List of Publications: Stefan Edelkamp

Classification

[P]: Action Planning [R]: Route Planning [H]: Heuristic Search [E]: Algorithm Engineering [V]: Software Verification [G]: Game Playing [A]: Multiagent Systems [M]: Motion Planning [L]: Machine Learning [S]: IT Security [O]: Operations Research / Logistics [B]: Computational Biology

Books

[B-13] Stefan Edelkamp. *Algorithmic Intelligence – A Key Revenue Driver*. Springer. 2019. [P] [R] [H] [E] [V] [G] [A] [M] [L] [S] [O] [B]

[B-12] Tristan Cazenave, Stefan Edelkamp, Stefan Schiffel, Michael Thielscher, Julian Togelius, and Mark Winnands (Eds.). *Computer Games*. Springer, 2017. [G]

[B-11] Tristan Cazenave, Stefan Edelkamp, Stefan Schiffel, Michael Thielscher, Julian Togelius, and Mark Winnands (Eds.). *Computer Games*. Springer, 2016. [G]

[B-10] Amanda Coles, Andrew Coles, Stefan Edelkamp, Daniele Magazzini, and Scott Sanner (Eds.). *International Conference on Automated Planning and Scheduling*. AAAI Press, 2016. [P] [H]

[B-9] Stefan Edelkamp, and Roman Bartak (Eds.). *Symposium of Combinatorial Search*. AAAI Press, 2014. [P] [H]

[B-8] Stefan Edelkamp, and Stefan Schrödl. *Heuristic Search: Theory and Applications*. Morgan Kaufmann – Elsevier Science. 2012. [P] [H] [E] [V] [G] [M] [L] [B]

[B-7] Fahiem Baccus, Carmel Domshlak, Stefan Edelkamp, and Malte Helmert (Eds.). *International Conference on Automated Planning and Scheduling*. AAAI Press, 2011. [P] [H]

[B-6] Stefan Edelkamp, and Joscha Bach (Eds.). *KI 2011: Advances in Artificial Intelligence, 34th Annual German Conference on AI*. Springer, Lecture Notes in Artificial Intelligence, volume 7006, 2011. [P] [H] [E] [V] [G] [A] [M] [L]

[B-5] Dragan Bosnacki, and Stefan Edelkamp (Eds.). *Model Checking Software*. Springer, Lecture Notes in Computer Science, volume 4595, 2007. [V]

[B-4] Stefan Edelkamp, and Alessio Lomuscio (Eds.). *Model Checking and Artificial Intelligence*. Springer, Lecture Notes in Artificial Intelligence, volume 4428, 2007. [V] [P] [H]

[B-3] Stefan Edelkamp. *Heuristic Search*. Habilitation. Institut für Informatik, and Angewandte Wissenschaften, Universität Freiburg, 2003. [P] [H] [E] [V] [G] [L]

[B-2] Stefan Edelkamp. *Data Structures and Learning Algorithms in State Space Search*. (*Datenstrukturen, and Lernverfahren in der Zustandsraumsuche*.) Dissertation. Infix, 201, 1999. [P] [H] [E] [G] [L]

[B-1] Stefan Edelkamp. *Weak-Heapsort, a Fast Sorting Algorithm*. (*Weak-Heapsort, ein schnelles Sortierverfahren*.) Diplomarbeit. Fakultät für Informatik, Universität Dortmund, 1996. [E]

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[C-11] Stefan Edelkamp. *External-Memory State Space Search*. In Peter Sanders, Lasse Kliemann (Eds.) *Algorithm Engineering on the Horizon*. Springer, 2016. [H] [E]

[C-10] Stefan Edelkamp, Max Gath, Christoph Greulich, Malte Humann, Otthein Herzog, and Michael Lawo. *Monte-Carlo Tree Search in Logistics.* In Uwe Clausen, Hanno Friedrich, Carina Thaller, Christiane Geiger (Eds), *Commercial Transport*, Springer, 2015, 427-440. [H] [R] [O]

[C-9] Max Gath, Otthein Herzog, and Stefan Edelkamp. *Autonomous, Adaptive, and Self-Organized Multiagent Systems for the Optimization of Decentralized Industrial Processes.* In Joanna Kolodziej, Luis Correia, and Jose Manuel Molina (Eds.), *Intelligent Agents in Data Intensive Computing*, Springer, 2015. [A] [O]

