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Benjamin Kiesl

Education

- Mar. 2015 – Mar. 2019 *PhD, Computer Science, with distinction*
TU Wien, Doctoral Program *LogiCS*
Thesis: *Structural Reasoning Methods for Satisfiability Solving and Beyond*
Advisors: Martina Seidl and Hans Tompits
- Oct. 2011 – Jan. 2015 *MSc, Computational Intelligence, with distinction*
TU Wien
Thesis: *On Transforming Answer-Set Programs Towards Natural-Language Representations*
Advisor: Hans Tompits
- Oct. 2008 – Jul. 2011 *BSc, Media Technology, with distinction*
University of Applied Sciences Hagenberg
Thesis: *Analysis of Data Sources for the Semantic Web*
Advisor: Andreas Stöckl

Professional Experience

- From Mar. 2019 *Postdoctoral Researcher*
CISPA – Helmholtz Center for Information Security,
Saarbrücken
- Mar. 2015 – Feb. 2019 *Research Assistant*
Institute of Logic and Computation,
TU Wien
- Feb. 2014 – Mar. 2015 *Software Developer C++*
sofasession (startup), Vienna
- Winter Terms 2013/14 *Teaching Assistant for the Course*
Introduction to Knowledge-based Systems
TU Wien
- Summer Term 2013 *Teaching Assistant for the Course*
Introduction to Artificial Intelligence
TU Wien
- Jul. – Sept. 2012 *Internships as Software Developer (Java)*
and Apr. – Jul. 2011 IBM, Vienna

Aug. – Sept. 2010 *Internships as Software Developer (C#)*
and Jul. – Aug. 2009 eworx, Rohrbach, Austria

May – Sept. 2008 *Software Developer (C#)*
IT|Pro, Linz, Austria

Research Visits

Feb. – Apr. 2018 *The University of Texas at Austin*
and Jan. – May 2017 Department of Computer Science
Collaboration with Marijn J.H. Heule

Awards and Scholarships

- Best Paper Award of the International Joint Conference on Automated Reasoning (IJCAR 2018)
- Both Best Paper Awards of the International Conference on Automated Deduction (CADE-26)
- Best Paper Award of the Haifa Verification Conference (HVC 2017)
- Best Paper Nomination of the International Conference on Tools and Algorithms for the Construction and Analysis of Systems (TACAS 2019)
- Marshall Plan Scholarship of the Austrian Marshall Plan Foundation
- Excellence Scholarship of TU Wien
- Excellence Scholarship of the University of Applied Sciences Hagenberg

Professional Service

- Program Committee Member of the 27th International Conference on Automated Deduction (CADE-27) and of the 21st International Symposium on Symbolic and Numeric Algorithms for Scientific Computing (SYNASC 2019);
- Reviewing for the following conferences: International Symposium on Theoretical Aspects of Computer Science (STACS 2019), International Conference on Computer Aided Verification (CAV 2018), International Symposium on Formal Methods (FM 2018), International Conference on Automated Deduction (CADE-26), International Conference on Theory and Applications of Satisfiability Testing (SAT 2017 and 2019), International Conference on Logic Programming and Nonmonotonic Reasoning (LPNMR 2015 and 2017), International Conference on Artificial Intelligence (IJCAI 2015, 2016, and 2019);

Journal Publications

- [1] Marijn J. H. Heule, Benjamin Kiesl, and Armin Biere. “Strong Extension-Free Proof Systems”. In: *Journal of Automated Reasoning* (2019).

- [2] Benjamin Kiesl, Martina Seidl, Hans Tompits, and Armin Biere. “Local Redundancy in SAT: Generalizations of Blocked Clauses”. In: *Logical Methods in Computer Science* 14.4 (2018).

Conference Publications

- [3] Marijn J. H. Heule, Benjamin Kiesl, and Armin Biere. “Encoding Redundancy for Satisfaction-Driven Clause Learning”. In: *Proc. of the 25th Int. Conference on Tools and Algorithms for the Construction and Analysis of Systems (TACAS 2019)*. **Best Paper Nomination**.
- [4] Benjamin Kiesl, Adrián Rebola-Pardo, and Marijn J.H. Heule. “Extended Resolution Simulates DRAT”. In: *Proc. of the 9th Int. Joint Conference on Automated Reasoning (IJCAR 2018)*. **Best Paper Award**.
- [5] Marijn J.H. Heule, Benjamin Kiesl, Martina Seidl, and Armin Biere. “PRuning Through Satisfaction”. In: *Proc. of the 13th Haifa Verification Conference (HVC 2017)*. **Best Paper Award**.
- [6] Benjamin Kiesl, Marijn J.H. Heule, and Martina Seidl. “A Little Blocked Literal Goes a Long Way”. In: *Proc. of the 20th Int. Conference on Theory and Applications of Satisfiability Testing (SAT 2017)*.
- [7] Benjamin Kiesl, Martina Seidl, Hans Tompits, and Armin Biere. “Blockedness in Propositional Logic: Are You Satisfied With Your Neighborhood?”. In: *Proc. of the 26th Int. Joint Conference on Artificial Intelligence (IJCAI 2017)*.
- [8] Benjamin Kiesl and Martin Suda. “A Unifying Principle for Clause Elimination in First-Order Logic”. In: *Proc. of the 26th Int. Conference on Automated Deduction (CADE-26)*. **Best Paper Award**. 2017.
- [9] Marijn J.H. Heule, Benjamin Kiesl, and Armin Biere. “Short Proofs Without New Variables”. In: *Proc. of the 26th Int. Conference on Automated Deduction (CADE-26)*. **Best Paper Award**. 2017.
- [10] Benjamin Kiesl, Martin Suda, Martina Seidl, Hans Tompits, and Armin Biere. “Blocked Clauses in First-Order Logic”. In: *Proc. of the 21st Int. Conference on Logic for Programming, Artificial Intelligence and Reasoning (LPAR-21)*. 2017.
- [11] Benjamin Kiesl, Martina Seidl, Hans Tompits, and Armin Biere. “Super-Blocked Clauses”. In: *Proc. of the 8th Int. Joint Conference on Automated Reasoning (IJCAR 2016)*.
- [12] Benjamin Kiesl, Peter Schüller, and Hans Tompits. “On Structural Analysis of Non-Ground Answer-Set Programs”. In: *Proc. of the Technical Communications of the 31st Int. Conference on Logic Programming (ICLP 2015)*.

Refereed Workshop Publications

- [13] Marijn J.H. Heule and Benjamin Kiesl. *The Potential of Interference-Based Proof Systems*. Proc. of the 1st ARCADE Workshop. 2017.