

Jendrik Seipp

Curriculum Vitae (September 2023)

Personal Details

Name Dr. Jendrik Seipp
Work address Department of Computer and Information Science
Linköping University
581 83 Linköping, Sweden
Email jendrik.seipp@liu.se
Homepage jendrikseipp.com
Google Scholar citations: **1182**, h-index: **19**, i10: **33** (scholar.google.com/citations?user=FIJUptoAAAAJ)

Current Position

since 01/2021 **Assistant professor, Docent (tenure track)**
Representation, Learning and Planning Lab at Linköping University, Sweden

Previous Appointments

03/2018–12/2020 **Post-doctoral researcher**
Artificial Intelligence research group at the University of Basel, Switzerland
03/2013–02/2018 **Research and teaching assistant**
Artificial Intelligence research group at the University of Basel, Switzerland
04/2010–12/2012 **Student assistant**
Foundations of Artificial Intelligence research group at the University of Freiburg, Germany
04/2009–08/2009 **Student assistant**
University Freiburg Medical Center, Germany
10/2007–03/2009 **Student assistant**
Department of Psychology at the University of Freiburg, Germany

Education and Academic Degrees

09/2022 **Docent** in Computer Science from Linköping University, Sweden
02/2018 **Ph.D. degree** from University of Basel, Switzerland
Thesis: *Counterexample-guided Cartesian Abstraction Refinement and Saturated Cost Partitioning for Optimal Classical Planning*
grade *summa cum laude* (with distinction)
12/2012 **M.Sc. in computer science** from University of Freiburg, Germany
grade 1.1 (very good)

- Study abroad: Universidad Politécnica de Madrid, Spain
- 09/2009 **B.Sc. in computer science** from University of Freiburg, Germany
grade 1.1 (very good)

Additional Training

- 09/2022–12/2022 **Course design and implementation** (6 hp), Linköping University
- 09/2022–12/2022 **Becoming a teacher in higher education** (6 hp), Linköping University
- 11/2021–12/2021 **PhD supervision course** (1.5 hp), Institute of Technology, Linköping University
- 09/2021–10/2021 **Docent course** (2.5 hp), Institute of Technology, Linköping University

Research Visits

- 01/2020–12/2020 Robotics and Intelligent Systems group, University of Oslo, Norway
Project: *Model-based optimization for configuring modular robots*
- 07/2015–08/2015 Algorithms Lab, University of British Columbia, Vancouver, Canada
Project: *Automatic planner configuration and runtime prediction via machine learning*

Awards

Awards for Academic Publications

- 08/2021 **Distinguished Paper Award**
for the paper “Learning Generalized Unsolvability Heuristics for Classical Planning”
at IJCAI 2021, held online
(with Simon Ståhlberg and Guillem Francès)
 - Out of 4204 conference submissions, there were three winners of the award and one runner-up.
- 10/2020 **ICAPS Best Dissertation Award**
for the PhD dissertation “Counterexample-guided Cartesian Abstraction Refinement and Saturated Cost Partitioning for Optimal Classical Planning”
at ICAPS 2020 in Nancy, France
 - There were two winners of the award.
- 05/2020 **Best Paper Award**
for the paper “An Atom-Centric Perspective on Stubborn Sets”
at SoCS 2020, held online
(with Gabriele Röger, Malte Helmert and Silvan Sievers)
 - Out of 34 submissions, this was the sole recipient of the award.
- 06/2017 **Best Student Paper Award**
for the paper “Better Orders for Saturated Cost Partitioning in Optimal Classical Planning”
at SoCS 2017 in Pittsburgh, Pennsylvania, USA
 - Sole recipient of the award (number of eligible submissions unknown).

