Kristian Kersting

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Research Interests

Creating smart systems. Developing a theory of and techniques for statistical learning and acting within worlds of objects and relations among these objects. Implementing these techniques for real-world applications.

Keywords: artificial intelligence, machine learning, data mining, statistical learning, inductive logic programming, statistical relational learning, relational reinforcement learning.

Personal Record

Born on November 28, 1973 in Cuxhaven, Germany, as son of the lawyer and notary Dr. Uwe Kersting und the lawyer Dr. Marianne Kersting. Sister Dr. Annette Kersting, born on September 7, 1971 studied Law and currently works for the government of Hamburg, Germany. On April 13, 2007, married Xenia Kersting (née Schnabel), who is a medical doctor.

Education

Albert-Ludwigs-Universität, Freiburg, Germany **April 2006**
Dr. rer.-nat. (Ph.D.), Computer Science, *summa cum laude* ("1.0 mit Auszeichnung")
"An Inductive Logic Programming Approach to Statistical Relational Learning"
Promoter: Prof. Dr. Luc De Raedt, Albert-Ludwigs-Universität, Freiburg, Germany
Reader: Prof. Dr. Stephen Muggleton, Imperial College, London, UK

Albert-Ludwigs-Universität, Freiburg, Germany **May 2000**
Diplom (M.Sc.), Computer Science (major), Cognitive Sciences (minor), *summa cum laude* ("1.0 mit Auszeichnung")
"Bayesian Logic Porgrams"
Promoter: Prof. Dr. Luc De Raedt, Albert-Ludwigs-Universität, Freiburg, Germany
Reader: Prof. Dr. Wolfram Burgard, Albert-Ludwigs-Universität, Freiburg, Germany

Albert-Ludwigs-Universität, Freiburg, Germany **October 1996**
Vordiplom (B.Sc.), Computer Science (major), Psychology (minor), Grade: 1.2

Amandus-Abendroth Gymnasium, Cuxhaven, Germany **Spring 1993**
Abitur (Matriculation Standard), Grade: 1.7

Awards and Scholarships

Post-doctoral FWO Fellowship **starting in 2007**
Fellowship of the Flemish Research Foundation (FWO) to stay as a visiting PostDoc at the CS Department of the Katholieke Universiteit Leuven, Belgium.

ECCAI Artificial Intelligence Dissertation Award **2006**
Award for the best European Dissertation in the field of AI. Awarded annually by ECCAI, the European Coordination Committee for Artificial Intelligence..

ECML-06 Best Student Paper **2006**
The paper "TildeCRF: Conditional Random Fields for Logical Sequences" co-authored with Bernd Gutmann was selected as the Best Student Paper at the 17th European Conference on Machine Learning (ECML) 2006.

AAAI-05 Scholarship **2005**

Travel award for and volunteer at the National Conference of the American Association for Artificial Intelligence (AAAI) 2005.

PSB-03 Scholarship **2003**

Travel award for the Pacific Symposium on Biocomputing (PSB) 2003 sponsored by the Applied Biosystems and the Depart. of Energy, University of Washington, USA, and the Stanford University, USA.

Wolfgang-Gentner Award **2000**

Awarded by the Computer Science Department of the Albert-Ludwigs-Universität, Freiburg, Germany, to outstanding diploma theses.

Work Experience

Visiting Postdoctoral, Computer Science Department, Katholieke Universiteit Leuven, Belgium **Dec. 2007-**

Structured Learning. To develop methods to learn models of and to mine structured data such as graphs and relational interpretations.

Postdoctoral Associate, Computer Science and Artificial Intelligence Laboratory, Massachusetts Institute of Technology (MIT), Cambridge, USA **Feb. - Nov. 2007**

With advisor Leslie Pack Kaelbling, developing a modern cognitive architecture. The driving application in mind is to develop software-based secretaries that understand their bosses' habits and can carry out their wishes automatically.

Research Assistant, Institute for Computer Science, Albert-Ludwigs-Universität, Freiburg, Germany **May 2000 - Jan. 2007**

Statistical Relational Learning. With adviser Luc De Raedt, developed methods for and theoretical results on statistical relational learning and relational reinforcement learning. The approaches include *Bayesian logic programs*, *logical hidden Markov models*, and *Markov decision programs*. They are embedded into the general learning framework of *probabilistic inductive logic programming*. Actively involved in the European Union projects APrIL I (IST-2001-33035]) and APrIL II (FP6-508861) on *Application of Probabilistic Inductive Logic Programming*.

