Certified Unsolvability in Classical Planning

Bibliography

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Certifying Algorithms and Proof Systems

  - introduces the concept of certifying algorithms
- Mohammad Abdulaziz, Peter Lammich. A Formally Verified Validator for Classical Planning Problems and Solutions. ICTAI 2018
  - plan validator built with theorem prover
  - shows that VAL/INVAL still contain bugs (fringe cases)
- Gerhard Gentzen. Untersuchungen über das logische Schließen. I. Mathematische Zeitschrift 1935
  - introduces the concept of natural deduction

Unsolvability Certificates

- Salomé Eriksson, Gabriele Röger, Malte Helmert. Unsolvability Certificates for Classical Planning. ICAPS 2017
  - inductive certificates
- Salomé Eriksson, Gabriele Röger, Malte Helmert. A Proof System for Unsolvable Planning Tasks. ICAPS 2018
  - first version of the unsolvability proof system
  - description and comparison of both inductive certificates and unsolvability proof system
  - augmentations to proof system
  - analysis of efficient verification with R-formalisms
Representation formalisms

- Adnan Darwiche, Pierre Marquis. 
  A Knowledge Compilation Map. JAIR 2002
  - thorough analysis of different knowledge representations
  - describes operations for R-formalisms

- Stefan Edelkamp, Peter Kissmann.
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  - shows that information like mutexes cannot be efficiently encoded in one BDD

Planning techniques

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  State space search nogood learning: Online refinement of critical-path dead-end detectors in planning. Artificial Intelligence 2017
  - iterative refinement of $h^c$ specialized on finding dead-ends

- Malte Helmert, Patrik Haslum, Jörg Hoffmann, Raz Nissim.
  - translation from M&S representation to ADD

- Malte Helmert, Gabriele Röger, Silvan Sievers.
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  - non-linear merge strategies cannot be represented by ADDs

- Vidal Alcázar, Álvaro Torralba.
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  - description of the $h^2$ preprocessor used in many planners