- 02/2015 **Outstanding Paper Award**
 for the paper “From Non-Negative to General Operator Cost Partitioning”
 at AAAI 2015 in Austin, Texas, USA
 (with Florian Pommerening, Malte Helmert and Gabriele Röger)
 ○ Out of 1991 conference submissions, this was the sole recipient of the award.
- [Awards for Planning Systems](#)
- 07/2023 **Winner, Deterministic Optimal Track**
 for the planning system “Ragnarok”
 at the 10th International Planning Competition (IPC 2023)
 at ICAPS 2023, Prague, Czech Republic
 (with Dominik Drexler, Daniel Gnad, Paul Höft, David Speck and Simon Ståhlberg)
- 07/2023 **Winner, Deterministic Satisficing Track**
 for the planning system “Scorpion Maidu and Levitron”
 at the 10th International Planning Competition (IPC 2023)
 at ICAPS 2023, Prague, Czech Republic
 (with Augusto B. Corrêa, Guillem Francès, Markus Hecher and Davide Mario Longo)
- 07/2023 **Runner-Up, Deterministic Agile Track**
 for the planning system “Fast Downward Stone Soup 2023”
 at the 10th International Planning Competition (IPC 2023)
 at ICAPS 2023, Prague, Czech Republic
 (with Clemens Büchner, Remo Christen, Augusto Blaas Corrêa, Salomé Eriksson, Patrick Ferber and Silvan Sievers)
- 07/2022 **4x First Place, 3x Second Place, 1x Third Place (in nine tracks)**
 for the planning system “PARIS: Planning Algorithms for Reconfiguring Independent Sets”
 at the 1st Combinatorial Reconfiguration Challenge (CoRe Challenge 2022)
 at ICALP 2022 Workshop on Combinatorial Reconfiguration, Paris
 (with Remo Christen, Salomé Eriksson, Michael Katz, Emil Keyder, Christian Muise, Alice Petrov, Florian Pommerening, Silvan Sievers and David Speck)
- 06/2022 **Second Place, System Demonstrations Track**
 for the planning system “Planutils: Bringing Planning to the Masses”
 at the System Demonstrations Track
 at ICAPS 2022, Virtual
 (with Christian Muise, Florian Pommerening and Michael Katz)
- 06/2018 **Winner, Deterministic Sequential Satisficing Track**
 for the planning system “Fast Downward Stone Soup 2018”
 at the 9th International Planning Competition (IPC 2018)
 at ICAPS 2018, Delft, The Netherlands
 (with Gabriele Röger)

- 06/2018 **Winner, Deterministic Sequential Cost-Bounded Track**
for the planning system “Fast Downward Stone Soup 2018”
at the 9th International Planning Competition (IPC 2018)
at ICAPS 2018, Delft, The Netherlands
(with Gabriele Röger)
- 06/2016 **Winner**
for the planning system “Fast Downward Aidos”
at the 1st Unsolvability International Planning Competition (UIPC 2016)
at ICAPS 2016, London, England
(with Florian Pommerening, Silvan Sievers, Martin Wehrle, Chris Fawcett and
Yusra Alkhazraji)
- 10/2014 **Second Place and Best Learner Award, Learning Track**
for the planning system “Fast Downward Cedalion”
at the 8th International Planning Competition (IPC 2014)
at ICAPS 2014, Portsmouth, New Hampshire, USA
(with Silvan Sievers and Frank Hutter)
- 10/2014 **Third Place and Best Basic Solver Award, Learning Track**
for the planning system “Fast Downward SMAC”
at the 8th International Planning Competition (IPC 2014)
at ICAPS 2014, Portsmouth, New Hampshire, USA
(with Silvan Sievers and Frank Hutter)
- 06/2011 **Winner, Deterministic Sequential Optimization Track**
for the planning system “Fast Downward Stone Soup-1”
at the 7th International Planning Competition (IPC 2011)
at ICAPS 2011, Freiburg, Germany
(with Malte Helmert, Jörg Hoffmann, Erez Karpas, Emil Keyder, Raz Nissim,
Silvia Richter, Gabriele Röger and Matthias Westphal)
- 06/2011 **Runner-up, Deterministic Sequential Satisficing Track**
for the planning system “Fast Downward Stone Soup-1”
at the 7th International Planning Competition (IPC 2011)
at ICAPS 2011, Freiburg, Germany
(with Malte Helmert, Erez Karpas, Silvia Richter and Gabriele Röger)
- 06/2011 **Runner-up, Learning Track**
for the planning system “Fast Downward Autotune-speed”
at the 7th International Planning Competition (IPC 2011)
at ICAPS 2011, Freiburg, Germany
(with Chris Fawcett, Malte Helmert, Holger Hoos, Erez Karpas, Gabriele Röger)

