

LP-Based Approaches for Goal Recognition as Planning (Supplemental Material)

Paper #6100

Noisy, Partial, and Full Observability																									
					δ_{HC}			δ_{HCU}			RG 2009			FGR 2015			POM 2017 h_{gc}			POM 2017 h_{uniq}			M+L 2018		
#	G	% Obs	O	Time	Acc %	S in G	Time	Acc %	S in G	Time	Acc %	S in G	Time	Acc %	S in G	Time	Acc %	S in G	Time	Acc %	S in G	Time	Acc %	S in G	
BLOCKS (0)	0.0	25	0.0	16.033	58.3%	6.22	16.019	75.0%	10.39	1.045	38.9%	5.39	3.044	69.4%	12.67	0.083	2.8%	1.22	0.083	8.3%	1.0	Out of Memory	Out of Memory	Out of Memory	
		50	0.0	12.626	52.8%	3.31	12.675	88.9%	12.44	1.122	52.8%	4.61	2.71	80.6%	15.58	0.083	25.0%	1.19	0.083	13.9%	1.08	Out of Memory	Out of Memory	Out of Memory	
		75	0.0	11.282	80.6%	2.11	11.235	91.7%	7.36	1.405	75.0%	2.72	2.647	77.8%	12.39	0.056	47.2%	1.19	0.056	38.9%	1.25	Out of Memory	Out of Memory	Out of Memory	
		100	0.0	10.576	88.9%	1.92	10.629	97.2%	2.86	1.652	86.1%	2.03	2.693	88.9%	11.31	0.083	77.8%	1.36	0.056	75.0%	1.33	Out of Memory	Out of Memory	Out of Memory	
DEPOTS (0)	0.0	25	0.0	11.495	52.8%	2.19	11.445	63.9%	4.47	0.284	5.6%	9.17	†	†	†	0.528	38.9%	1.64	0.528	27.8%	1.22	Out of Memory	Out of Memory	Out of Memory	
		50	0.0	10.299	61.1%	1.67	10.263	83.3%	4.14	0.189	0.0%	9.33	†	†	†	0.472	52.8%	1.22	0.472	41.7%	1.19	Out of Memory	Out of Memory	Out of Memory	
		75	0.0	8.671	88.9%	1.19	8.674	94.4%	2.14	0.361	11.1%	8.28	†	†	†	0.472	80.6%	1.11	0.5	75.0%	1.06	Out of Memory	Out of Memory	Out of Memory	
		100	0.0	8.098	94.4%	1.19	8.075	91.7%	1.22	0.292	5.6%	8.83	†	†	†	0.472	88.9%	1.11	0.472	86.1%	1.11	Out of Memory	Out of Memory	Out of Memory	
DRIVERLOG (0)	0.0	25	0.0	5.383	55.6%	2.61	5.362	83.3%	4.69	0.234	44.4%	5.89	1.732	36.1%	2.33	0.111	36.1%	1.33	0.111	25.0%	1.08	Out of Memory	Out of Memory	Out of Memory	
		50	0.0	4.982	77.8%	1.72	4.97	91.7%	3.47	0.282	38.9%	4.72	1.625	55.6%	3.03	0.083	58.3%	1.28	0.083	52.8%	1.11	Out of Memory	Out of Memory	Out of Memory	
		75	0.0	4.825	86.1%	1.25	4.855	94.4%	2.31	0.239	30.6%	5.47	1.902	61.1%	2.67	0.083	61.1%	1.33	0.111	52.8%	1.14	Out of Memory	Out of Memory	Out of Memory	
		100	0.0	4.511	97.2%	1.31	4.511	97.2%	1.64	0.358	44.4%	4.42	2.205	75.0%	2.78	0.083	94.4%	1.47	0.083	97.2%	1.42	Out of Memory	Out of Memory	Out of Memory	
DWR (0)	0.0	25	0.0	7.546	72.2%	2.0	7.614	97.2%	5.11	0.808	41.7%	5.67	37.661	94.4%	5.89	0.444	44.4%	1.14	0.5	33.3%	1.0	Out of Memory	Out of Memory	Out of Memory	
