

Table 1: main result

Metric	Method	Maze					Puzzle		
		8	16	32	48	64	2	3	4
makespan	SCRIMP	29.09	50.83	86.87	108.34	117.13	15.44	30.28	45.16
	DCC	36.34	64.27	106.14	120.15	126.95	18.51	42.09	70.27
	MAPF-GPT-6M	33.96	48.85	68.16	96.31	113.98	7.99	22.18	39.83
	MAPF-GPT-85M	32.62	41.04	58.6	85.81	108.73	7.88	18.78	30.34
	Forcast-MAPF(Ours)	30.54	36.92	56.58	72.66	93.64	7.78	16.37	29.86
SoC	SCRIMP	147.8	380.21	1115.7	2495.48	4298.17	28.07	73.97	131.54
	DCC	165.62	447.0	1572.71	3326.54	5563.3	31.45	79.92	169.11
	MAPF-GPT-6M	152.68	363.87	996.34	2546.8	4705.7	13.46	59.12	138.99
	MAPF-GPT-85M	147.8	328.52	907.6	2224.84	4490.33	13.36	49.07	104.43
	Forcast-MAPF(Ours)	147.8	335.48	925.06	1880.2	3428.03	13.15	43.05	104.44

Table 2: predict action result

Metric	Method	Maze					Puzzle		
		8	16	32	48	64	2	3	4
Success Rate	Forcast-MAPF-2	1.0	0.99	0.94	0.74	0.43	1.0	0.92	0.84
	Forcast-MAPF-4	0.0	0.0	0.0	0.0	0.0	0.01	0.0	0.0
	Forcast-MAPF-5	0.99	0.98	0.88	0.54	0.33	0.99	0.93	0.82
	Forcast-MAPF-3(Ours)	1.0	1.0	0.98	0.84	0.62	1.0	0.96	0.91
makespan	Forcast-MAPF-2	31.0	40.59	62.84	85.34	106.61	8.9	21.73	41.21
	Forcast-MAPF-4	128.0	128.0	128.0	128.0	128.0	127.41	128.0	128.0
	Forcast-MAPF-5	32.66	43.88	73.59	100.49	112.01	8.9	22.88	45.58
	Forcast-MAPF-3(Ours)	30.54	36.92	56.58	72.66	93.64	7.78	16.37	29.86
SoC	Forcast-MAPF-2	149.66	363.9	1054.84	2267.61	4260.61	15.28	59.49	147.68
	Forcast-MAPF-4	1016.37	2022.35	4030.72	6053.22	8085.63	247.88	370.7	487.0
	Forcast-MAPF-5	153.37	380.62	1161.12	2659.74	4685.41	15.29	60.73	159.81
	Forcast-MAPF-3(Ours)	147.8	335.48	925.06	1880.2	3428.03	13.15	43.05	104.44

Table 3: noise result

Metric	Method	Maze					Puzzle		
		8	16	32	48	64	2	3	4
Success Rate	Forcast-MAPF-0%	1.0	0.98	0.87	0.54	0.25	0.99	0.93	0.84
	Forcast-MAPF-5%	1.0	1.0	1.0	0.86	0.6	1.0	0.95	0.91
	Forcast-MAPF-10%	1.0	1.0	0.96	0.87	0.57	1.0	0.95	0.88
	Forcast-MAPF-30%	1.0	1.0	1.0	0.91	0.61	1.0	0.95	0.90
	Forcast-MAPF-20%(Ours)	1.0	1.0	0.98	0.84	0.62	1.0	0.96	0.91
makespan	Forcast-MAPF-0%	32.16	47.09	76.37	104.85	117.64	10.14	23.74	42.47
	Forcast-MAPF-5%	31.11	39.48	53.46	79.37	101.24	7.74	18.33	33.7
	Forcast-MAPF-10%	30.86	38.66	57.8	75.7	100.37	7.93	19.94	32.99
	Forcast-MAPF-30%	30.55	37.36	51.78	72.03	94.24	7.46	17.33	29.48
	Forcast-MAPF-20%(Ours)	30.54	36.92	56.58	72.66	93.64	7.78	16.37	29.86
SoC	Forcast-MAPF-0%	153.82	396.82	1214.34	2889.58	5071.79	17.71	63.17	149.0
	Forcast-MAPF-5%	149.02	349.88	937.11	2042.01	3888.6	12.94	47.67	118.2
	Forcast-MAPF-10%	150.13	346.52	955.91	1966.75	3765.93	13.34	52.95	116.34
	Forcast-MAPF-20%(Ours)	147.8	335.48	925.06	1880.2	3428.03	13.15	43.05	104.44