[Awards at Programming Competitions](#)

- 03/2011 **Third Place**
at the national programming competition (informatiCup) of the German society
for computer science (GI) with Manuel Braun and Jonas Sternisko
- 03/2009 **Second Place**
at the national programming competition (informatiCup) of the German society
for computer science (GI) with Manuel Braun

01/2008 **Finalist**
at the German national competition for e-learning applications (D-ELINA)

Other Awards

04/2013 **MFG Talent Award (*Talente-Preis*)**
at the third MFG talent day held by the Medien- und Filmgesellschaft Baden-Württemberg

Scholarships

10/2009–10/2010 **Christoph Rüchardt scholarship**
Scholarship for students with outstanding achievements during B.Sc. studies

Acquired Funding

All grants as sole primary investigator unless indicated otherwise.

Ongoing and Planned Projects

09/2023–08/2027 *Neuro-Symbolic AI for Improving Energy Efficiency in 6G*
~3 000 000 SEK, 1 industrial Ph.D. student at Ericsson Research
Wallenberg AI, Autonomous Systems and Software Program

09/2023–08/2027 *Collaborative Constraint-Based Planning*
2 952 775 SEK, 1 Ph.D. student
Wallenberg AI, Autonomous Systems and Software Program

04/2023–10/2023 *Symbolic Search for Diverse Plans and Maximum Utility (Co-PI)*
60 000 EUR
Part of AIPlan4EU funded by European Commission Horizon 2020 programme

01/2023–12/2027 *Learning Trustworthy Planning Algorithms*
3 000 000 SEK
Zenith research grant from the Institute of Technology at Linköping University

09/2021–08/2025 *Learning Dynamic Algorithms for Automated Planning*
2 952 775 SEK, 1 Ph.D. student
Wallenberg AI, Autonomous Systems and Software Program

Completed Projects

11/2011–10/2012 *Abstraction Refinement for Classical Planning Problems*
9 443 EUR
Karl Steinbuch scholarship by MFG Baden-Württemberg mbH

11/2010–10/2011 *Learning Portfolios of Automatically Tuned Planners*
10 000 EUR
Karl Steinbuch scholarship by MFG Baden-Württemberg mbH
(with Manuel Braun and Johannes Garimort)

Publications

- Both journal articles are published in the **flagship** AI journal JAIR.
- 28 of 33 papers are published at **A*** conferences AAAI, ICAPS, IJCAI and KR.

Journal Publications

- 2020 **Jendrik Seipp**, Thomas Keller, and Malte Helmert.
Saturated cost partitioning for optimal classical planning.
Journal of Artificial Intelligence Research, 67:129–167, 2020.
- 2018 **Jendrik Seipp** and Malte Helmert.
Counterexample-guided Cartesian abstraction refinement for classical planning.
Journal of Artificial Intelligence Research, 62:535–577, 2018.

