On Incremental Core-Guided MaxSAT Solving

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$|F_i|$ — up to 10^8

(e.g. Markov Logic Networks[1])

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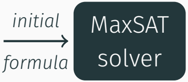

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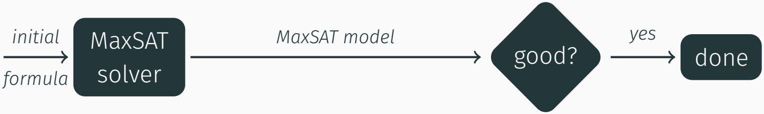

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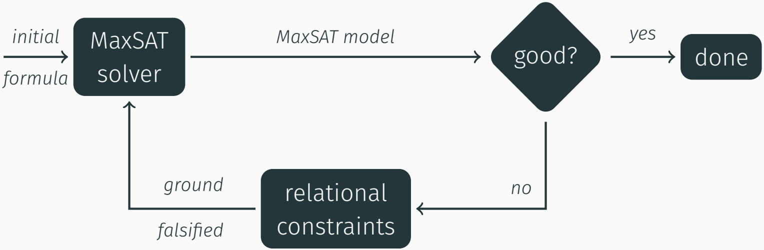

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$(split\_lim_c \leqslant k \quad \forall c \in F_{soft})$

Experimental results

Experimental evaluation

- Applications:
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  1. abstraction refinement +
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  1. non-incremental
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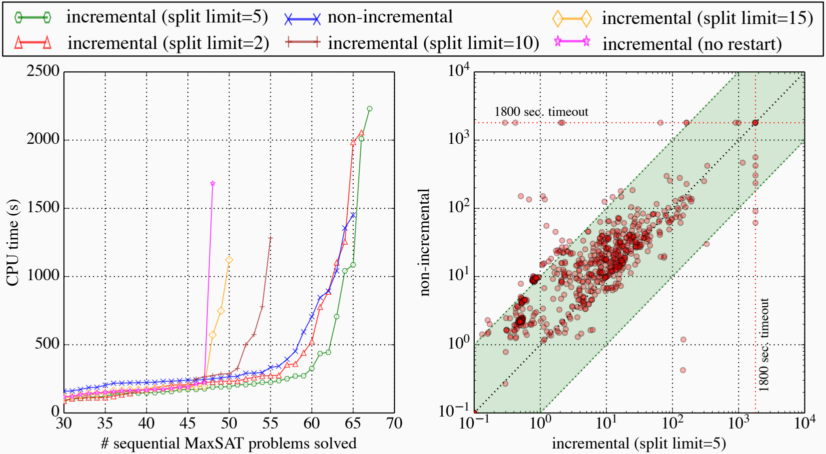

(a) sequential MaxSAT problems *(b)* individual MaxSAT instances

Speedup over non-incremental approach

Split limit 5 vs. **non-incremental**:

- average speedup — 1.8×
- best speedup — 296× !

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Summary and future work

- new incremental approach to sequential MaxSAT:
  - incremental MaxSAT calls +
  - incremental SAT calls inside MaxSAT +
  - adaptive restarts

- better restart strategies
- state-of-the-art MaxSAT algorithms
- not only add but also delete clauses

Questions?