Student Assistant, Institute for Computer Science, Albert-Ludwigs-Universität, Freiburg, Germany **1998**

Pattern Recognition. Developed educational tool kits for pattern recognition in Matlab.

Developer, Neurological Deptartment, University Hospital, Freiburg, Germany **1995-1999**

Together with Prof. Dr. Thomas Mergner developed a control system for hexapots and analysis tools to investigate how human beings control posture and orientation in 3D space.

Military Service, 74th Tank Battalion, Cuxhaven-Altenwalde, Cuxhaven, Germany **1993-1994**

Gunner, loader

Project Proposals and Organization

Actively involved in writing proposals and the organization of the European projects **APrIL 1** (2003) and **APrIL 2** (2004-2006), which both aimed at developing a theory of and practical approches to *statistical relational learning* In total, these projects amount to about EURO 1,600,000,-

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Invited Talks

BeNeLearn-05 **February 2005**

Probabilistic Logic Learning and Reasoning

Fourteenth Annual Machine Learning Conference of Belgium and the Netherlands, University of Twente, Enschede, The Netherlands, February 17 -18, 2005.

Imperial College, London, UK **January 2007**

Statistical Relational Learning - A Key Challenge for Computational Biology
Contact: Stephen Muggleton

Albert-Ludwigs University, Freiburg, Germany **January 2007**
Statistical Relational Learning - A Key Challenge for Machine Learning and AI
Contact: Wolfram Burgard

University of Wisconsin at Madison, USA **October 2001**
Bayesian logic programs
Contact: David C. Page Jr.

Max-Planck Institut für Informatik, Saarbrücken, Germany **September 2001**
Bayesian logic programs
Contact: Manfred Jäger

INTERNATIONAL TUTORIALS

ECML/PKDD-05 *Probabilistic Inductive Logic Programming* **2005**
Together with Luc De Raedt at the 16th European Conference on Machine Learning (ECML)/ 9th European Conference on Principles and Practice of Knowledge Discovery in Databases (PKDD), October 3-7, 2005, Porto, Portugal

IDA-05 *Probabilistic Inductive Logic Programming* **2005**
Together with Luc De Raedt at the 6th International Symposium on Intelligent Data Analysis, September 8-10, 2005, Madrid, Spain.

ICML-04 *Probabilistic Logic Learning* **2005**
Together with James Cussens at the Twenty-First International Conference on Machine Learning, July 4, 2004, Banff, Alberta, Canada

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GUEST CO-EDITOR

Special issue on **Probabilistic Relational Learning** in the "Annals of Mathematics and Artificial Intelligence. Together with Manfred Jaeger and Lise Getoor. Submission deadline is September 1, 2007. **2008**

PROGRAM CO-CHAIR/CO-ORGANIZER

Mining and Learning with Graphs (MLG-07), August 1 – 3, 2007, Florence, Tuscany, Itlay. Together with Paolo Frasconi and Koji Tsuda. **August 1–3, 2007**

Dagstuhl seminar 071611 on *Probabilistic, Logical and Relational Learning - A Further Synthesis.* Chaired by L. De Raedt, T. Dietterich, L. Getoor, and S. H. Muggleton. **April 15–20, 2007**

'*Statistical Relational Learning*' Session at the **31st Annual Conference of the German Classification Society** - Gesellschaft fuer Klassifikation (GfKI), March 7-9, 2007, Freiburg i. Br., Germany. Together with Hendrik Blockeel. **March 2007**

PROGRAM COMMITTEE

AAAI, National Conference of the American Association for Artificial Intelligence **06**
AIS-DM, Workshop on Autonomous Intelligent Systems: Agents and Data Mining **05, 06**
ADMI, Workshop on Agents and Data Mining Interaction **07**
DS, International Conference on Discovery Science **05, 06, 07**
ECAI, European Conference on Artificial Intelligence **06**
ECML/PKDD, European Conference on Machine Learning and on Principles and Practice of Knowledge Discovery in Databases *Area Chair* **06**, *Area Chair* **07**
ICML, International Conference on Machine Learning **03, 05, 06, 07**
ILP, International Conference on Inductive Logic Programming **07**
KDD, ACM SIGKDD Int. Conference on Knowledge Discovery and Data Mining **06, 07**
Multiview, Workshop on Learning With Multiple Views **06**
MLG, Workshop on Mining and Learning with Graphs **06**

MRDM, Workshop on Multi-Reltional Data Mining **04, 05**
ACM-SAC, ACM Symposium on Applied Computing **04, 05, 06,07**
SRL, Workshop on Statistical Relational Learning **03, 04, 06**