Peer-Reviewed Papers at Major Conferences

- 2023 Remo Christen, Salomé Eriksson, Michael Katz, Christian Muise, Alice Petrov, Florian Pommerening, **Jendrik Seipp**, Silvan Sievers, and David Speck.
PARIS: Planning algorithms for reconfiguring independent sets.
In *Proc. ECAI 2023*, 2023.
- Dominik Drexler, **Jendrik Seipp**, and Hector Geffner.
Learning hierarchical policies by iteratively reducing the width of sketch rules.
In *Proc. KR 2023*, 2023.
- Paul Höft, David Speck, and **Jendrik Seipp**.
Sensitivity analysis for saturated post-hoc optimization in classical planning.
In *Proc. ECAI 2023*, 2023.
- Thorsten Klößner, **Jendrik Seipp**, and Marcel Steinmetz.
Cartesian abstractions and saturated cost partitioning in probabilistic planning.
In *Proc. ECAI 2023*, 2023.
- Mauricio Salerno, Raquel Fuentetaja, and **Jendrik Seipp**.
Eliminating redundant actions from plans using classical planning.
In *Proc. KR 2023*, 2023.
- David Speck, Paul Höft, Daniel Gnad, and **Jendrik Seipp**.
Finding matrix multiplication algorithms with classical planning.
In *Proc. ICAPS 2023*, pages 411–416, 2023.
- 2022 Augusto B. Corrêa and **Jendrik Seipp**.
Best-first width search for lifted classical planning.
In *Proc. ICAPS 2022*, pages 11–15, 2022.
- Dominik Drexler, **Jendrik Seipp**, and Hector Geffner.
Learning sketches for decomposing planning problems into subproblems of bounded width.
In *Proc. ICAPS 2022*, pages 62–70, 2022.
- Patrick Ferber, Liat Cohen, **Jendrik Seipp**, and Thomas Keller.
Learning and exploiting progress states in greedy best-first search.
In *Proc. IJCAI 2022*, pages 4740–4746, 2022.
- Patrick Ferber and **Jendrik Seipp**.
Explainable planner selection for classical planning.
In *Proc. AAAI 2022*, pages 9741–9749, 2022.
- David Speck and **Jendrik Seipp**.
New refinement strategies for Cartesian abstractions.
In *Proc. ICAPS 2022*, pages 348–352, 2022.

- 2021 Dominik Drexler, **Jendrik Seipp**, and Hector Geffner.
Expressing and exploiting the common subgoal structure of classical planning domains using sketches.
In *Proc. KR 2021*, pages 258–268, 2021.
- Dominik Drexler, **Jendrik Seipp**, and David Speck.
Subset-saturated transition cost partitioning.
In *Proc. ICAPS 2021*, pages 131–139, 2021.
- Florian Pommerening, Thomas Keller, Valentina Halasi, **Jendrik Seipp**, Silvan Sievers, and Malte Helmert.
Dantzig-Wolfe decomposition for cost partitioning.
In *Proc. ICAPS 2021*, pages 271–280, 2021.
- Jendrik Seipp**.
Online saturated cost partitioning for classical planning.
In *Proc. ICAPS 2021*, pages 317–321, 2021.
- Jendrik Seipp**, Thomas Keller, and Malte Helmert.
Saturated post-hoc optimization for classical planning.
In *Proc. AAI 2021*, pages 11947–11953, 2021.
- Simon Ståhlberg, Guillem Francès, and **Jendrik Seipp**.
Learning generalized unsolvability heuristics for classical planning.
In *Proc. IJCAI 2021*, pages 4175–4181, 2021.
- Álvaro Torralba, **Jendrik Seipp**, and Silvan Sievers.
Automatic instance generation for classical planning.
In *Proc. ICAPS 2021*, pages 376–384, 2021.
- 2020 Gabriele Röger, Malte Helmert, **Jendrik Seipp**, and Silvan Sievers.
An atom-centric perspective on stubborn sets.
In *Proc. SoCS 2020*, pages 57–65, 2020.
- Jendrik Seipp**, Samuel von Allmen, and Malte Helmert.
Incremental search for counterexample-guided Cartesian abstraction refinement.
In *Proc. ICAPS 2020*, pages 244–248, 2020.
- 2019 **Jendrik Seipp**.
Pattern selection for optimal classical planning with saturated cost partitioning.
In *Proc. IJCAI 2019*, pages 5621–5627, 2019.
- Jendrik Seipp** and Malte Helmert.
Subset-saturated cost partitioning for optimal classical planning.
In *Proc. ICAPS 2019*, pages 391–400, 2019.
- 2017 **Jendrik Seipp**.
Better orders for saturated cost partitioning in optimal classical planning.
In *Proc. SoCS 2017*, pages 149–153, 2017.
- Jendrik Seipp**, Thomas Keller, and Malte Helmert.
A comparison of cost partitioning algorithms for optimal classical planning.
In *Proc. ICAPS 2017*, pages 259–268, 2017.

