SODA POP: SOft solving and Defect Aware Partial Ordering Planning

Paper ID#42

Abstract. Abstract goes here !

Introduction

In general artificial intelligence, planning has proven to be . . . * Citing existing works to situate the present paper * Explain the work and the motivations of it

1 The Partial Order Planning Framework

- Introduce the planning system we use and explain some basic notation while citing reference paper
- Put the regular POP algorithm and cite papers that aims at enhancing it while explaining their limitations.

2 Motivating Examples

- Start by explaining why we are doing the present work (cite Ramirez)
- Then introduce the graphical legend and start by explaining an example showing flaws of previous works.
- Introducing the solution in this case

3 Improving POP's Performance

- Explanation of the usefulness heuristics
- Explanation of how domain causal graph is built
- Goal selection algorithm
- Using the causal graph to improve consistency checking (reversing known cycles in causal graph)
- Improve upon flaw selection mechanisms and reducing branching factor with the causal graph.

4 Improving POP's Quality

- Transition to the flaw selection of related subgoals before threats.
- Introduction to negative flaws
- Introduction of Alternative and Orphan using notation and algorithms.
- Explanation of Alternative and Orphans using examples.

5 Properties of SODA POP

- Proof ? of correlation between causal graph and cycle detection
- Proof? reduction of branching in every case with causal graph selection
- Proof? Enhancement of plan quality using negative flaws

6 Experiments

- Present the experimental setup and metrics
- Show various graphs of comparison between SODA and vanilla POP.
- Explanation of results and discussion.

Conclusion

- Discussion of results and properties
- Summary of improvements
- Introducing soft solving and online planning.
- Online planning
- plan recognition and constrained planning

References