CONFERENCE REVIEWING

ECML/PKDD (01,02,03,04), ECAI (04), ESSLLI (05 Student Session), DS (04), JELIA (04), ICDM (06), ICML (04), IJCAI (05, 07), ILP (02,04, 06), IPMU (04), KDD (04), NIPS (04), PSB (04), Spatial Cognition (04)

JOURNAL REVIEWS

ACM Transactions on Computational Logic, *AI Communications*, *Applied Intelligence*, *Artificial Intelligence*, *Computers in Biology and Medicine*, *Ecological Modelling*, *Electronic Transactions on Artificial Intelligence*, *IEEE Transactions on Neural Networks*, *International Journal of Approximate Reasoning*, *Journal of Artificial Intelligence Research*, *Journal of Intelligent and Fuzzy Systems*, *Machine Learning Journal*, *SIGKDD Explorations*, *Theory and Practice of Logic Programming*

OTHER PROFESSIONAL ACTIVITIES

ICML-05, Proceedings Chair **2005**
The 22nd International Conference on Machine Learning (ICML-05) Bonn, Germany, August 7–11, 2005.

IMLS Web Master **2003-2006**
International Machine Learning Society.

ECML/PKDD-01, Member of Local Organization Team **2001**
12th European Conference on Machine Learning (ECML-01) and the 5th European Conference on Principles and Practice of Knowledge Discovery in Databases (PKDD-01), Freiburg, Germany, September 3-7, 2001.

ECCV-98, Student Member of Local Organization Team **1998**
5th European Conference on Computer Vision (ECCV-98), Freiburg, germany, June 2-6, 1998

SWERC-98, Judge **1998**
Southwest European Regional ACM Programming Contest (SWERC-98), Ulm, Germany 1998.

RESEARCH VISITS

Humboldt-Universität, Computer Science Dept., Berlin, Germany **Fall 2006**
Staying with Prof. Dr. Tobias Scheffer conducting research on statistical learning.

University of Maryland at College Park, Computer Science Dept., USA **Summer 2003**
Staying with Prof. Dr. Lise Getoor conducting research on statistical relational learning.

Purdue University, Dept. of Electrical and Computer Engineering, USA **Summer 2003**
Staying with Prof. Dr. Bob Givan conduction research on relational reinforcement learning.

University of Wisconsin at Madison, Dept. of Medical Informatics, USA **Winter 2001**
Staying with Prof. Dr. C. David Page Jr. conducting research on probabilistic ILP.

Max-Planck-Insitut für Informatik, Saarbrücken, Germany **Spring 2001**
Staying with Prof. Dr. Manfred Jäger conducting research Bayesian logic programs and Relational Bayesian networks.

Teaching Experience

Lecturer, CS Dept., Albert-Ludwigs-Universität, Freiburg, Germany **2006**
Course on Bayesian networks as part of the *Advanced AI*. **winter 2006**

Teaching Assistant, CS Dept., Albert-Ludwigs-Universität, Freiburg, Germany **2000-2006**
Co-organized several courses, seminars, and practical courses:
Course on Bayesian networks as part of the *Advanced AI*. **winter 2006**
Two-hours lecture as part of *Foundations of AI*. **summer 2006**
Practical course and a seminar on *probabilistic ILP*. **winter 2005**
Practical course on *machine learning in games*. **summer 2005**
Advanced course on *logic and learning*. **summer 2004**
Seminar and practical course on *probabilistic ILP* . **winter 2003**
Practical course on *inductive databases for sequence analysis*. **summer 2003**
Introductory course on *theoretical aspects of computer science*. **winter 2002**
Introductory course on *artificial intelligence* and an advanced course on *machine learning and data mining*. **summer 2002**
Advanced course on *adaptive computation*. **winter 2001**
Introductory course on *artificial intelligence*, advanced course on *machine learning and data mining*, and seminar on *data mining*. **summer 2001**
Seminar on *web mining*. **winter 2000**

Teaching Assistant, CS Dept., Albert-Ludwigs-Universität, Freiburg, Germany **1999**
Course on *knowledge representation* given by Bernhard Nebel.

Teaching Assistant, CS Dept., Albert-Ludwigs-Universität, Freiburg, Germany **1998**
Practical course on *pattern Recognition* given by Hans Burkhardt.

