



## Scientific Vitae: Stefan Edelkamp

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### Contact Work

Institut für Künstliche Intelligenz, Universität Bremen  
Am Fallturm 1, 28359 Bremen  
phone: +49-(0)421-218-64007, fax: +49-(0)421-218-64047  
email: [edelkamp@tzi.de](mailto:edelkamp@tzi.de), web: <http://www.tzi.de/~edelkamp>

### Contact Home

Harsefelder Straße 12B, 28205 Bremen, phone: +49-(0)151-22630923

### Degrees

*Prof.* Universität Bremen, 2011. Reviewers: Otthein Herzog, and Kerstin Schill.  
*Venia Legendi.* Habilitation: *Heuristic Search*. Universität Freiburg, 2003. Reviewers: Sven Koenig, Bernhard Nebel, Luc DeReadt.  
*Dr. rer. nat.* Universität Freiburg, 1998. Dissertation: *Data Structures and Learning Algorithms in State-Space Search*. Reviewers: Thomas Ottmann, Bernhard Nebel. *Sehr gut*.  
*Examination.* University College Dublin, Irland. 1994. 10 Courses, Ø: (71,6%).  
*Dipl. Inform.* Technische Universität Dortmund. 1995. Reviewers: Ingo Wegener, Martin Dietzfelbinger. *Summa Cum Laude*.  
*Abitur.* Friedensschule Münster, 1988. Ø: 1,4

### Positions

University Paris-Dauphine. Gastprofessur. 2016.  
Hochschule Darmstadt. Professur für IT-Sicherheit und Theoretische Informatik. Fachbereich Informatik. 2015 – today.  
Universität Bremen. Institut für Künstliche Intelligenz (Michael Beetz) im Technologie-Zentrum Informatik und Informationstechnik, Fachbereich Mathematik & Informatik. 2008 – today.  
Technische Universität Dortmund (Bernhard Steffen), Lehrstuhl für Programmiersysteme und Compilerbau, Fakultät für Informatik. 2003 – 2008.  
Universität Freiburg. Lehrstuhl für Algorithmen und Datenstrukturen (Thomas Ottmann), Institut für Informatik und Angewandte Wissenschaften. 1998 – 2003.  
University of California Los Angeles. Lehrstuhl für Künstliche Intelligenz (Richard Korf), Computer Science Department. 1997.  
Universität Freiburg, Graduiertenkolleg *Menschliche und Maschinelle Intelligenz*. Institut für Informatik und Angewandte Wissenschaften. 1996 – 1998.

## Awards

- Honorable Mention Award* 2. International Planning Competition (Fully Automated Planning). Planner MIPS. With Malte Helmert.
- Distinguished Performance Award* 3. International Planning Competition (Fully Automated Planning). Planner MIPS.
- Distinguished Performance Award* 5. International Planning Competition (Satisficing Complex Preferences and Constraints). Planner MIPS-XXL. With Shahid Jabbar, and Mohamed Nazih.
- 2<sup>nd</sup> Place Performance Award* 6. International Planning Competition (Optimal Net Benefit). Planner MIPS-XXL. With Shahid Jabbar.
- 1<sup>st</sup> Place Performance Award* 6. International Planning Competition (Optimal Net Benefit). Planner GAMER. With Peter Kissmann.
- 1<sup>st</sup> Place Performance Award* 6. International Planning Competition (Sequential Optimal). Planner GAMER. With Peter Kissmann.
- 1<sup>st</sup> Place Performance Award* 6. International Planning Competition (Fully Observable, Non-Deterministic). Planner GAMER. With Peter Kissmann.
- Outstanding Paper Award* für *Symbolic Classification of General Two-Player Games*, KI 2008. With Peter Kissmann.
- Influential Paper Award* für *Planning with Pattern Databases*, ICAPS 2012.
- Best Student Paper Award* für *Solving Single Vehicle Pickup-and-Delivery Problems with Time Windows and Capacity Constraints using Nested Monte-Carlo Search*, ICAART 2014. With Max Gath.
- 1<sup>st</sup> Place Performance Award* 8. International Planning Competition (Deterministic Optimal). Planner SYMBA. With Alvaro Toralba, Vidal Alcazar, Peter Kissmann, Daniel Borrajo.
- 2<sup>nd</sup> Place Performance Award* 8. International Planning Competition (Deterministic Optimal). Planner CGAMER. With Alvaro Toralba, Vidal Alcazar, Peter Kissmann.
- Support from Artificial Intelligence Journal, Springer, DFG, etc.