[C-8] Stefan Edelkamp, Max Gath, Christoph Greulich, Malte Human, and Tobias Warden. *PLaSMA Multiagent Simulation Last-Mile Connectivity Bangalore.* In Otthein Herzog, Ulrich Glotzbach (Eds.), acatech (Deutsche Akademie der Technikwissenschaften) *German Indian Partnership for IT-Systems*, München/Berlin 2014, 129-185. [R] [A] [O]

[C-7] Stefan Edelkamp, and Francisco C. Pereira. *Collaborative Map Generation - Survey and Architecture Proposal*. In *Urbanism on Track*. Michiel Smit (Eds.), Delft University of Technology, Department of Urbanism, pages 161-183, 2008. [R] [L]

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[C-4] Stefan Edelkamp, and Stefan Schrödl. *Route Planning and Map Inference with Global Positioning Traces*. In *Computer Science in Perspective*, Rolf Klein, Hans-Werner Six, and Lutz Wegner (Eds.), Lecture Notes in Computer Science, Springer, volume 2598, pages 128-151, 2003. [R]

[C-3] Stefan Edelkamp. *Memory Limitation in Artificial Intelligence*. In *Memory Hierarchies*. Peter Sanders, Ulrich Meyer, and Jop Sibeyn (Eds.), Lecture Notes in Computer Science, Springer, volume 2625, pages 233-250, 2003. [H]

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[J-38] Stefan Edelkamp, and Armin Weiss. QuickMergesort: Practically Efficient Constant-Factor Optimal Sorting. CoRR abs/1804.10062 (2018). [E]

[J-37] Stefan Edelkamp, Armin Weiss, and Sebastian Wild. QuickXsort – A Fast Sorting Scheme in Theory and Practice. Transactions on Algorithms, Submitted, 2019. [E]

[J-36] Stefan Edelkamp, and Armin Weiss. BlockQuicksort: Avoiding Branch Mispredictions in Quicksort. ACM Journal of Experimental Algorithmics, 2018, Accepted. [E]

[J-35] Stefan Edelkamp, Daniele Magazzeni, Morteza Lahijanian, and Erion Plaku: Integrating Temporal Reasoning and Sampling-Based Motion Planning for Multigoal Problems With Dynamics and Time Windows. IEEE Robotics and Automation Letters, 2018. [P]

[J-34] Stefan Edelkamp, and Christoph Greulich: A case study of planning for smart factories - Model checking and Monte Carlo search for the rescue. STTT 20(5): 515–528. 2018. [A] [V] [H]

[J-33] Stefan Edelkamp, Amr Elmasry, and Jyrki Katajainen: Heap Construction - 50 Years Later. Comput. J. 60(5): 657-674. 2017. [E] [H]

[J-32] Stefan Edelkamp, Amr Elmasry, and Jyrki Katajainen: Optimizing Binary Heaps. Theory Comput. Syst. 61(2): 606-636, 2017. [E] [H]

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[J-30] Alvaro Toralba, Vidal Alcazar, Peter Kissmann, and Stefan Edelkamp. Efficient Symbolic Search for Cost-Optimal Planning. Artificial Intelligence. 2017. [P] [H]

[J-29] Erion Plaku, Sarah Rashidian, and Stefan Edelkamp. *Multi-Group motion planning in virtual environments*. Computer Animation and Virtual Worlds, 2016. [M]

[J-28] Florian Pantke, Stefan Edelkamp, and Otthein Herzog. *Symbolic discrete-time planning with continuous numeric action parameters for agent-controlled processes*. Mechatronics, 2015. [P]

[J-27] Dragan Bosnacki, Stefan Edelkamp, Alberto Lluch-Lafuente, and Anton Wijs: Special section on Graph Inspection and Traversal Engineering. Sci. Comput. Program. 130: 1. 2016.

[J-26] Alberto Lluch-Lafuente, Anton Wijs, Dragan Bosnacki, and Stefan Edelkamp (Eds.) *Proceedings Third Workshop on GRAPH Inspection and Traversal Engineering. Electronic Proceedings in Theoretical Computer Science*, 2015. [V] [H]

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[J-24] Stefan Edelkamp, Amr Elmasry, and Jyrki Katajainen. *Weak Heaps Engineered*. Journal of Discrete Algorithms, volume 23, pages 83–97, 2013. [E]

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[J-22] Anton Wijs, Dragan Bosnacki, and Stefan Edelkamp (Eds.). *Proceedings First Workshop on GRAPH Inspection and Traversal Engineering*. Electronic Proceedings in Theoretical Computer Science, volume 99, 2012. [V] [H]