Table 4: greedy action result

Metric	Method	Maze					Puzzle		
		8	16	32	48	64	2	3	4
Success Rate	MAPF-GPT-6M	0.97	0.91	0.83	0.51	0.27	1.0	0.93	0.82
	MAPF-GPT-85M	0.98	0.97	0.94	0.72	0.38	0.99	0.95	0.89
	Forcast-MAPF w/o PA	1.0	1.0	0.93	0.61	0.38	1.0	0.95	0.81
	Forcast-MAPF(Ours)	1.0	1.0	0.98	0.84	0.62	1.0	0.96	0.91
makespan	MAPF-GPT-6M	33.96	48.85	68.16	96.31	113.98	7.99	22.18	39.83
	MAPF-GPT-85M	32.62	41.04	58.6	85.81	108.73	7.88	18.78	30.34
	Forcast-MAPF w/o PA	30.95	40.14	63.34	93.95	109.45	9.99	21.96	40.25
	Forcast-MAPF(Ours)	30.54	36.92	56.58	72.66	93.64	7.78	16.37	29.86
SoC	MAPF-GPT-6M	152.68	363.87	996.34	2546.8	4705.7	13.46	59.12	138.99
	MAPF-GPT-85M	147.8	328.52	907.6	2224.84	4490.33	13.36	49.07	104.43
	Forcast-MAPF w/o PA	149.84	355.27	1020.85	2443.12	4475.76	17.51	60.13	145.57
	Forcast-MAPF(Ours)	147.8	335.48	925.06	1880.2	3428.03	13.15	43.05	104.44

Metric	Method	Random				Warehouse						City tile				
		8	16	32	48	64	32	64	96	128	160	192	64	128	192	256
makespan	SCRIMP	26.25	30.76	41.99	62.41	80.38	56.54	62.48	68.17	75.25	83.43	94.73	117.87	149.8	162.25	177.66
	DPS	29.7	40.23	77.12	111.89	126.17	66.06	88.1	112.2	124.75	128.0	138.0	120.1	146.4	167.82	231.7
	MAP-GPT-6M	1.4	1.4	3.0	4.1	6.0	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
	MAP-GPT-8M	2.72	32.2	38.8	53.35	71.0	59.82	67.3	77.45	99.86	122.23	127.16	125.62	149.3	181.41	211.11
Success Rate	Forecast-MAPP (Ours)	26.98	31.7	39.48	49.62	63.29	59.88	66.88	73.66	84.93	101.6	121.69	114.6	131.18	148.48	172.62
	SCRIMP	127.47	276.4	77.59	129.72	226.22	1070.08	3338.88	3813.05	5485.86	7434.0	980.724	3368.55	7675.84	1095.145	1936.03
	DPS	133.1	311.0	311.0	311.0	311.0	107.0	107.0	107.0	107.0	107.0	107.0	107.0	107.0	107.0	107.0
	MAP-GPT-6M	13.44	17.5	0.7732	138.66	2703.37	1038.42	3220.38	3783.36	6158.88	9732.17	13943.52	31515.8	1682.88	11038.02	22913.15
SoC	MAP-GPT-8M	124.8	269.16	645.8	1324.65	2361.71	1031.52	2186.11	3587.2	5675.18	8906.46	12976.12	3216.4	8055.88	14508.58	24404.5
	Forecast-MAPP (Ours)	124.97	270.21	655.45	1234.88	2212.84	1048.05	2255.47	3724.5	5620.35	8204.73	12113.54	3165.61	7127.8	11976.14	18744.57

Table 5: main result total

Metric	Method	Random				Warehouse						City tile				
		8	16	32	48	64	32	64	96	128	160	192	64	128	192	256
Success Rate	Forecast-MAPP-2	1.0	1.0	0.99	0.93	0.75	1.0	1.0	1.0	1.0	1.0	1.0	0.99	0.92	0.79	0.46
	Forecast-MAPP-4	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	0.88	0.38	0.0	0.0	0.0	0.0	0.0
	Forecast-MAPP-5	1.0	1.0	0.98	0.94	0.7	1.0	1.0	1.0	0.99	0.77	0.32	0.09	0.91	0.8	0.43
	Forecast-MAPP-6	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.99	0.92	0.77	0.47
makespan	Forecast-MAPP-2	27.58	33.76	14.3	60.29	85.44	60.88	67.53	53.91	92.93	117.34	126.75	113.82	137.12	163.4	195.6
	Forecast-MAPP-4	128.0	128.0	128.0	128.0	128.0	59.45	66.25	73.27	81.87	101.12	121.47	256.0	256.0	256.0	256.0
	Forecast-MAPP-5	27.42	33.7	48.47	64.3	86.48	66.43	66.96	73.7	84.51	155.19	125.23	116.32	138.16	162.43	191.44
	Forecast-MAPP-6	27.42	33.7	32.9	47.9	62.9	53.83	53.83	53.83	53.83	53.83	53.83	53.83	53.83	53.83	53.83
SoC	Forecast-MAPP-2	127.28	285.67	78.15	138.73	273.94	1057.42	2237.71	3817.73	5970.82	9139.26	13190.79	1323.2	1609.26	2058.52	2058.52
	Forecast-MAPP-4	10 10.5	200.5 20.5	308.58	593.143	79.124	10 10.5	223.62	360.179	541.11	795.68	1180.89	1015.48	3206.27	3729.02	6338.87
	Forecast-MAPP-5	128.38	289.9	789.11	1624.8	2949.81	10 10.5	223.63	360.623	541.94	8269.23	1210.705	3232.94	3227.50	11927.62	22271.50
	Forecast-MAPP-6	124.97	270.21	655.45	1234.88	2212.84	1048.95	2255.47	3724.5	5620.35	8204.73	12113.54	3165.61	7127.8	11976.14	18744.57