- Jendrik Seipp**, Thomas Keller, and Malte Helmert.
Narrowing the gap between saturated and optimal cost partitioning for classical planning.
In *Proc. AAAI 2017*, pages 3651–3657, 2017.
- 2016 Thomas Keller, Florian Pommerening, **Jendrik Seipp**, Florian Geißer, and Robert Mattmüller.
State-dependent cost partitionings for Cartesian abstractions in classical planning.
In *Proc. IJCAI 2016*, pages 3161–3169, 2016.
- Jendrik Seipp**, Florian Pommerening, Gabriele Röger, and Malte Helmert.
Correlation complexity of classical planning domains.
In *Proc. IJCAI 2016*, pages 3242–3250, 2016.
- 2015 Florian Pommerening, Malte Helmert, Gabriele Röger, and **Jendrik Seipp**.
From non-negative to general operator cost partitioning.
In *Proc. AAAI 2015*, pages 3335–3341, 2015.
- Jendrik Seipp**, Florian Pommerening, and Malte Helmert.
New optimization functions for potential heuristics.
In *Proc. ICAPS 2015*, pages 193–201, 2015.
- Jendrik Seipp**, Silvan Sievers, Malte Helmert, and Frank Hutter.
Automatic configuration of sequential planning portfolios.
In *Proc. AAAI 2015*, pages 3364–3370, 2015.
- 2014 **Jendrik Seipp** and Malte Helmert.
Diverse and additive Cartesian abstraction heuristics.
In *Proc. ICAPS 2014*, pages 289–297, 2014.
- 2013 **Jendrik Seipp** and Malte Helmert.
Counterexample-guided Cartesian abstraction refinement.
In *Proc. ICAPS 2013*, pages 347–351, 2013.
- 2012 **Jendrik Seipp**, Manuel Braun, Johannes Garimort, and Malte Helmert.
Learning portfolios of automatically tuned planners.
In *Proc. ICAPS 2012*, pages 368–372, 2012.
- Peer-Reviewed Workshop Papers**
- 2022 André Biedenkapp, David Speck, Silvan Sievers, Frank Hutter, Marius Lindauer, and **Jendrik Seipp**.
Learning domain-independent policies for open list selection.
In *ICAPS Workshop on Bridging the Gap Between AI Planning and Reinforcement Learning (PRL)*, 2022.
- Clemens Büchner, Patrick Ferber, **Jendrik Seipp**, and Malte Helmert.
A comparison of abstraction heuristics for Rubik’s Cube.
In *ICAPS Workshop on Heuristics and Search for Domain-independent Planning*, 2022.
- Dominik Drexler, Javier Segovia-Aguas, and **Jendrik Seipp**.
Learning general policies and helpful action classifiers from partial state spaces.
In *IJCAI 2022 Workshop on Generalization in Planning*, 2022.

- 2020 Patrick Ferber and **Jendrik Seipp**.
 Explainable planner selection.
 In *ICAPS Workshop on Explainable AI Planning (XAIP)*, 2020.
- Jendrik Seipp**.
 Online saturated cost partitioning for classical planning.
 In *ICAPS Workshop on Heuristics and Search for Domain-independent Planning*, pages 16–22, 2020.
- Álvaro Torralba, **Jendrik Seipp**, and Silvan Sievers.
 Automatic configuration of benchmark sets for classical planning.
 In *ICAPS Workshop on Heuristics and Search for Domain-independent Planning*, pages 58–66, 2020.
- 2019 **Jendrik Seipp**.
 Planner metrics should satisfy independence of irrelevant alternatives.
 In *ICAPS Workshop on the IPC (WIPC)*, pages 40–41, 2019.
- 2013 **Jendrik Seipp** and Malte Helmert.
 Additive counterexample-guided Cartesian abstraction refinement.
 In *Proc. AAAI 2013 Late-Breaking Papers*, pages 119–121, 2013.
- 2011 Chris Fawcett, Malte Helmert, Holger Hoos, Erez Karpas, Gabriele Röger, and **Jendrik Seipp**.
 FD-Autotune: Domain-specific configuration using Fast Downward.
 In *ICAPS 2011 Workshop on Planning and Learning*, pages 13–17, 2011.
- Jendrik Seipp** and Malte Helmert.
 Fluent merging for classical planning problems.
 In *ICAPS 2011 Workshop on Knowledge Engineering for Planning and Scheduling*, pages 47–53, 2011.
- [Theses](#)
- 2018 **Jendrik Seipp**.
Counterexample-guided Cartesian Abstraction Refinement and Saturated Cost Partitioning for Optimal Classical Planning.
 PhD thesis, University of Basel, 2018.
- 2012 **Jendrik Seipp**.
 Counterexample-guided abstraction refinement for classical planning.
 Master’s thesis, University of Freiburg, 2012.
- 2009 **Jendrik Seipp**.
 Fluent Merging für klassische Planungsprobleme.
 Bachelor’s thesis, University of Freiburg, September 2009.
- [Abstracts for Planners and System Demos](#)
- 2022 Remo Christen, Salomé Eriksson, Michael Katz, Emil Keyder, Christian Muise, Alice Petrov, Florian Pommerening, **Jendrik Seipp**, Silvan Sievers, and David Speck.
 (PARIS) planning algorithms for reconfiguring independent sets.
 In *1st CoRe Challenge: Solver and Graph Descriptions*, pages 15–22, 2022.

