Results of Conformant Track in the 5th International Planning Competition

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Abstract

We report the results for the conformant track in the 5th International Planning Competition held in conjunction with the 16th International Conference on Automated Planning and Scheduling.

Competitors

There were 3 teams that inscribed 8 planners in the final competition:

(a) Jörg Hoffmann with the Conformant-FF planner from Cornell University, USA.

(b) Dan Bryce with the planners POND1, POND2 and POND3 from Arizona State University, USA.

(c) Héctor Palacios and Héctor Geffner with the suboptimal planners kp and t0, and the optimal planners sat and sat-serial from Universitat Pompeu Fabra, Spain.

Results and Ranks

The competition consisted of 6 domains named adder, blocksworld, coins, comm, sortnet and uts. There number of instances per domain were 4, 3, 20, 25, 15 and 30 respectively, for a total of 97 instances. Conformant-FF cannot deal with the adder and sortnet domains since they have disjunctive goals. Since there were only one team with optimal planners, we focus the analysis on the suboptimal planners.

Table 1 summarizes the total number of instances solved by each planner over all domains, and also over all domains except adder and sortnet. As it can be seen, the best suboptimal planners seem to be Conformant-FF (if adder and sortnet are left out the analysis), POND1 and t0. However, if we look at the average time per instance, we see that t0 is the planner that takes less time.

Detailed data per instance can found in Figure 1 were time and length of plans for each suboptimal planner is presented. As it can be seen, t0 dominated the other planners in all instances except a few ones.

Thus, we declare t0 the best planner over the competition benchmark for this edition of IPC.

	all domains			restricted domains		
Planner	# solved instances	%	avg time	# solved instances	%	avg time
Conformant-FF	74	76.28	5.32	74	94.87	5.32
POND1	82	84.53	18.23	67	85.89	22.30
POND2	75	77.31	17.60	66	84.61	18.68
POND3	68	70.10	102.97	64	82.05	103.35
kp	77	79.38	6.79	71	91.02	3.97
t0	81	83.50	4.39	75	96.15	0.47
sat	25	25.77	112.08	19	24.35	134.61
sat-serial	23	23.71	109.04	19	24.35	130.61

Table 1: Overall coverage by planner. Top rows are for suboptimal planners, bottom rows are for optimal ones.

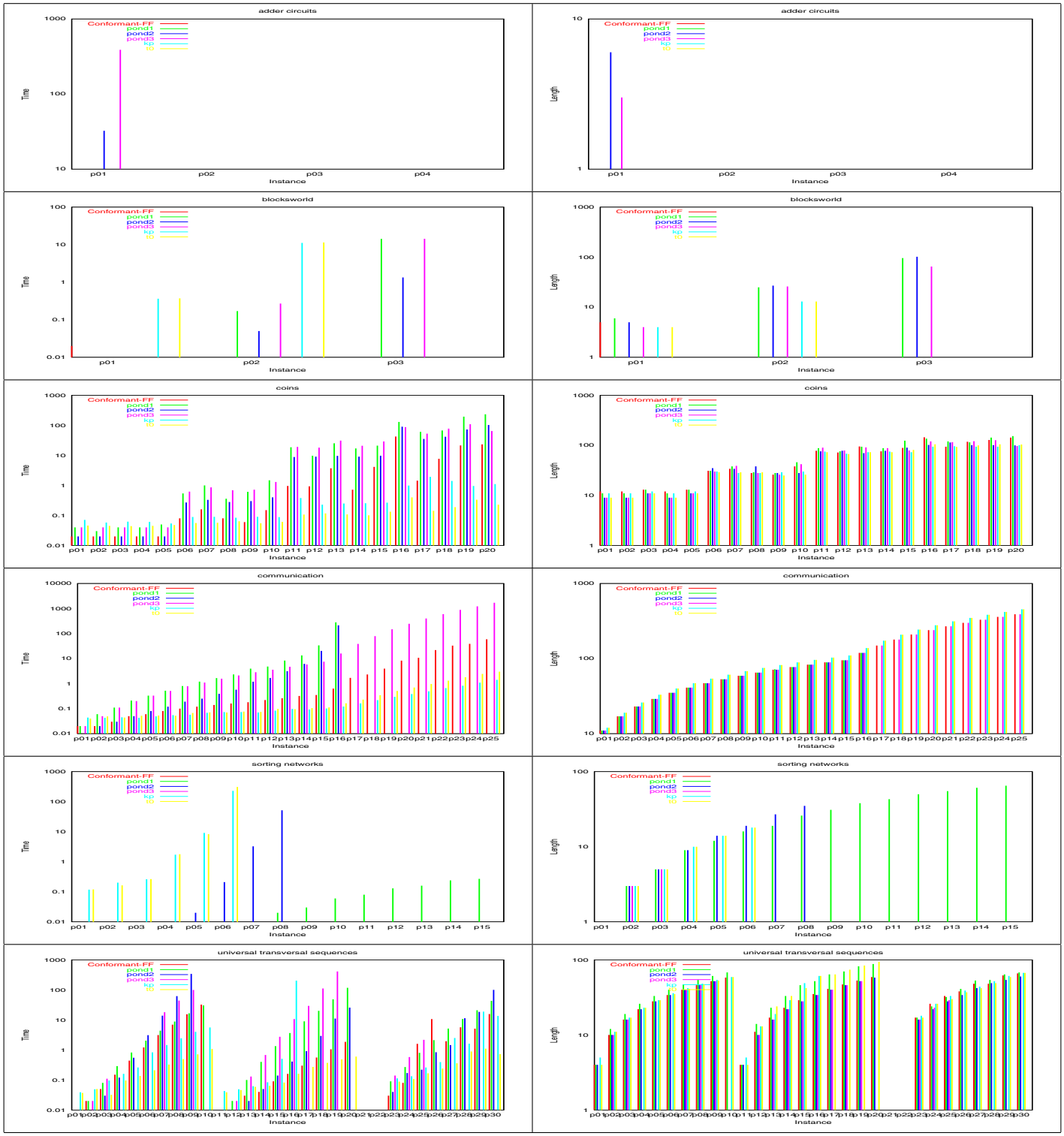

Figure 1: Charts for time andplan length per instance for each suboptimal planner.