LR			
$T$	$n$	Bias <sup>2</sup>	MSE	$T$	$n$	Bias <sup>2</sup>	MSE	$T$	$n$	Bias <sup>2</sup>	MSE	$T$	$n$	Bias <sup>2</sup>	MSE
3	85	$1.18 \times 10^0$	$1.76 \times 10^0$	3	85	$1.27 \times 10^0$	$1.30 \times 10^0$	6	42	$9.56 \times 10^{-1}$	$1.00 \times 10^0$	16	16	$3.75 \times 10^{-1}$	$7.08 \times 10^{-1}$
3	170	$1.15 \times 10^0$	$1.77 \times 10^0$	3	170	$1.26 \times 10^0$	$1.27 \times 10^0$	7	73	$8.01 \times 10^{-1}$	$8.44 \times 10^{-1}$	22	22	$2.30 \times 10^{-1}$	$3.15 \times 10^{-1}$
3	341	$1.18 \times 10^0$	$1.77 \times 10^0$	3	341	$1.25 \times 10^0$	$1.26 \times 10^0$	10	102	$5.31 \times 10^{-1}$	$5.62 \times 10^{-1}$	32	32	$1.21 \times 10^{-1}$	$1.44 \times 10^{-1}$
6	341	$8.85 \times 10^{-1}$	$1.34 \times 10^0$	6	341	$9.39 \times 10^{-1}$	$9.50 \times 10^{-1}$	12	170	$3.78 \times 10^{-1}$	$4.00 \times 10^{-1}$	45	45	$5.77 \times 10^{-2}$	$6.78 \times 10^{-2}$
6	682	$9.20 \times 10^{-1}$	$1.38 \times 10^0$	6	682	$9.42 \times 10^{-1}$	$9.48 \times 10^{-1}$	15	273	$2.35 \times 10^{-1}$	$2.50 \times 10^{-1}$	64	64	$2.94 \times 10^{-2}$	$3.26 \times 10^{-2}$
6	1365	$9.52 \times 10^{-1}$	$1.42 \times 10^0$	6	1365	$9.40 \times 10^{-1}$	$9.44 \times 10^{-1}$	20	409	$1.14 \times 10^{-1}$	$1.22 \times 10^{-1}$	90	90	$1.50 \times 10^{-2}$	$1.62 \times 10^{-2}$
6	2730	$9.61 \times 10^{-1}$	$1.46 \times 10^0$	6	2730	$9.40 \times 10^{-1}$	$9.43 \times 10^{-1}$	25	655	$6.52 \times 10^{-2}$	$7.04 \times 10^{-2}$	128	128	$7.87 \times 10^{-3}$	$8.26 \times 10^{-3}$