Table 6: predict action result

Metric	Method	Random				Warehouse						City tile				
		8	16	32	48	64	32	64	96	128	160	192	64	128	192	256
Success Rate	Forecast-MAPP-2	1.0	1.0	0.99	0.93	0.75	1.0	1.0	1.0	1.0	1.0	1.0	0.99	0.92	0.79	0.46
	Forecast-MAPP-4	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	0.88	0.38	0.0	0.0	0.0	0.0	0.0
	Forecast-MAPP-5	1.0	1.0	0.98	0.94	0.7	1.0	1.0	1.0	0.99	0.77	0.32	0.09	0.91	0.8	0.43
	Forecast-MAPP-6	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.99	0.92	0.77	0.47
makespan	Forecast-MAPP-2	27.58	33.76	14.3	60.29	85.44	60.88	67.53	53.91	92.93	117.34	126.75	113.82	137.12	163.4	195.6
	Forecast-MAPP-4	128.0	128.0	128.0	128.0	128.0	59.45	66.25	73.27	81.87	101.12	121.47	256.0	256.0	256.0	256.0
	Forecast-MAPP-5	27.42	33.7	48.47	64.3	86.48	66.43	66.96	73.7	84.51	155.19	125.23	116.32	138.16	162.43	191.44
	Forecast-MAPP-6	27.42	33.7	32.9	47.9	62.9	53.83	53.83	53.83	53.83	53.83	53.83	53.83	53.83	53.83	53.83
SoC	Forecast-MAPP-2	127.28	285.67	78.15	138.73	273.94	1057.42	2237.71	3817.73	5970.82	9139.26	13190.79	1323.2	1609.26	2058.52	2058.52
	Forecast-MAPP-4	10 10.5	200.5 20.5	308.58	593.143	79.124	10 10.5	223.62	360.179	541.11	795.68	1180.89	1015.48	3206.27	3729.02	6338.87
	Forecast-MAPP-5	128.38	289.9	789.11	1624.8	2949.81	10 10.5	223.63	360.623	541.94	8269.23	1210.705	3232.94	3227.50	11927.62	22271.50
	Forecast-MAPP-6	124.97	270.21	655.45	1234.88	2212.84	1048.95	2255.47	3724.5	5620.35	8204.73	12113.54	3165.61	7127.8	11976.14	18744.57

Table 7: noise result

Metric	Method	Random				Warehouse						City tile				
		8	16	32	48	64	32	64	96	128	160	192	64	128	192	256
Success Rate	Forecast-MAPP-2	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	Forecast-MAPP-4	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	Forecast-MAPP-5	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	Forecast-MAPP-6	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
makespan	Forecast-MAPP-2	27.58	33.76	14.3	60.29	85.44	60.88	67.53	53.91	92.93	117.34	126.75	113.82	137.12	163.4	195.6
	Forecast-MAPP-4	128.0	128.0	128.0	128.0	128.0	59.45	66.25	73.27	81.87	101.12	121.47	256.0	256.0	256.0	256.0
	Forecast-MAPP-5	27.42	33.7	48.47	64.3	86.48	66.43	66.96	73.7	84.51	155.19	125.23	116.32	138.16	162.43	191.44
	Forecast-MAPP-6	27.42	33.7	32.9	47.9	62.9	53.83	53.83	53.83	53.83	53.83	53.83	53.83	53.83	53.83	53.83
SoC	Forecast-MAPP-2	127.28	285.67	78.15	138.73	273.94	1057.42	2237.71	3817.73	5970.82	9139.26	13190.79	1323.2	1609.26	2058.52	2058.52
	Forecast-MAPP-4	10 10.5	200.5 20.5	308.58	593.143	79.124	10 10.5	223.62	360.179	541.11	795.68	1180.89	1015.48	3206.27	3729.02	6338.87
	Forecast-MAPP-5	128.38	289.9	789.11	1624.8	2949.81	10 10.5	223.63	360.623	541.94	8269.23	1210.705	3232.94	3227.50	11927.62	22271.50
	Forecast-MAPP-6	124.97	270.21	655.45	1234.88	2212.84	1048.95	2255.47	3724.5	5620.35	8204.73	12113.54	3165.61	7127.8	11976.14	18744.57

Table 8: greedy action result

Metric	Method	Random				Warehouse						City tile			