Co-Supervised Diploma Students

Ingo Thon, Ensembles of Logical Hidden Markov Models **2006**
Angelika Kimmig, Learning Stochastic Logic Programs **2005**
Bernd Gutmann , Relational Conditional Random Fields for Logical Sequences **2005**
Alexandru Cocora, Learning Relational Navigation Policies **2005**
Joerg Fischer, Asynchronous Relational Value Iteration **2005**
Tayfun Gürel, Naive Graph Labelling **2005**
Steven Ganzert, Using Equation Discovery for Finding ARDS-Lung Models: A Case Study **2003**
Livia Predoiu, Bayes'sche Datalog Programme **2003**

Co-Supervised Student Research Projects

Uwe Dick, Relational Fisher Kernels **2005**
Hans-Martin Schultze, Information Extraction with LOHMMs **2005**
Bernd Gutmann, Relational Influence Diagrams **2005**
Alexandru Cocora, Discriminative Learning for Logical Sequences **2004**
Ingo Thon, Logical Markov Models **2004**
Christian Stolle, Learning from Random SAT **2004**
Gerrit Merkel, Information Extraction using Logical Hidden Markov Models **2004**
Joerg Fischer, SCGEM - A Fast Acceleration of EM **2003**
Victoria Polzer, Learning Patterns for Information Extraction with TILDE: A Case Study on Chemical Abstracts **2003**
Niels Landwehr, EM and Gradient-Based Learning of Bayesian Networks: A Case Study **2002**
Steven Ganzert, Analyse von Daten einer klinischen Multicenterstudie zur mechanischen Beatmung von Adult Respiratory Distress Syndrome (ARDS) - Patienten mit Methoden der Knowledge Discovery in Databases (KDD) **2001**

Systems

Balios: Engine for Bayesian logic programs and relational Fisher kernels (Java, Prolog, Weka). Together with Uwe Dick.
Xanthos: Engine for logical hidden Markov models (Java). Together with Ingo Thon.
nFOIL: Engine for Naïve Bayes logic programs (Prolog resp. C). Together with Niels Landwehr and Romaric Gaudel.

TildeCRF: Conditional Random Fields for Logical Sequences (Java resp. Prolog). Together with Bernd Gutmann.

Systems Demonstrations

APrIL2 @ ECML/PKDD-06 **September 2006**

Demonstration of the PROFILE ("Probabilistic First-Order Learning") toolbox at the APrIL Application Workshop at the 17th European Conference on Machine Learning (ECML) and the 10th European Conference on Principles and Practice of Knowledge Discovery in Databases (PKDD), Berlin, Germany, September 18-22, 2006

ECML/PKDD-04 **September 2004**

Demonstration of the Balios system at the 15th European Conference on Machine Learning (ECML) and the 8th European Conference on Principles and Practice of Knowledge Discovery in Databases (PKDD), Pisa, Italy, September 20-24, 2004.

ECSQARU-03 **July 2003**

Demonstration of *software tools for probabilistic inductive logic programming* at the 7th European Conference Symbolic and Quantitative Approaches to Reasoning with Uncertainty Aalborg, Denmark, July 2-5, 2003.

Special Skills

Languages: German (native), English (fluently), Latin (advanced proficiency exam), French (two years at school)
Expert knowledge of the Unix operating system and all related applications.
Programming languages: Prolog, C/C++, Java, Matlab, Perl, and HTML.
Machine Learning Tools: Weka, Hugin, Netica, Bayesian Network Toolbox for Matlab
Expert knowledge of the professional typesetting package LaTeX.
Strong writing, grammar, and linguistic skills.
Strong graphic-design skills useful in presentations, publications, and schematics.

Kristian Kersting

Books

1. K. Kersting. An Inductive Logic Programming Approach to Statistical Relational Learning. Frontiers in Artificial Intelligence and its Applications series (Dissertations), Volume 148, IOS Press, Amsterdam, The Netherlands, 2006. ISBN 1-58603-674-2, LCCN 2006932504. See also `http://people.csail.mit.edu/kersting/FAIAilpsrl/` and the publisher's web page at `http://www.iospress.nl/loadtop/load.php?isbn=1586036742`
ECCAI Artificial Intelligence Dissertation Award.

Edited Volumes

2. L. De Raedt, P. Frasconi, K. Kersting, S. Muggleton. "Applications of Probablistic Inductive Logic Programming" With chapters contributed by the APrIL2 consortium and J. Cussens, P. Domingos, M. Jaeger, D. Page, D. Poole, V. Santos Costa, T. Sato. In preparation and to be published by Springer-Verlag.