## Event Organization

- IJCAI-Workshop *Computer Games* (CGW), New York, 2016. With Tristan Cazenave, and Mark Winnands.
- International Conference on Automated Planning and Scheduling* (ICAPS), London, 2016. With Amanda Coles, Andrew Coles, Daniele Magazini, and Scott Sanner.
- IJCAI-Workshop *Computer Games* (CGW), Buenos Aires, 2015. With Tristan Cazenave, and Mark Winnands.
- Dagstuhl-Seminar *Planning and Model Checking*, 2014. With Alessandro Cimatti, Maria Fox, and Erion Plaku.
- ETAPS-Workshop *Graph Inspection and Traversal Engineering* (GRAPHITE), Toulouse, 2014. With Alberto Lluch-Lafuente, Dragan Bosnacki, and Anton Wijs.
- Symposium of Combinatorial Search* (SOCS), Prag, 2014. With Roman Bartak.
- ICAPS-Workshop *Model Checking and Automated Planning* (MOCHAP), New Hemshire, 2014. With Daniele Magazzeni, and Erion Plaku.
- ETAPS-Workshop *Graph Inspection and Traversal Engineering* (GRAPHITE), Rom, 2013. With Dragan Bosnacki, and Anton Wijs.
- ICAPS-Doktorandenprogramm (DC), Atibaia, Sao Paulo, 2012. With Alan Fern.
- ETAPS-Workshop *Graph Inspection and Traversal Engineering* (GRAPHITE), Talinn, 2012. With Dragan Bosnacki, and Anton Wijs.
- KI-Workshop *Algorithmic Intelligence*, 2011. With Carsten Elfers, Rune Jensen, Hartmut Messerschmidt, and Rasmus Pagh.

*Künstliche Intelligenz (KI)*, Berlin, 2011. With Joscha Bach.

IJCAI-Workshop *Intelligent Security (SECART)*, 2011. With Mark Boddy, and Yacine Zemali.

*International Conference on Automated Planning and Scheduling (ICAPS)*, Freiburg, 2011. With Fahiem Bacchus, Carmel Domshlak, and Malte Helmert.

Doktorandenprogramm der AAAI (SA), 2010. With Ugur Kuter.

AAAI-Workshop *Intelligent Security (SECART)*, 2010. With Mark Boddy, and Robert Goldmann.

Dagstuhl Seminar *Graph Search Engineering*, 2009. With Lubos Brim, Eric Hansen, and Peter Sanders.

ICAPS-Workshop *Intelligent Security (SECART)*, 2009. With Mark Boddy.

ICAPS-Workshop *Knowledge Engineering Competition (ICKEP)*, 2007. With Jeremy Frank.

*Model Checking Software (SPIN)*, 2007. With Dragan Bosnacki.

Dagstuhl-Seminar *Directed Model Checking*, 2006. With Stefan Leue, and Willem Visser.

*Model Checking, and Artificial Intelligence (MOCHART)*, 2006. With Alessio Lomuscio.

ICAPS-Workshop *Planning Competition (PLANCOMP)*, 2003. With Jörg Hoffmann.

2<sup>nd</sup> *International Knowledge Engineering Competition (ICKEPS)*. With Jeremy Frank.

4<sup>th</sup> *International Planning Competition (IPC)*. With Jörg Hoffmann, Michael Littman, and Hakan Younes.

**Invited Talks  
(Selection)**

*Algorithmic Intelligence. AAAI/IJCAI Summit*, New York, 2014.

*Algorithm Engineering für das Suchen & Sortieren*. Hasso-Plattner-Institut Potsdam, 2014.

*Action Planning & General Game Playing for Robots*, Robotics Science and Systems, Berlin, 2013.

*Weak Heaps and Friends – Show me your Bits*. Combinatorial Algorithms. Rouen, 2013.

*Heuristic or Blind Search*. Symposium on Combinatorial Search. Nigeria Falls, Kanada, 2012.

*Ein Algorithmiker auf der Suche nach Kognition*. Universität Erlangen. 2012.

*KI-Suche – auf der Suche nach KI*. Universität Kaiserslautern. 2011.

*GPUs for Model Checking and AI Planning*. Universität Kopenhagen. 2010.

*Search in Planning*. Panel Discussion. Symposium on Combinatorial Search. 2010.

*Erweiterung von SIEM um Methoden der Künstlichen Intelligenz*, Deutsche Post. Aachen, 2009.

*Graph Search Engineering*. Estonian Summer School in Computer and Systems Science, 2009.

*Planning & Petri Nets*, ICAPS, Thessaloniki, 2009.

*External-Memory Search*, ICAPS, Sydney, 2008 & AAAI, Chicago, 2008.

*Directed Model Checking*, ICAPS, Monterey, 2005 & SPIN, Wien, 2006.

