Bernhard Pfahringer

CV

January 29, 2010

1 Current Position

Associate Professor, Computer Science Department, University of Waikato, New Zealand , since February 2007

2 Academic qualifications, distinctions

1995, Dr.techn., Vienna University of Technology
1985, Dipl.-Ing., Vienna University of Technology

- 2006 ECML/PKDD Challenge, Creative Award, and tied for first place classification award
- 2005 ACM SIGKDD service award for the Weka team
- 2004 Winning entry for the 2004 KDD Cup protein prediction task
- 2003 Second place in the EUNITE competition 2003 on 'Prediction of product quality in glass manufacturing process'
- 1999 Winner of the KDD'99 classifier contest.
- 1998 Fourth place (Honourable mention) in the KDD'98 classifier contest.
- 1994 Winner of the Inductive Learning Competition "New East-West Challenge"

3 Prior Experience

- March 2000 - Jan 2007: Senior Lecturer, Computer Science Department, University of Waikato, New Zealand
- 1. 9. 1997 - 29. 2. 2000: Research Fellow at the Austrian Reserach Institute for Artificial Intelligence (ÖFAI), with a focus on Machine Learning.
- 1. 9. 1996 - 31. 8. 1997: Postdoctoral Research Fellow at the University of Waikato, Department of Computer Science, Hamilton, New Zealand. (ML (Weka Group)), courtesy to a Schrödingerstipendium issued by the Austrian Science Funds (FWF).
- 1. 2. 1992 - 31. 8. 1996: Research Fellow at the Austrian Reserach Institute for Artificial Intelligence (ÖFAI), with a focus on Machine Learning.
- 1. 6. 1991 - 31. 1. 1992: Zivildienst (substitute for obligatory military service) driving ambulance cars.
- Nov.,Dec. 1989 and Nov. 1986: Visiting Scientist at the SFB 314 of the University of the Saarland, Germany, working on KL-ONE like knowledge representation.
- Sept. 1986 - Mai 1991: Part-time Research Assistent at the Institute for Medical Cybernetics and Artificial Intelligence of the University of Vienna, Medical School, and freelance Research Associate of the ÖFAI.
- Sept. 1985 - Aug. 1986: Junior Researcher at the ÖFAI, Expert Systems Department.
- 1985: Freelance Research Programmer at the Austrian Society for Cybernetics.
- 1984: Summer student at CERN, Geneva, Switzerland.

4 Teaching and Service

4.1 Teaching at Waikato

- COMP314B Software Engineering Project, 2009.
- COMP317A Design and Analysis of Algorithms, 2009 (with Tony Smith).
- COMP522B Relational Data Mining, 2009.
- COMP204B Object-Oriented Program Design, 2008.
- COMP314B Software Engineering Project, 2008 (with John Cleary).
- COMP522B Relational Data Mining, 2008.

- COMP204B Object-Oriented Program Design, 2007.
- COMP314A Software Engineering Project, 2007 (with John Cleary).
- COMP522B Relational Data Mining, 2007.
- COMP416A/516A Topics in Data Mining, 2006 (with Eibe Frank).
- COMP316A AI Techniques and Applications, 2006 (with Eibe Frank).
- COMP313A Programming Languages, 2006 (with Steve Reeves).
- COMP317B Design and Analysis of Algorithms, 2005 (with Tony Smith).
- COMP316A AI Techniques and Applications, 2005 (with Geoff Holmes).
- COMP314A Software Engineering Project, 2005 (with Mark Hall).
- COMP317B Design and Analysis of Algorithms, 2004.
- COMP313A Programming Languages, 2004 (with Margaret Jeffries).
- COMP314A Software Engineering Project, 2004 (with Rob Akscyn).
- COMP314A Software Engineering Project, 2003.
- 0657.209B Object-oriented Programming, 2002.
- 0657.416A/516A Topics in AI, 2002 (with Eibe Frank).
- 0657.316A AI Techniques and Applications, 2002 (with Eibe Frank).
- 0657.209B Object-oriented Programming, 2001.
- 0657.316A AI Techniques and Applications, 2001.
- 0657.209B Object-oriented Programming, 2000.
- 0657.316A AI Techniques and Applications, 2000.

