Stochastic Enforced Hill-Climbing
Online Appendix 3

Jia-Hong Wu JW@ALUMNI.PURDUE.EDU
Institute of Statistical Science,
Academia Sinica, Taipei 115, Taiwan ROC
Rajesh Kalyanam RKALYANA@PURDUE.EDU
Robert Givan GIVAN@PURDUE.EDU
Electrical and Computer Engineering,
Purdue University, W. Lafayette, IN 47907, USA

1. Details of Omitted Problems for Each Planner Comparison

We omit problems from our evaluation, as follows.

- Problems from the domain COLORED-BLOCKSWORLD of the first competition are not used in any comparisons because their goal regions are not ground conjunctions (as required by both of our tested classes of heuristics).
- We drop nine problems (P2, P3, P5, P7, P9, P11, P12, P14 and P15) out of 15 from IPPC3 BOXWORLD because they vary from the included problems only in the reward structure, which is ignored by SEH.
- For categories with more than 20 problems remaining after the above omissions, we drop the even-numbered problems from any competition that originally contributes at least 15 problems to the category.
- Another two problems (IPPC2 EXPLODING BLOCKSWORLD P5 and IPPC2 ZENOTRAVEL P1) are dropped as trivial because the goal region contains the initial state. Problem P6 from IPPC2 EXPLODING BLOCKSWORLD is used as a replacement for the trivial problem P5. All other ZENOTRAVEL problems are already used, so no replacement is available for that trivial problem.
- Additional restrictions apply to individual comparisons as detailed below:
  - We omit all problems from IPPC3 SEARCH-AND-RESCUE and IPPC3 SYSADMIN from the comparison against FF-Replan, because FF-Replan cannot parse these problems due to the nested conditional effects in the domain definition.
  - We omit all problems from BUSFARE and IPPC1 FILEWORLD from the comparison against RFF-BG, because RFF-BG cannot parse these problems correctly.
  - One of our two sources of domain-independent heuristics (the "learned heuristic" from the work of Wu & Givan, 2010) has been computed only in a subset of the domains:
    - BLOCKSWORLD, BOXWORLD, and TOWERS OF HANOI from the first IPPC;

* TIREWORLD, ZENOTRAVEL, and EXPLODING BLOCKSWORLD from the second IPPC;
* BOXWORLD, EXPLODING BLOCKSWORLD and TRIANGLE TIREWORLD from the third IPPC.

We drop all problems that are not in one of the listed domains, and then drop any empty categories.

References

Wu, J., & Givan, R. (2010). Automatic induction of Bellman-Error features for probabilistic planning. *Journal of Artificial Intelligence Research*, *38*, 687–755.