**Program  
Committee  
Membership**

International Joint Conference on Artificial Intelligence (IJCAI 2009 – 2016, senior).  
National Conference on Artificial Intelligence (AAAI 2005 – 2016, senior).  
European Conference on Artificial Intelligence (ECAI 2006 – 2016).  
International Conference on Automated Planning and Scheduling (ICAPS 2005 – 2016).  
International Conference on Agents and Artificial Intelligence (ICAART 2011 – 2017).  
Symposium on Combinatorial Search (SOCS 2009 – 2016).  
Model Checking Software (SPIN 2005 – 2016).  
German Conference on Artificial Intelligence (KI 2007 – 2016).  
International Conference on Artificial Intelligence: Methodology, Systems, Applications (AIMSA 2008 – 2016).  
Model Checking and Artificial Intelligence (MOCHART 2002 – 2010).  
Symposium on Abstraction, Reformulation, and Approximation (SARA 2005 – 2013).  
International Conference on Knowledge Representation (KR 2014).  
International Conference on Artificial Intelligence and Application (AIA-12).  
Florida Artificial Intelligence Research Society (FLAIRS 2004).  
Parallel and Distributed Methods in Verification (PDMC 2007 – 2012).

**Steering  
Committee  
Membership**

Model Checking Software (SPIN), 2007 – 2010.  
Symposium of Combinatorial Search (SOCS), 2014 – today.  
Model Checking and Artificial Intelligence (MOCHART), 2007 – today.  
International Planning Competition Committee (IPCC), 2006 – today.  
GI-Fachgruppe Planung und Konfiguration (PUK), Sep. 2004 – today.

**Editorial Boards**

Journal of Artificial Intelligence, 2013 – today  
Journal of Artificial Intelligence Research, 2008 – 2011  
International Journal on Artificial Intelligence and Application, 2012 – today  
Journal of Progress in Artificial Intelligence, 2011 – today

**Journal Reviews  
(Selection)**

IET Information Security, The Computer Journal, International Journal of Foundations of Computer Science, International Journal of Computer Mathematics, Journal Annals of Mathematics and Artificial Intelligence, Journal of Discrete Algorithms, Journal of Automated Reasoning, Journal of Knowledge-based Systems, Journal of the ACM, Transactions on Software Engineering and Methodology, IEEE Transactions on Computers, Artificial Intelligence Journal, Journal of Artificial Intelligence Research, Journal of Experimental Algorithms, Journal of Combinatorial Optimization, Journal of Information Sciences, Journal of Scheduling, Journal Artificial Intelligence Review, IEEE Transactions on Computers, Nordic Journal of Computing, International Journal on Software Tools for Technology Transfer, Data & Knowledge Engineering Journal, Software Testing, Verification and Reliability, Information Processing Letters, Journal of Computer Science and Technology, Journal of Zhejiang University, etc.

**Projects**

Principle Investigator EU-Project *FlourPower*. 2014 – 2017.

ZIM-Project *iMonitor*. With DecoIT GmbH, neusta GmbH. 2013 – 2015.

KMU-Project *SAIM – Schutz Androids durch intelligentes Monitoring*. With Sirrix AG, neusta GmbH, IFIS Gelsenkirchen. 2013 – 2015.

BMBF-Project *FIDES – Frühwarn- und Intrusion Detection System auf der Basis von kombinierten Methoden der KI*. With Telekom AG, ZF AG, Nicos AG, Mobile Solution Group, Algorithmica, IFIS Gelsenkirchen. 2008 – 2012.

DFG-Project *Modellprüfung auf Flashspeicher-Festplatte und Grafikkarte (Model Checking on SSD and GPU)*. 2009 – 2012.

DFG-Project *Planungsverfahren für das Allgemeine Spiel (Planning Algorithms for General Game Playing)*. 2009 – 2013.

DFG-Project *Externe, zielgerichtete Suche in impliziten Graphen (External Implicit Graph Search)*. 2007 – 2009.

DFG-Project *Heuristische Suche (Heuristic Search)* Aktionsplan Informatik. 2003 – 2008.

DFG-Project *Gerichtete Modellprüfung mit Explorationsverfahren der Künstlichen Intelligenz (Directed Model Checking with Exploration Algorithms of Artificial Intelligence)*. 2001 – 2010.

DFG-Project *Heuristische Suche und Anwendung auf die Protokollvalidierung (Heuristic Search and its Application to the Validation of Protocols)*. 1998 – 2003.

**Assessments  
(Selection)**

Swiss National Science Foundation, Netherland's Organisation for Scientific Research, Natural Sciences and Engineering Research Council of Canada, Israel Science Foundation, Deutsche Forschungsgemeinschaft, Islandic Research Funds. Irish Research Council, National Commission for Scientific and Technological Research, Applications for Tenure and Promotion (USA, England, Frankreich und Kanada), etc.

**Citation Indices**

*h*: 32, *i*10: 92 (Google Scholar).