- Christian Muise, Florian Pommerening, **Jendrik Seipp**, and Michael Katz.
Planutils: Bringing planning to the masses.
In *ICAPS 2022 System Demonstrations and Exhibits*, 2022.
- 2018 **Jendrik Seipp**.
Fast Downward Remix.
In *IPC-9 Planner Abstracts*, pages 74–76, 2018.
- Jendrik Seipp**.
Fast Downward Scorpion.
In *IPC-9 Planner Abstracts*, pages 77–79, 2018.
- Jendrik Seipp** and Gabriele Röger.
Fast Downward Stone Soup 2018.
In *IPC-9 Planner Abstracts*, pages 80–82, 2018.
- 2016 Florian Pommerening and **Jendrik Seipp**.
Fast Downward dead-end pattern database.
In *Unsolvability IPC: Planner Abstracts*, page 2, 2016.
- Jendrik Seipp**, Florian Pommerening, Silvan Sievers, Martin Wehrle, Chris Fawcett, and Yusra Alkhazraji.
Fast Downward Aidos.
In *Unsolvability IPC: Planner Abstracts*, pages 28–38, 2016.
- 2014 Gabriele Röger, Florian Pommerening, and **Jendrik Seipp**.
Fast Downward Stone Soup 2014.
In *IPC-8 Planner Abstracts*, pages 28–31, 2014.
- Jendrik Seipp**, Manuel Braun, and Johannes Garimort.
Fast Downward uniform portfolio.
In *IPC-8 Planner Abstracts*, page 32, 2014.
- Jendrik Seipp**, Silvan Sievers, and Frank Hutter.
Fast Downward Cedalion.
In *IPC-8 Planner Abstracts*, pages 17–27, 2014.
- Jendrik Seipp**, Silvan Sievers, and Frank Hutter.
Fast Downward Cedalion.
In *IPC-8 Planning and Learning Part: Planner Abstracts*, 2014.
- Jendrik Seipp**, Silvan Sievers, and Frank Hutter.
Fast Downward SMAC.
In *IPC-8 Planning and Learning Part: Planner Abstracts*, 2014.
- 2011 Carmel Domshlak, Malte Helmert, Erez Karpas, Emil Keyder, Silvia Richter, Gabriele Röger, **Jendrik Seipp**, and Matthias Westphal.
BJOLP: The big joint optimal landmarks planner.
In *IPC 2011 Planner Abstracts*, pages 91–95, 2011.
- Chris Fawcett, Malte Helmert, Holger Hoos, Erez Karpas, Gabriele Röger, and **Jendrik Seipp**.
FD-Autotune: Automated configuration of Fast Downward.
In *IPC 2011 Planner Abstracts*, pages 31–37, 2011.

Chris Fawcett, Malte Helmert, Holger Hoos, Erez Karpas, Gabriele Röger, and **Jendrik Seipp**.

FD-Autotune: Domain-specific configuration of Fast Downward.
In *IPC 2011 Planner Abstracts, Planning and Learning Part*, 2011.

