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Proceedings of the Workshop on Heuristics for Domain- independent Planning

Edited by

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Preface

The automatic derivation of heuristic estimators to guide search has become a prominent approach to domain-independent planning. The approach works: very large problems, with many state variables and operators can be solved in this way that could not be solved before, and the approach appears to scale up better than others.

The first workshop on heuristics for domain-independent planning, held in conjunction with ICAPS 2007, was very successful. Many ideas presented at that workshop have led to contributions at major conferences such as ICAPS 2008 and AAAI 2008, and pushed the frontier of research on heuristic planning in several directions, both theoretically and practically. The workshop, as well as work on heuristic search that has been published since then, has also shown that there are many exciting open research opportunities in this area. Given this success, the decision at the previous workshop was to aim at institutionalising the event into a biennial series. The present workshop is the first step in doing so.

The series looks for contributions that help us understand better the ideas underlying current heuristics, their limitations, and the ways for overcoming them. We seek above all crisp and meaningful ideas and understanding. The ideas have to make sense computationally, but there is no need to wrap them with many others into a planner that can be 'competitive' with state-of-the-art planners. Also, rather than merely being interested in the 'largest' problems that current heuristic search planners can solve, we are equally interested in the simplest problems that they can't actually solve well.

In addition to heuristic search for classical planning, which was the main focus of the previous incarnation of the series, in the present workshop we called for new ideas on heuristic schemes for more general settings. That call was responded to handsomely, and we are happy to present a varied program including papers addressing incomplete domains, MDPs, temporal planning, and the Europa2 formalism. Apart from these, the program features several new ideas for computing improved heuristics in classical planning, new results on their combination and unification, as well as – last not least – a rendezvous with the good old h^+ heuristic.

We hope that the workshop will constitute one more step towards a better understanding of the ideas underlying current heuristics, of their limitations, and of ways for overcoming those.

– Carmel Domshlak, Malte Helmert and Joerg Hoffmann
Workshop co-Chairs

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