		50	0.0	7.108	80.6%	1.67	7.153	94.4%	4.47	1.569	22.2%	5.39	32.228	100.0%	5.28	0.417	63.9%	1.08	0.444	50.0%	1.06	Out of Memory	Out of Memory	Out of Memory	
		75	0.0	6.509	91.7%	1.22	6.482	94.4%	1.78	2.793	19.4%	5.5	34.49	94.4%	4.94	0.417	94.4%	1.06	0.472	69.4%	1.08	Out of Memory	Out of Memory	Out of Memory	
		100	0.0	5.803	100.0%	1.08	5.768	97.2%	1.06	7.392	30.6%	4.42	39.713	94.4%	2.22	0.444	94.4%	1.0	0.472	94.4%	1.03	Out of Memory	Out of Memory	Out of Memory	
IPC-GRID (0)	0.0	25	0.0	7.871	81.1%	1.67	7.889	85.6%	2.61	0.265	12.2%	7.56	Timeout	Timeout	Timeout	0.244	58.9%	1.78	0.233	53.3%	1.72	0.522	64.4%	1.89	
		50	0.0	6.03	94.4%	1.14	6.011	94.4%	1.71	0.2	4.4%	8.07	Timeout	Timeout	Timeout	0.222	85.6%	1.33	0.211	83.3%	1.32	0.389	83.3%	1.36	
		75	0.0	5.481	98.9%	1.1	5.497	97.8%	1.13	0.223	6.7%	7.89	Timeout	Timeout	Timeout	0.211	94.4%	1.09	0.211	94.4%	1.09	0.378	91.1%	1.17	
		100	0.0	5.01	100.0%	1.0	4.988	90.0%	0.9	0.266	10.0%	7.77	Timeout	Timeout	Timeout	0.2	100.0%	1.0	0.2	100.0%	1.0	0.4	76.7%	1.1	
FERRY (0)	0.0	25	0.0	4.745	80.6%	2.78	4.736	86.1%	5.11	0.256	75.0%	2.92	0.495	100.0%	7.0	0.028	47.2%	1.28	0.028	27.8%	1.08	0.583	50.0%	1.69	
		50	0.0	4.402	97.2%	1.72	4.365	97.2%	3.83	0.375	94.4%	1.94	0.545	100.0%	7.0	0.028	88.9%	1.31	0.028	77.8%	1.06	0.5	83.3%	1.19	
		75	0.0	4.236	94.4%	1.56	4.223	97.2%	2.42	0.585	88.9%	1.53	0.643	94.4%	6.64	0.028	97.2%	1.17	0.028	83.3%	1.08	0.444	83.3%	1.22	
		100	0.0	4.187	97.2%	1.17	4.183	97.2%	1.17	0.906	97.2%	1.25	0.783	94.4%	4.39	0.028	100.0%	1.08	0.028	97.2%	1.06	0.472	100.0%	1.14	
LOGISTICS (0)	0.0	25	0.0	7.461	91.7%	2.11	7.446	97.2%	3.42	0.203	5.6%	9.42	†	†	†	0.222	61.1%	1.56	0.222	38.9%	1.08	0.722	50.0%	1.53	
		50	0.0	6.875	97.2%	1.11	6.848	97.2%	1.36	0.214	5.6%	9.33	†	†	†	0.194	83.3%	1.17	0.167	75.0%	1.06	0.611	72.2%	1.47	
		75	0.0	6.253	100.0%	1.03	6.234	100.0%	1.06	0.259	13.9%	8.78	†	†	†	0.194	97.2%	1.0	0.167	100.0%	1.03	0.583	91.7%	1.42	
		100	0.0	5.436	100.0%	1.08	5.438	100.0%	1.08	0.321	13.9%	8.78	†	†	†	0.194	100.0%	1.06	0.194	100.0%	1.03	0.583	94.4%	1.28	
MICRONIC (0)	0.0	25	0.0	4.892	52.8%	1.97	4.908	83.3%	4.17	0.318	88.9%	2.89	†	†	†	0.111	50.0%	1.39	0.111	33.3%	1.17	0.306	50.0%	1.56	
		50	0.0	4.533	80.6%	1.17	4.566	97.2%	2.17	0.387	100.0%	1.75	†	†	†	0.083	83.3%	1.11	0.083	80.6%	1.11	0.25	77.8%	1.36	
		75	0.0	4.387	91.7%	1.06	4.379	100.0%	1.31	0.483	100.0%	1.19	†	†	†	0.083	97.2%	1.03	0.083	88.9%	1.03	0.25	86.1%	1.08	
		100	0.0	4.294	100.0%	1.03	4.311	100.0%	1.08	0.628	100.0%	1.0	†	†	†	0.056	100.0%	1.0	0.056	100.0%	1.0	0.25	97.2%	1.06	