Malte Helmert, Gabriele Röger, **Jendrik Seipp**, Erez Karpas, Jörg Hoffmann, Emil Keyder, Raz Nissim, Silvia Richter, and Matthias Westphal.

Fast Downward Stone Soup.
In *IPC 2011 Planner Abstracts*, pages 38–45, 2011.

Academic Presentations

Invited Talks

- 01/2023 Machine Reasoning Seminar, Ericsson, Virtual.
Topic: *Using Policy Sketches to Learn Subgoal Structure*.
- 03/2022 Neuro-Symbolic AI Seminar, IBM Research, Virtual.
Topic: *Learning Policy Sketches for Classical Planning*.
- 01/2022 WASP Winter Conference, Norrköping, Sweden.
Topic: *Learning Dynamic Algorithms for Automated Planning*.
- 06/2020 Robotics and Intelligent Systems group, University of Oslo, Norway.
Topic: *Model-Based Optimization with SMAC*.
- 01/2020 Robotics and Intelligent Systems group, University of Oslo, Norway.
Topic: *AI Planning, Abstractions and Cost Partitioning*.
- 07/2015 Algorithms Lab, University of British Columbia, Vancouver, Canada.
Topic: *Potential Heuristics for Optimal Classical Planning*.
- 09/2014 COnfiguration and SElection of ALgorithms Workshop (COSEAL 2014), Freiburg, Germany.
Topic: *Automatic Configuration of Sequential Planning Portfolios*.
- 11/2013 SGAICO Annual Assembly and Workshop (SGAICO 2013), Lausanne, Switzerland.
Topic: *Counterexample-guided Abstraction Refinement for Classical Planning*.

Tutorials at Major Conferences

- 10/2020 Tutorial at the Thirtieth International Conference on Automated Planning and Scheduling (ICAPS 2020) held online.
Topic: *Evaluating Planners with Downward Lab*.
- 06/2015 Tutorial at the Twenty-Fifth International Conference on Automated Planning and Scheduling (ICAPS 2015) held in Jerusalem, Israel.
Topic: *Latest Trends in Abstraction Heuristics for Classical Planning* (with Malte Helmert and Silvan Sievers).

Participation in Panels

- 06/2022 32nd International Conference on Automated Planning and Scheduling (ICAPS 2022), Virtual.
Panel Topic: *Planning Competitions*.

Academic Service

Memberships

- Swedish AI Society (SAIS)
- Association for the Advancement of Artificial Intelligence (AAAI)

Journals

- AIJ Artificial Intelligence Journal
 - Reviewer (2017)
- JAIR Journal of Artificial Intelligence Research
 - Reviewer (2020, 2021, 2023)

Conferences

- AAAI AAAI Conference on Artificial Intelligence
 - PC member (2019, 2020, 2021, 2022, 2024)
 - Reviewer (2014)
- ICAPS International Conference on Automated Planning and Scheduling
 - PC member (2019, 2020, 2021, 2022, 2023)
 - Reviewer (2018)
 - Advocate (2020)
- IJCAI International Joint Conference on Artificial Intelligence
 - SPC member (2021)
 - PC member (2019, 2020, 2022, 2023)
 - Reviewer (2016)

Workshops

- GenPlan IJCAI Workshop on Generalization in Planning
 - Organizer of GenPlan 2022 (with Pulkit Verma, Yuqian Jiang and Rushang Karia)
- HSDIP ICAPS Workshop for Heuristics and Search for Domain-Independent Planning
 - Organizer of HSDIP 2020 (with Alberto Camacho, Salomé Eriksson, Daniel Fišer, Guillem Francès, Florian Geisser, Patrik Haslum, Silvan Sievers, David Speck and Álvaro Torralba)
 - Organizer of HSDIP 2019 (with Guillem Francès, Florian Geisser, Daniel Gnad, Patrik Haslum, Florian Pommerening, Miquel Ramirez and Silvan Sievers)
 - Organizer of HSDIP 2017 (with J. Benton, Nir Lipovetzky, Florian Pommerening, Miquel Ramirez, Enrico Scala and Álvaro Torralba)

Competitions

- IPC International Planning Competition
 - Organizer of the Learning Track of IPC 2023 (with Javier Segovia)

