

Jaroslav Bendík

✉ xbendik@gmail.com
homepage: jar-ben.github.io

Academic Appointment

Apr 2021 – **Max Planck Institute for Software Systems**, Kaiserslautern, Germany.
now postdoctoral researcher
Advisor: [Rupak Majumdar](#)

Education

Sep 2016 – **Masaryk University**, Brno, Czech Republic.
Mar 2021 Ph.D. in Computer Systems and Technologies
Ph.D thesis: [Minimal Sets over a Monotone Predicate: Enumeration and Counting](#)
Advisor: [Ivana Černá](#)
Reviewers: [Nikolaj Bjørner](#) and [João Marques-Silva](#)
2018 **Masaryk University**, Brno, Czech Republic.
RNDr. (M.Sc. degree) in Parallel and Distributed Systems
Thesis: *Algorithms for Finding Minimal Unsatisfiable Subsets*
2016 **Masaryk University**, Brno, Czech Republic.
Mgr. (master degree) in Parallel and Distributed Systems
Thesis: *Algorithms for Finding Maximal Satisfiable Sets of Constraints*
2014 **Masaryk University**, Brno, Czech Republic.
Bc. (bachelor degree) in Applied Informatics
Thesis: *Cycle Detection in Dynamic Graphs*

Research Interests

Formal methods, constraint processing, analysis of infeasible constraint systems, SAT and SMT solving, requirements analysis, software verification, symbolic and explicit model checking, timed automata.

Previous Work and Internship Experience

Jan–Apr 2021 **National University of Singapore**, Singapore.
research fellow (postdoc)
Advisor: [Kuldeep S. Meel](#)
Spring 2021 **University of California, Berkeley**, *Simons Institute*, USA.
visiting postdoc
2013–2021 **Parallel & Distributed Systems Laboratory**, Masaryk University, Brno, Czech Republic.
research laboratory member
October 2019 **National University of Singapore**, Singapore.
academic stay (4 weeks)
Jan–Mar 2019 **Automated Reasoning Group, Amazon**, Minneapolis, USA.
SDE internship (12 weeks)

- 2016–2019 **ECSEL Joint Undertaking project AMASS**, Masaryk University, Brno, Czech Republic.
part-time research assistant
- Autumn **University of Minnesota**, Minneapolis, USA.
2017 academic stay (2 weeks)
- 2015 **ARTEMIS Joint Undertaking project CRYSTAL**, Masaryk University, Brno, Czech Republic.
part-time research assistant

Publications

- 2021 Jaroslav Bendík and Kuldeep S. Meel. “Counting Minimal Unsatisfiable Subsets”. In: *CAV (to appear)*. 2021.
- Jaroslav Bendík and Kuldeep S. Meel. “Counting Maximal Satisfiable Subsets”. In: *AAAI*. 2021.
- Jaroslav Bendík, Ahmet Sencan, Ebru Aydin Gol, and Ivana Černá. “Timed Automata Relaxation for Reachability”. In: *TACAS*. 2021.
- 2020 Jaroslav Bendík and Kuldeep S. Meel. “Approximate Counting of Minimal Unsatisfiable Subsets”. In: *CAV*. 2020, pp. 439–462.
- Jaroslav Bendík and Ivana Černá. “MUST: Minimal Unsatisfiable Subsets Enumeration Tool”. In: *TACAS*. 2020, pp. 135–152.
- Jaroslav Bendík and Ivana Černá. “Replication-Guided Enumeration of Minimal Unsatisfiable Subsets”. In: *CP*. 2020, pp. 37–54.
- Jaroslav Bendík and Ivana Černá. “Rotation Based MSS/MCS Enumeration”. In: *LPAR*. 2020, pp. 120–137.
- 2018 Jaroslav Bendík, Ivana Černá, and Nikola Beneš. “Recursive Online Enumeration of All Minimal Unsatisfiable Subsets”. In: *ATVA*. 2018, pp. 143–159.
- Jaroslav Bendík, Elaheh Ghassabani, Michael W. Whalen, and Ivana Černá. “Online Enumeration of All Minimal Inductive Validity Cores”. In: *SEFM*. 2018, pp. 189–204.
- Jaroslav Bendík and Ivana Černá. “Evaluation of Domain Agnostic Approaches for Enumeration of Minimal Unsatisfiable Subsets”. In: *LPAR*. 2018, pp. 131–142.
- Jaroslav Bendík, Nikola Beneš, and Ivana Černá. “Finding Regressions in Projects under Version Control Systems”. In: *ICSOFT*. 2018, pp. 186–197.
- 2016 Jaroslav Bendík, Nikola Beneš, Jiří Barnat, and Ivana Černá. “Finding Boundary Elements in Ordered Sets with Application to Safety and Requirements Analysis”. In: *SEFM*. 2016, pp. 121–136.
- Jaroslav Bendík, Nikola Beneš, Ivana Černá, and Jiří Barnat. “Tunable Online MUS/MSS Enumeration”. In: *FSTTCS*. 2016, 50:1–50:13.

References

- Ivana Černá **Masaryk University**, *Faculty of Informatics*, Brno, Czech Republic.
email: cerna@muni.cz
- Kuldeep S. Meel **National University of Singapore**, *School of Computing*, Singapore.
email: meel@comp.nus.edu.sg
- Mike Whalen **Automated Reasoning Group, Amazon**.
email: mww@amazon.com
- Ebru Aydin Gol **Middle East Technical University**, Turkey.
email: ebrugol@metu.edu.tr
- Jiří Barnat **Masaryk University**, *Faculty of Informatics*, Brno, Czech Republic.
email: barnat@fi.muni.cz

Invited Talks

- 2021 **National University of Singapore**, Singapore.
seminar talk
- 2020 **Rice University**, USA.
seminar talk
- 2019 **National University of Singapore**, Singapore.
seminar talk
- 2019 **Automated Reasoning Group, Amazon, AWS**, USA.
lightning talk
- 2017 **University of Minnesota**, USA.
seminar talk

Conference Talks

CAV'21, AAF'21, TACAS'21, CAV'20, TACAS'20, CP'20, LPAR'20, ATVA'18, LPAR'18, SEFM'18, ICSOFT'18, SEFM'16, FSTTCS'16

Appreciation of Science Community

- 2018 **13th International Conference on Software Technologies**.
Best student paper award
- 2016 **Masaryk University**, *Faculty of Informatics*, Brno, Czech Republic.
Dean's award

Other Academic Experience

- 2019–2021 **Masaryk University**, Brno, Czech Republic.
member of Academic Senate
- 2018–2021 **Masaryk University**, *Faculty of Informatics*, Brno, Czech Republic.
member of the faculty Academic Senate
- 2016–present **Subreviewer of computer science conference papers**.
TACAS'21, SAT'20, CONCUR'19, FMICS-AVoCS'17, FMICS-AVoCS'16, SEFM'16

Teaching Experience

2015–2020 **Masaryk University**, Brno, Czech Republic.

Introduction to Programming and Algorithms II seminar tutor (Spring 2020)

Introduction to Programming seminar tutor (Autumn 2016, Autumn 2017)

Algorithms and Data Structures II seminar tutor (Spring 2016 - 2020)

Introduction to Programming using Python seminar tutor (Autumn 2015)

Algorithms and Data Structures I seminar tutor (Spring 2015)