[J-21] Stefan Edelkamp, Damian Sulewski, Jiri Barnat, Lubos Brimb, and Pavel Simecek. *Flash Memory Efficient LTL Model Checking*. Science of Computer Programming, volume 76 number 2, pages 136–157, 2011. [V]

[J-20] Stefan Edelkamp, and Peter Kissmann. *Gamer, a General Game Playing Agent*. Künstliche Intelligenz, volume 25, number 1, pages 49-52, 2011. [G]

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[J-14] Stefan Edelkamp. *Automated Planning: Theory and Practice*. Künstliche Intelligenz, volume 1, pages 42-43, 2007. [P]

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[J-12] Jörg Hoffmann, and Stefan Edelkamp. *The Deterministic Part of IPC-4: An Overview*. Journal of Artificial Intelligence Research, volume 24, pages 519–579, 2005. [P]

[J-11] Tilman Mehler, and Stefan Edelkamp. *Dynamic Incremental Hashing in Program Model Checking*. Electronic Notes in Theoretical Computer Science, volume 149, number 2, pages 51-69, 2006. [V]

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[J-7] Stefan Edelkamp, Alberto Lluch-Lafuente, and Stefan Leue. *Partial Order Reduction and Trail Improvement in Directed Model Checking*. International Journal on Software Tools for Technology Transfer. volume 6, number 4, pages 277 - 301, 2004. [V]

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[J-3] Richard E. Korf, Michael Reid, and Stefan Edelkamp. *Time Complexity of Iterative-Deepening-A**. Journal of Artificial Intelligence, volume 129, number 1-2, pages 199-218, 2001. [H]

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[C-131] Stefan Edelkamp, Morteza Lahijanian, Daniele Magazzeni, and Erion Plaku: Integrating Temporal Reasoning and Sampling-Based Motion Planning for Multigoal Problems With Dynamics and Time Windows. International Confrerence on Robotics (ICRA). [P] [M] [O]

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[C-130] Stefan Edelkamp, and Christoph Greulich: Nested Rollout Policy Adaptation for Multiagent System Optimization in Manufacturing. ICAART (1) 2017: 284-290. [P] [A] [V] [H] [O]

[C-129] Stefan Edelkamp. Improving the Cache-Efficiency of Shortest Path Search. KI 2017: 99-113 [E] [H]

[C-128] Stefan Edelkamp, Eike Externest, Sebastian Kühl, and Sabine Kuske. Solving Graph Optimization Problems in a Framework for Monte-Carlo Search. SOCS 2017: 163-164. [P] [E] [H]

[C-127] Stefan Edelkamp, Baris Can Secim, Erion Plaku: Surface Inspection via Hitting Sets and Multi-goal Motion Planning. TAROS 2017: 134-149. [E] [P] [M]

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[C-126] Rajeshwari Chatterjee, Stefan Edelkamp, and Christoph Greulich. *Optimizing Last Mile Delivery Using Public Transport with Multi-Agent Based Control.* IEEE LCN, User MObility and VEhicular Networks (ON-MOVE). Dubai, 2016. [A] [O]

[C-125] Ashraf Abdo, Stefan Edelkamp, and Michael Lawo. *Nested Rollout Policy Adaptation for Optimizing Vehicle Selection in Complex VRPs.* IEEE LCN, User MObility and VEhicular Networks (ON-MOVE). Dubai, 2016. [O] [H]

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[C-123] Stefan Edelkamp, and Tristan Cazenave. *Improved Diversity Nested Rollout Policy Adaptation.* German Conference on Artificial Intelligence (KI), Klagenfurt, 2016. [H] [G]

[C-122] Stefan Edelkamp, Christoph Greulich, and Denis Golubev. *Solving the Physical Vehicle Routing Problem for Improved Multi-Robot Freespace Navigation.* German Conference on Artificial Intelligence (KI), Klagenfurt, 2016. [A] [M] [O]

[C-121] Stefan Edelkamp, and Fritz Jacob. *Learning Event Time Series for the Automated Quality Control of Videos.* German Conference on Artificial Intelligence (KI), Klagenfurt, 2016. [L]

[C-120] Stefan Edelkamp, and Christoph Greulich. *Using SPIN for the Optimized Scheduling of Discrete Event Systems in Manufacturing.* Model Checking Software (SPIN), Eindhoven, 2016. [V] [A] [O]

[C-119] Stefan Edelkamp, and Armin Weiß. *Avoiding Branch Mispredictions in Quicksort*. European Symposium on Algorithms (ESA), Aarhus, 2016. [E]