Intern. Journals, Magazins

3. K. Kersting, C. Plagemann, A. Cocora, W. Burgard, L. De Raedt. Learning to Transfer Optimal Navigation Policies. To appear in Advanced Robotics, 2007.
4. N. Landwehr, K. Kersting, L. De Raedt. nFOIL: Integrating Naive Bayes and FOIL. In the Journal of Machine Learning Research (JMLR) 8(Mar):481-507, 2007
5. L. De Raedt, K. Kersting, A. Kimmig, K. Revoredo, H. Toivonen. Revising Probabilistic Prolog Programs. Accepted for publication in S. Muggleton, R. Otero, S. Colton, guest editors, Machine Learning Journal, ILP-2006 Special Issue.
6. K. Kersting. An Inductive Logic Programming Approach to Statistical Relational Learning. Thesis Summary. AI Communications 19(4):389-390, 2006.
7. K. Kersting, L. De Raedt, T. Raiko. Logical Hidden Markov Models. Journal of Artificial Intelligence Research, Volume 25, pages 425-456, 2006.
8. A. Cocura, K. Kersting, C. Plageman, W. Burgard, L. De Raedt. Learning Relational Navigation Policies. In H.-M. Gross, editor, Special Issue "Lernen und Selbstorganisation von Verhalten", Kuenstliche Intelligenz, pages 12-18, Heft 3/2006
9. L. De Raedt, K. Kersting. Probabilistic Logic Learning. In ACM-SIGKDD Explorations, special issue on Multi-Relational Data Mining, S. Dzeroski and L. De Raedt, editors, Vol. 5(1), pp. 31-48, July 2003.
10. S. Ganzert, J. Guttmann, K. Kersting, R. Kuhlen, C. Putensen, M. Sydow, S. Kramer. Analysis of Respiratory Pressure-Volume Curves in Intensive Care Medicine Using Inductive Machine Learning. Artificial Intelligence in Medicine, special issue on Medical Data Mining, K. Cios, J. Berman, W. Moore, editors, 26(1-2), pp. 69-86, Sept. 2002.

Refereed Conference Papers

11. K. Kersting, C. Plagemann, P. Pfaff, W. Burgard. Most-Likely Heteroscedastic Gaussian Process Regression. In the Proceedings of the 24th Annual International Conference on Machine Learning (ICML-07), Corvallis, OR, USA, June 20-24, 2007.
12. C. Plagemann, K. Kersting, P. Pfaff, W. Burgard. Gaussian Beam Processes: A Nonparametric Bayesian Measurement Model for Range Finders. In the Proceedings of the Robotics: Science and Systems Conference (RSS-07), Atlanta, GA, USA, June 27-30, 2007.
13. A. Cocura, K. Kersting, C. Plageman, W. Burgard, L. De Raedt. Learning Relational Navigation Policies. In IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS-06), Bejing, China, October 9-15, 2006
14. B. Gutmann, K. Kersting. TildeCRF: Conditional Random Fields for Logical Sequences. In J. Fürnkranz, T. Scheffer, M. Spiliopoulou, editors, Proceedings of the 15th European Conference on Machine Learning (ECML-2006), volume 4212 of LNAI, Springer-Verlag, pages 174-185, Berlin, Germany, September 18-22, 2006. **Best Student Paper Award**

15. U. Dick K. Kersting. Fisher Kernels for Relational Data. In J. Fürnkranz, T. Scheffer, M. Spiliopoulou, editors, Proceedings of the 15th European Conference on Machine Learning (ECML-2006), volume 4212 of LNAI, Springer-Verlag, pages 114-125, Berlin, Germany, September 18-22, 2006.

16. L. De Raedt, K. Kersting, A. Kimmig, K. Revoredo, H. Toivonen. Revising Probabilistic Prolog Programs. Short paper in S. Muggleton, R. Otero, and A. Tamaddoni-Nezhad, editors, Proceedings of th 16th International Conference on Inductive Logic Programming (ILP-06), volume 4455 of LNAI, Springer-Verlag, pages 3033, Santiago, Spain, August 24-27, 2006.

17. A. Karwath, K. Kersting. Relational Sequence Alignments and Logos. In S. Muggleton, R. Otero, and A. Tamaddoni-Nezhad, editors, Proceedings of th 16th International Conference on Inductive Logic Programming (ILP-06), volume 4455 of LNAI, Springer-Verlag, pages 290304, Santiago, Spain, August 24-27, 2006.

18. R. Triebel. K. Kersting. W. Burgard. Robust 3D Scan Point Classification using Associative Markov Networks. In N. Papanikolopoulos, editor, IEEE International Conference on Robotics and Automation (ICRA-06), Walt Disney World Resort in Orlando, Florida, USA, May 15-19, 2006.

