Niklas Sörensson
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Research Interests

Applications and extensions of algorithms for SAT solving.

First order theorem proving and finite model finding.

SAT based Model Checking.

Software Development

Paradox	A finite model finder for first order logic developed together with Koen Claessen. Won an award at the CASC-19 competition.
Tip	I developed prototypes for this SAT-based model checker in Haskell and C++. Niklas Eén later developed a full version in C++, keeping the core ideas from my prototypes.
Satnik	A SAT-solver with support for incremental SAT-solving that I have developed. It performed well in the SAT'03 competition and was used in Paradox and the prototypes for Tip

Awards

Paradox, a model finder co-developed with Koen Claessen, won the Model class of the SAT division in CASC-19 competition for first-order logic tools.

Research Articles

Applications of SAT solving
Niklas Sörensson
Ph. Licenciate thesis, Department of Computing Science, Gothenburg University, 2003

An extensible SAT solver
Niklas Eén and Niklas Sörensson
Proceedings of the 6th International Conference on Theory and Applications of Satisfiability Testing, 2003

Temporal induction by incremental SAT solving
Niklas Eén and Niklas Sörensson
Proceedings of the First International Workshop on Bounded Model Checking, 2003

New techniques that improve MACE-style finite model finding
Koen Claessen and Niklas Sörensson
CADE-19, Workshop W4. Model Computation – Principles, Algorithms, Applications, 2003

Fair constraint merging tableaux in lazy functional programming style
Reiner Hähnle and Niklas Sörensson
Proceedings of the International Conference on Automated Reasoning with Analytic Tableaux and Related Methods, 2003

Symbolic model checking based on induction
Niklas Sörensson
Master's thesis, Department of Computing Science, Gothenburg University, 2000

Education

Ph.D.-studies	Computing Science
	Gothenburg University, 2000 –
Ph.Lic.	Computing Science
	Gothenburg University, spring 2004 (a few credits left)
M.Sc.	Computing Science
	Gothenburg University, 2000

Activities

Member of the Formal Methods research group at my department

References

Reiner Hähnle – Chalmers University
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Mary Sheeran – Chalmers University
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Koen Claessen – Chalmers University
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