Seminars

- LiU Seminar of the Artificial Intelligence and Integrated Computer Systems Division (AIICS)
 - Organizer (2021, 2022, 2023)

Teaching

- Fall 2023 Lecturer for the course “Artificial Intelligence” at Linköping University (English, with Fredrik Heintz)
- Spring 2023 Lecturer for the course “Automated Planning” at Linköping University (English, with Jonas Kvarnström)
- Fall 2022 Lecturer for the course “Artificial Intelligence” at Linköping University (English, with Fredrik Heintz)
- Fall 2022 Lecturer for the course “Basics of AI and Machine Learning” at Linköping University (English, with Daniel Gnad, Fredrik Heintz, Marco Kuhlmann, Fredrik Lindsten and David Speck)
- Spring 2022 Lecturer for the course “Automated Planning” at Linköping University (English, with Jonas Kvarnström)
- Fall 2019 Lecturer for the seminar “Scientific Writing” at the University of Basel (English, with Craig Hamilton)
- Spring 2019 Teaching assistant for the lecture “Foundations of Artificial Intelligence” at the University of Basel (English, lecturer: Malte Helmert)
- Spring 2017 Teaching assistant for the lecture “Foundations of Artificial Intelligence” at the University of Basel (English, lecturer: Malte Helmert)
- Fall 2014 Lecturer for the seminar and project “Open Source Software Development” at the University of Basel (German, with Malte Helmert)

Supervision

Postdocs

- since 06/2022 David Speck
- 02/2022–12/2022 Daniel Gnad (→ Assistant Professor at Linköping University)

Ph.D. Students

- since 10/2023 Damien Van Meerbeeck (main supervisor)
- since 09/2023 Mika Skjelnes (main supervisor)
- since 09/2023 Kristina Levina (main supervisor)
- since 08/2023 Mauricio Salerno, Universidad Carlos III de Madrid (assistant supervisor)
- since 06/2023 Farid Musayev (main supervisor)
- since 09/2021 Paul Höft (main supervisor)
- since 11/2020 Dominik Drexler (assistant supervisor)

Examination of M.Sc. Theses (Linköping)

- 08/2023 Viktor Carlsson
Finding Tractable Subsets of Intractable Planning Problems
- 06/2023 Hugo Axandersson
Compact Representations of State Sets in State Space Search
- 06/2023 Isak Toivanen and Maximilian Vorbrodth (external thesis at Ericsson)
io_uring and Linux UDP vs DPDK

- 03/2023 Martin Steen-Holmberg and Ellen Brunnström Rockborn (external thesis at link22)
You shall not pass! — Investigating virtualization of a data diode using SDN
[Supervision of M.Sc. Theses \(Linköping\)](#)
- 03/2023 Rachel Homssi and Jacob Möller (external thesis at Ericsson)
Load Balancing in the Edge Cloud with Service Degradation
[Supervision of M.Sc. Theses \(Basel\)](#)
- 01/2015 Patrick von Reth
Empirical Evaluation of Search Algorithms for Satisficing Planning
[Supervision of B.Sc. Students \(Basel\)](#)
- 10/2020 Caroline Steiblin
Bounded Suboptimal Search for Classical Planning
- 07/2019 Martin Zumsteg
Refinement Strategies for Counterexample-Guided Cartesian Abstraction Refinement
- 05/2019 Samuel von Allmen
Computing Abstract Plans for Counterexample-Guided Cartesian Abstraction Refinement
- 06/2018 Clemens Büchner
Abstraction Heuristics for Rubik's Cube
- 03/2017 Daniel Killenberger
Diversifying Greedy Best-First Search by Clustering States
- 12/2013 Beat Hänger
Phase Transitions in the Solvability of Sokoban

Open Source Projects

- [Downward Lab](#) Experiment framework (creator and maintainer)
- [Fast Downward](#) Planning system (co-maintainer)
- [Scorpion](#) Optimal classical planner (creator and maintainer)
- [Pyperplan](#) Python planner (co-creator and co-maintainer)
- [RedNotebook](#) Desktop journal (creator and maintainer)
- [Vulture](#) Python dead code detector (creator and maintainer)