[C-118] Christoph Greulich, and Stefan Edelkamp. *Branch-and-Bound Optimization of a Multiagent System for Flow Production using Model Checking*. International Conference on Agents and Artificial Intelligence (ICAART), Rome, 2016. [V] [A] [O]

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[C-117] Stefan Edelkamp and Zihao Tang. Monte-Carlo Tree Search for the Multiple Sequence Alignment Problem. Symposium on Combinatorial Search (SOCS). En Gedi, 2015. [H] [B]

[C-116] Stefan Edelkamp, and Paul Wichern. *Packing Irregular-Shaped Objects via Sphere Trees for 3D Printing*. German Conference on Artificial Intelligence (KI), Dresden, 2015. [H]

[C-115] Christoph Greulich, Stefan Edelkamp, and Nils Eicke. *Cyber-Physical Multiagent-Simulation in Production Logistics*. German Conference on Multiagent System Technologies (MATES), Cottbus, pages 119-136, 2015. [A] [O]

[C-114] Stefan Edelkamp, Max Gath, Christoph Greulich, Malte Humann, Otthein Herzog, and Michael Lawo. *Monte-Carlo Tree Search for Logistics*. International Conference on Production, Logistics and Traffic (ICPLT), Dortmund, 2015. [H] [R] [O]

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[C-112] Stefan Edelkamp, Amr Elmasry, and Jyrki Katajainen. *An In-Place Priority Queue with $O(1)$ Time for Push and $\lg n + O(1)$ Comparisons for Pop.* International Computer Science Symposium (CSR), Lake Balkal, 2015. [E]

[C-111] Stefan Edelkamp, Peter Kissmann, and Alvaro Torralba. *BDDs strike back (in AI Planning).* National Conference on Artificial Intelligence (AAAI). Austin/Texas, 2015. [P]

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[C-110] Sara Rashidian, Erion Plaku and Stefan Edelkamp. *Motion Planning with Rigid-Body Dynamics for Generalized Traveling Salesman Tours.* 7th International ACM/SIGGRAPH Conference on Motion in Games (MIG), Los Angeles, 2014. [M]

[C-109] Max Gath, Otthein Herzog, and Stefan Edelkamp. *Autonomous and Flexible Multiagent Systems enhance Transport Logistics.* International Conference and Expo on Emerging Technologies for a Smarter World (CEWIT), Melville (NY), 2014. [A] [O]

[C-108] Stefan Edelkamp, Max Gath, and Moritz Rohde. *Monte-Carlo Tree Search for 3D Packing with Object Orientation.* German Conference on Artificial Intelligence (KI), Stuttgart, 2014. [H] [O]

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[C-106] Stefan Edelkamp, and Erion Plaku. *Multi-Goal Motion Planning with Physics-based Game Engines.* IEEE Conference on Computational Intelligence in Games (CIG), Dortmund, 2014. [M]

[C-105] Stefan Edelkamp, and Christoph Greulich. *Solving Physical Traveling Salesman Problems with Policy Adaptation.* IEEE Conference on Computational Intelligence in Games (CIG), Dortmund, 2014. [M] [O]

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[C-103] Stefan Edelkamp, and Armin Weiss. *QuickXsort: Efficient Sorting with n log n - 1.399n + o(n) Comparisons on Average.* International Computer Science Symposium (CSR), Moscow, 2014. [E]

[C-102] Stefan Edelkamp, Peter Kissmann, and Martha Rohte. *Symbolic and Explicit Search Hybrid through Perfect Hash Functions - A Case Study in Connect Four.* International Conference on Automated Planning and Scheduling (ICAPS), Portsmouth, New Hampshire, USA, 2014. [H] [G]

[C-101] Stefan Edelkamp and Max Gath. *Solving Single-Vehicle Pickup-and-Delivery Problems with Time Windows and Capacity Constraints using Nested Monte-Carlo Search.* International Conference on Agents and Artificial Intelligence (ICAART), Angers (Loire Valley), 2014. [Best Student Paper] [H] [R] [O]

[C-100] Max Gath, Otthein Herzog, and Stefan Edelkamp. *Agent-based Planning and Control for Groupage Traffic.* International Conference and Expo on Emerging Technologies for a Smarter World (CEWIT), Melville (NY), 2013. [A] [R] [O]

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[C-94] Stefan Edelkamp, Max Gath, Tristan Cazenave, and Fabien Teytaud. *Algorithm and Knowledge Engineering for the TSPTW Problem.* IEEE Symposium Series on Computational Intelligence (SSCI), Singapore, 2013. [H] [R] [O]