19. K. Kersting, T. Raiko. 'Say EM' for Selecting Probabilistic Models for Logical Sequences. In F. Bacchus and T. Jaakkola, editors, Proceedings of the 21st Conference on Uncertainty in Artificial Intelligence (UAI-05), Edinburgh, Scotland, July 26-29, 2005.

20. N. Landwehr, K. Kersting, L. De Raedt. nFOIL: Integrating Naive Bayes and FOIL. In M. Veloso and S. Kambhampati, editors, Proceedings of the Twentieth National Conference of the American Association for Artificial Intelligence (AAAI-05), pages 795-800, Pittsburgh, Pennsylvania, USA, July 9-13, 2005.

21. L. De Raedt, K. Kersting, S. Torge. Towards Learning Stochastic Logic Programs from Proof-Banks. In M. Veloso and S. Kambhampati, editors, Proceedings of the Twentieth National Conference of the American Association foron Artificial Intelligence (AAAI-05), pages 752-757, Pittsburgh, Pennsylvania, USA, July 9-13, 2005.

22. K. Kersting, M. Van Otterlo, L. De Raedt. Bellman goes Relational (Extended Abstract). L. Schomaker, N. Taatgen, R. Verbruggethe, editors, Proceedings of the Sixtheenth Belgian-Dutch Conference on Artificial Intelligence (BNAIC-04), Groning, The Netherlands, October 21-22, 2004.

23. L. De Raedt, K. Kersting. Probabilistic Inductive Logic Programming. Invited paper in S. Ben-David, J. Case and A. Maruoka, editors, Proceedings of the 15th International Conference on Algorithmic Learning Theory (ALT-2004), volume 3244 of LNAI, Springer-Verlag, pages 19-36. Padova, Italy, October 2-5, 2004.

24. K. Kersting, U. Dick. Balios - The Engine for Bayesian Logic Programs. Demonstration paper in J.-F. Boulicaut, F. Esposito, F. Giannotti and D. Pedreschi, editors, Proceedings of the 8th European Conference on Principles and Practice of Knowledege Discovery in Databases (PKDD-2004), volume 3202 of LNCS, Springer-Verlag, pages 549-551. Pisa, Italy, September 20-25, 2004.

25. K. Kersting, T. Gärtner. Fisher Kernels for Logical Sequences. In J.-F. Boulicaut, F. Esposito, F. Giannotti and D. Pedreschi, editors, Proceedings of the 15th European Conference on Machine Learning (ECML-2004), volume 3201 of LNCS, Springer-Verlag, pages 205 - 216. Pisa, Italy, September 20-25, 2004.

26. K. Kersting, M. Van Otterlo, L. De Raedt. Bellman goes Relational. In R. Greiner and D. Schuurmans, editors, Proceedings of the Twenty-First International Conference on Machine Learning (ICML-2004), pages 465 - 472. Banff, Alberta, Canada, July 4-8, 2004.

27. K. Kersting, L. De Raedt. Logical Markov Decision Programs and the Convergence of Logical TD(λ). In A. Srinivasan, R. King, and R.Camacho, editors, Proceedings of the Fourteenth International Conference on Inductive Logic Programming (ILP-2004), volume 3194 of LNCS, Springer-Verlag, pages 180-197. Porto, Portugal, September 6-8, 2004.

28. J. Fischer, K. Kersting. Scaled CGEM: A Fast Accelerated EM. In N. Lavrac, D. Gamberger, H. Blockeel, and L. Todorovski, editors, Proceedings of the Fourteenth European Conference on Machine Learning (ECML-2003), volume 2837 of LNCS, Springer-Ver;ag, pages 133-144, Cavtat, Croatia, September 22-26, 2003.

29. K. Kersting, T. Raiko, S. Kramer, L. De Raedt. Towards Discovering Structural Signatures of Protein Folds based on Logical Hidden Markov Models. In R. B. Altman, A. K. Dunker, L. Hunter, T. A. Jung and T. E. Klein, editors, Proceedings of the Pacific Symposium on Biocomputing (PSB-2003), pp. 192-203, January 3-7 2003, Kauai, Hawaii, USA.
30. T. Raiko, K. Kersting, J. Karhunen, L. De Raedt. Bayesian Learning of Logical Hidden Markov Models. In Proceedings of the Finnish AI conference (STeP-2002), pp. 64-71, 15-17 December 2002, Oulu, Finland.
31. K. Kersting, L. De Raedt. Towards Combining Inductive Logic Programming and Bayesian Networks. In C. Rouveirol, M. Sebag, editors, Proceedings of the Eleventh International Conference on Inductive Logic Programming (ILP-2001), volume 2157 of LNAI, Springer-Verlag, pages 118-131, Strasbourg, France, September 2001.
32. K. Kersting, L. De Raedt. Adaptive Bayesian Logic Programs. In C. Rouveirol, M. Sebag, editors, Proceedings of the Eleventh International Conference on Inductive Logic Programming (ILP-2001), volume 2157 of LNAI, Springer-Verlag, pages 104 - 117, Strasbourg, France, September 2001.