ROVERS (0)	0.0	25	0.0	5.346	72.2%	2.22	5.359	75.0%	2.78	0.264	33.3%	4.78	†	†	†	0.083	52.8%	1.14	0.083	50.0%	1.14	0.167	52.8%	1.19	
		50	0.0	4.973	80.6%	1.61	4.941	88.9%	2.92	0.296	50.0%	3.81	†	†	†	0.056	69.4%	1.31	0.056	58.3%	1.08	0.167	63.9%	1.11	
		75	0.0	4.889	91.7%	1.14	4.905	100.0%	1.47	0.301	44.4%	3.92	†	†	†	0.083	86.1%	1.14	0.056	75.0%	1.08	0.167	83.3%	1.14	
		100	0.0	4.513	100.0%	1.03	4.53	100.0%	1.03	0.305	38.9%	4.06	†	†	†	0.083	97.2%	1.11	0.056	86.1%	1.03	0.139	88.9%	1.03	
SATELLITE (0)	0.0	25	0.0	4.51	75.0%	3.31	4.444	88.9%	4.28	0.224	58.3%	4.53	0.399	83.3%	4.94	0.056	52.8%	2.42	0.056	30.6%	1.33	0.111	58.3%	2.44	
		50	0.0	4.056	72.2%	2.44	4.091	83.3%	3.92	0.255	72.2%	3.58	0.446	72.2%	4.44	0.028	72.2%	2.08	0.028	44.4%	1.31	0.111	77.8%	2.08	
		75	0.0	3.915	83.3%	1.44	3.966	88.9%	2.83	0.28	77.8%	2.75	0.486	83.3%	4.17	0.028	80.6%	1.28	0.028	69.4%	1.08	0.111	80.6%	1.22	
		100	0.0	3.929	94.4%	1.47	3.935	94.4%	1.86	0.298	72.2%	3.0	0.496	86.1%	3.94	0.056	94.4%	1.31	0.028	91.7%	1.19	0.083	91.7%	1.19	
SOKOBAN (0)	0.0	25	0.0	13.104	36.1%	1.64	13.101	72.2%	4.69	1.953	25.0%	7.28	346.669	58.3%	3.97	0.75	41.7%	1.75	0.75	38.9%	1.56	Out of Memory	Out of Memory	Out of Memory	
		50	0.0	11.319	50.0%	1.17	11.323	58.3%	1.94	2.086	19.4%	6.67	256.744	61.1%	3.56	0.667	66.7%	1.44	0.694	58.3%	1.08	Out of Memory	Out of Memory	Out of Memory	
		75	0.0	9.527	36.1%	1.0	9.46	36.1%	0.56	2.121	19.4%	7.69	222.685	61.1%	3.36	0.694	80.6%	1.28	0.667	72.2%	1.03	Out of Memory	Out of Memory	Out of Memory	
		100	0.0	8.946	33.3%	1.11	9.029	36.1%	0.5	5.878	33.3%	6.47	217.736	61.1%	2.75	0.694	94.4%	1.22	0.694	86.1%	1.06	Out of Memory	Out of Memory	Out of Memory	
ZENO (0)	0.0	25	0.0	8.209	44.4%	2.72	8.27	80.6%	5.25	0.946	72.2%	3.92	30.776	44.4%	2.25	0.417	55.6%	1.92	0.417	33.3%	1.03	3.361	47.2%	1.67	
		50	0.0	7.712	91.7%	1.61	7.653	97.2%	4.03	1.025	88.9%	1.78	27.018	72.2%	3.53	0.361	77.8%	1.67	0.361	61.1%	1.08	3.639	77.8%	1.56	
		75	0.0	6.785	91.7%	1.08	6.766	100.0%	2.44	1.167	100.0%	1.22	27.262	97.2%	2.81	0.361	88.9%	1.25	0.361	77.8%	1.0	3.083	94.4%	1.17	
		100	0.0	6.177	97.2%	1.0	6.141	100.0%	1.42	1.289	97.2%	1.08	30.361	77.8%	2.08	0.361	97.2%	1.08	0.333	97.2%	1.03	3.083	97.2%	1.08	
Average				6.870	80.14%	1.69	6.868	88.68%	3.04	0.929	47.22%	5.01	41.444	67.97%	4.65	0.234	73.21%	1.30	0.234	64.71%	1.13	0.767	77.34%	1.37	

Table 1: Results comparing the state-of-the-art in goal recognition as planning for noisy, partial, and full observability.