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[C-92] Stefan Edelkamp, Christoph Greulich, Max Gath, Malte Human, Tobias Warden, TG Sitharam, and Otthein Herzog. *Enhanced Shortest Path Computation for Multiagent-based Intermodal Transportation Planning in Dynamic Environments*. International Conference on Agents and Artificial Intelligence (ICAART). Barcelona, 2013. [A] [R] [O]

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[C-88] Stefan Edelkamp, and Martin Stommel. *The Bitvector Machine: A Fast and Robust Machine Learning Algorithm for Non-Linear Problems*. European Conference on Machine Learning and Principles and Practice of Knowledge Discovery in Databases (ECML-PKDD). Bristol, pages 175–190, 2012. [L]

[C-87] Jingsen Chen, Stefan Edelkamp, Amr Elmasry, and Jyrki Katajainen. *In-Place Heap Construction with Optimized Comparisons, Moves, and Cache Misses*. International Symposium on Mathematical Foundations of Computer Science (MFCS). Bratislava, pages 259–270, 2012. [E]

[C-86] Stefan Edelkamp, Peter Kissmann, and Alvaro Torralba Arias de Reyna. *Symbolic A* Search with Pattern Databases and the Merge-and-Shrink Abstraction.* European Conference on Artificial Intelligence (ECAI). Montpellier, pages 306–311, 2012. [P]

[C-85] Stefan Edelkamp, Amr Elmasry, and Jyrki Katajainen. *A Catalogue of Algorithms for Building Weak Heaps*. International Workshop on Combinatorial Algorithms (IWOCA). Tamil Nadu, 2012. [E]

[C-84] Stefan Edelkamp, Peter Kissmann, and Alvaro Torralba Arias de Reyna. *Lex-Partitioning: A New Option for BDD Search.* Graph Inspection and Traversal Engineering (GRAPHITE), Talinn, 2012. [H] [P]

[C-83] Carsten Elfers, Stefan Edelkamp, and Otthein Herzog. *Efficient Tolerant Pattern Matching with Constraint Abstractions in Description Logic*. International Conference on Agents and Artificial Intelligence (ICAART). Vilamoura, volume 1, pages 256-261, 2012. [L] [S]

[C-82] Stefan Edelkamp, Amr Elmasry, and Jyrki Katajainen. *Weak-Heap Family of Priority Queues in Theory and Praxis*. Computing: the Australasian Theory Symposium (CATS). Melburne, pages 103-112, 2012. [E]

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[C-81] Stefan Edelkamp, Jyrki Katajainen, and Amr Elmasry. *Two Constant-Factor-Optimal Realizations of Adaptive Heapsort*. International Workshop on Combinatorial Algorithms (IWOCA). Victoria, pages 195-208, 2011. [E]

[C-80] Stefan Edelkamp, and Peter Kissmann. *On the Complexity of BDDs for State Space Search: A Case Study in Connect Four*. National Conference on Artificial Intelligence (AAAI). San Francisco, pages 18–23, 2011. [H] [G]

[C-79] Peter Kissmann, and Stefan Edelkamp. *Improving Cost-Optimal Domain-Independent Symbolic Planning*. National Conference on Artificial Intelligence (AAAI). San Francisco, pages 992–997, 2011. [P]

[C-78] Damian Sulewski, Stefan Edelkamp, and Peter Kissmann. *Exploiting the Computational Power of the Graphics Card: Optimal State Space Planning on the GPU*. International Conference on Automated Planning and Scheduling (ICAPS), Freiburg, pages 242-249, 2011. [P]

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[C-77] Dragan Bosnacki, Stefan Edelkamp, Damian Sulewski, and Anton Wijs. *PRISM for General Purpose Graphics Processing Units. Parallel and Distributed Methods in Verification (PDMC)*. Twente/Enschede, 2010. [V]

[C-76] Peter Kissmann, and Stefan Edelkamp. *Instantiating General Games using Prolog or Dependency Graphs*. German Conference on Artificial Intelligence (KI). Karlsruhe, pages 255-262, 2010. [G]

[C-75] Stefan Edelkamp, and Hartmut Messerschmidt. *Strongly Solving Fox-and-Geese on a Multi-Core CPU*. German Conference on Artificial Intelligence (KI). Karlsruhe, Seiten, 291-298, 2010. [G]

[C-74] Stefan Edelkamp, and Damian Sulewski. *Efficient Explicit-State Model Checking on General Purpose Graphics Processors*. Model Checking Software (SPIN), Enschede, pages 106-123, 2010. [V]

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