Refereed Intern. Workshops Proceedings

33. S. Ganzert, K. Moeller, K. Kersting, L. De Raedt, J. Guttmann. Equation discovery for model identification in respiratory mechanics under conditions of mechanical ventilation. To appear in W. Bridewell, L. Todorovski, S. Kramer, editors, working notes of the ICML-07 workshop on the Induction of Process Models (IPM-07). Corvallis, OR, USA, June 24, 2007.
34. C. Plagemann, K. Kersting, P. Pfaff, W. Burgard. Heteroscedastic Gaussian Process Regression for Modeling Range Sensors in Mobile Robotics. (On invitation) in the Proceedings of the Learning Workshop (Snowbird), Puerto Rico, March 19-22, 2007.
35. K. Kersting. B. Gutmann. Unbiased Conjugate Direction Boosting for Conditional Random Fields. Short paper in T. Grtner, G. C. Garriga, T. Meinl, editors, Working Notes of the ECML-06 Workshop on Mining and Learning with Graphs (MLG-06), Berlin, Germany, September 18th, 2006.
36. A. Karwath, K. Kersting. Relational Sequence Alignment. Short paper in T. Gärtner, G. C. Garriga, T. Meinl, editors, Working Notes of the ECML-06 Workshop on Mining and Learning with Graphs (MLG-06), Berlin, Germany, September 18th, 2006.
37. M. Jaeger, K. Kersting, L. De Raedt. Expressivity Analysis for PL-Languages. In A. Fern, L. Getoor, and B. Milch, editors, Working Notes of the ICML-06 Workshop "Open Problems in Statistical Relational Learning" (SRL-06), Pittsburgh, USA, June 29, 2006.
38. T. Guerel, K. Kersting. On the Trade-Off Between Iterative Classification and Collective Classification: First Experimental Results. In S. Nijssen, T. Meinl, and G. Karypis, editors, Working Notes of the Third International ECML/PKDD- Workshop on Mining Graphs, Trees and Sequences (MGTS-05), Porto, Portugal, October 7, 2005.
39. M. Van Otterlo, K. Kersting. Challenges for Relational Reinforcement Learning. In the Working Notes of the ICML-2004 Workshop on Relational Reinforcement Learning. P. Tadepalli, R. Givan, K. Driessens, editors. Banff, Alberta, Canada, July 8, 2004.
40. K. Kersting, T. Raiko, L. De Raedt. A Structural GEM for Learning Logical Hidden Markov Models. In S. Dzeroski, L. De Raedt, and S. Wrobel, editors, Working Notes of the Second KDD-Workshop on Multi-Relational Data Mining (MRDM-03), Washington, DC, USA, August 27, 2003.
41. K. Kersting, L. De Raedt. Logical Markov Decision Programs. In L. Getoor and D. Jensen, editors, Working Notes of the IJCAI-2003 Workshop on Learning Statistical Models from Relational Data (SRL-03), pp. 63-70, August 11, Acapulco, Mexico, 2003.
42. K. Kersting. Representational power of probabilistic-logical models: From upgrading to downgrading. In L. Getoor and D. Jensen, editors, Working Notes of the IJCAI-2003 Workshop on Learning Statistical Models from Relational Data (SRL-03), pp. 61-62, August 11, Acapulco, Mexico, 2003
43. K. Kersting, T. Gärtner. Fisher Kernels and Logical Sequences with an Application to Protein Fold. NIPS 2002 workshop on Machine Learning Techniques for Bioinformatics organized by C. Campbell, F. d'Alch-Buc, P. Long. December (Friday) 13, 2002, Vancouver, Canada.

44. K. Kersting, N. Landwehr. Scaled Conjugate Gradients for Maximum Likelihood: An Empirical Comparison with the EM Algorithm. In J. A. Gmez and A. Salmern, editors, Proceedings of the First European Workshop on Probabilistic Graphical Models (PGM-02), pp. 89-98, November 6-8, 2002, Cuenca, Spain.
45. K. Kersting, T. Raiko, L. De Raedt. Logical Hidden Markov Models (Extended Abstract). In J. A. Gmez and A. Salmern, editors, Proceedings of the First European Workshop on Probabilistic Graphical Models (PGM-02), pp. 99-107, November 6-8, 2002, Cuenca, Spain.
46. K. Kersting, L. De Raedt, S. Kramer. Interpreting Bayesian Logic Programs. In L. Getoor and D. Jensen, editors, Proceedings of the AAAI-2000 Workshop on Learning Statistical Models from Relational Data, Technical Report WS-00-06, AAAI Press, Austin/Texas, USA, 2000.

Book Chapters

47. K. Kersting, L. De Raedt. Probabilistic Inductive Logic Programming. Chapter to appear in L. De Raedt, P. Frasconi, K. Kersting, S. Muggleton, editors, Applications of Inductive Logic Programming, Springer
48. K. Kersting, L. De Raedt, B. Gutmann, A. Karwath, N. Landwehr. Relational Sequence Learning. Chapter to appear in L. De Raedt, P. Frasconi, K. Kersting, S. Muggleton, editors, Applications of Inductive Logic Programming, Springer
49. K. Kersting, L. De Raedt. Basic Principles of Learning Bayesian Logic Programs. Chapter tyo appear in L. De Raedt, P. Frasconi, K. Kersting, S. Muggleton, editors, Applications of Inductive Logic Programming, Springer
50. K. Kersting, L. De Raedt. Bayesian Logic Programming: Theory and Tool. Chapter to appear in L. Getoor and B. Taskar, editors, An Introduction to Statistical Relational Learning, MIT Press.
51. K. Kersting, N. Landwehr. Scaled Conjugate Gradients for Maximum Likelihood: An Empirical Comparison with the EM Algorithm. Chapter (pp. 235-254) in "Advances in Bayesian Networks", Series: Studies in Fuzziness and Soft Computing, Vol. 146, J. A. Gmez, S. Moral and A. Salmern, editors, Springer, 2004.

Theses

52. K. Kersting. An Inductive Logic Programming Approach to Statistical Relational Learning. Ph.D. Thesis, Albert-Ludwigs-Universtät, Freiburg, Germany. April 2006.
53. K. Kersting. Bayesian Logic Programs. Diploma Thesis, Albert-Ludwigs-Universtät, Freiburg, Germany. May 2000.

Technical Reports and Other Publ.

54. K. Kersting, A. Karwath. On Relational Sequence Alignments and Their Information Contents Short paper in S. H. Muggleton and R. Otero, editors, Short Paper Proceedings of the 16th International Conference on Inductive Logic Programming (ILP-06), Santiago, Spain, August 24-27, 2006.
55. T. Guerel, K. Kersting, S. Kandler, U. Egert, S. Rotter, L. De Raedt. Learning the functional connectivity in neuronal cultures. Poster Presentations at the 2nd Bernstein Symposium, Berlin, Germany, Oct. 2006.
56. K. Kersting, T. Raiko, S. Kramer, L. De Raedt. Towards Discovering Structural Signatures of Protein Folds based on Logical Hidden Markov Models. Technical Report No. 175, Institute for Computer Science, University of Freiburg, Germany, June 2002.
57. K. Kersting, L. De Raedt. Basic Principles of Learning Bayesian Logic Programs. Technical Report No. 174, Institute for Computer Science, University of Freiburg, Germany, June 2002.
58. K. Kersting, L. De Raedt. Bayesian Logic Programs. Technical Report No. 151, Institute for Computer Science, University of Freiburg, Germany, April 2001.
59. K. Kersting, L. De Raedt. Bayesian Logic Programs. In Proceedings of "Informatiktage-2000", Bad Schussenried, Germany, October 2000.
60. K. Kersting, L. De Raedt. Bayesian Logic Programs. (On invitation). In E. Leopold and M. Kirsten, editors, Proceedings of "Treffen der GI-Fachgruppe 1.1.3 Maschinelles Lernen" (FGML-2000), GMD Report 114, Sankt Augustin, Germany, 2000. (not refereed)

61. K. Kersting, L. De Raedt. Bayesian Logic Programs. In J. Cussens and A. Frisch, editors, Work-in-Progress Reports of the Tenth International Conference on Inductive Logic Programming (ILP -2000), London,U.K., 2000. (online Proceedings)

62. K. Kersting, L. De Raedt. Bayesian Logic Programs. (On invitation). In F. Furukawa, S. Muggleton, D. Michie, and L. De Raedt, editors, Proceedings of the Seventeenth Machine Intelligence Workshop (MI-17), Bury St. Edmunds, Suffolk, U.K., 2000.