4.2 Teaching at the University of Vienna

- Inductive Logic programming course, summer term 1998.
- Introductory Machine Learning course (together with Gerhard Widmer) each winter term from 1987 until 1995.
- A more hands-on and specialized Machine Learning course (together with Gerhard Widmer) each summer term from 1988 to 1995.
- A hands-on Knowledge Representation course each summer term from 1992 until 1997.

4.3 Service and administration at Waikato

- Associate Dean Research.
- Deputy head of the Machine Learning research group.
- Convenor of the Artificial Intelligence theme and of the Data Mining theme of the BCMS programme.
- (previously) Head of the School's Ethics Committee.
- (previously) Departmental Advisor for Postgraduate Diploma in CS admissions.
- (previously) Departmental representative on the School's Web committee.
- (previously) Departmental Advisor for Graduate Diploma in IT admissions.

5 Scholarship and research

5.1 External projects

- FRST project on GCMS prediction, (ongoing), objective leader
- Marsden project (Sept.2004 - Sept.2007), principal investigator
- FRST project, (finished Sept. 2007), objective leader
- 1999: EU Project MetaL: objective leader

5.2 Research and Honour's students

Type	Name	Supervision	Finished
PhD	Sam Sarjant	chief supervisor	ongoing
PhD	Jesse Read	chief supervisor	ongoing
PhD	Stefan Mutter	chief supervisor	ongoing
PhD	Edmond Zhang	co supervisor	ongoing
PhD	Grant Anderson	chief supervisor	2009
PhD	Richard Kirkby	co supervisor	2008
PhD	Roger Clayton	co supervisor	2004
MSc	Adam Lynam	chief supervisor	2009
MSc	Reuben Evans	co supervisor	2008
MSc	Nripendra Pradhananga	chief supervisor	2007
MSc	Ben Clelland	co supervisor	2006
MSc	Maximilien Sauban	sole supervisor	2004
591	Nripendra Pradhananga	sole supervisor	2006
591	Quan Qiu	sole supervisor	2005
520	Sam Sarjant	chief supervisor	2008
520	Nicholas Jenkin	chief supervisor	2008
420	Veronica Liesaputra	sole supervisor	2005
420	Jesse Reed	sole supervisor	2005
420	Jane Yung-Chen Wang	co supervisor	2004
420	Cheng (Gary) Weng	co supervisor	2003
420	Malcolm Ware	sole supervisor	2001
420	Bennie Johnston	co supervisor	2001
420	Michael Dewsnip	co supervisor	2001
420	Richard Kirkby	co supervisor	2000
German MSc	Uwe Dick	chief supervisor	2007
German MSc	Peter Reutemann	chief supervisor	2004
German MSc	Nils Weidmann	co supervisor	2003

5.3 Conference organization and reviewing

- Program co-chair Discovery Science 2010 (DS2010), Canberra, Australia
- Workshop chair, PAKDD2009, Bangkok, Thailand
- Area Chair, ECML/PKDD2007, Warsaw, Poland
- Area Chair, ECML/PKDD2006, Berlin, Germany
- Co-organizer and program co-chair ILP2005, Bonn, Germany
- Workshop chair, PRICAI2004, Auckland, New Zealand
- Editorial board member of the Machine Learning Journal
- Steering Committee Member for Asian Conference on Machine Learning (ACML)

- Program committee member / reviewer for ICML2010, KDD2009, ECML2009, ECML2008, ECML2007, ILP2009, ILP2008, ILP2007, ACML2009, PAKDD2010, PAKDD2009, PAKDD2008, PAKDD2007, DS2009, DS2008, DS2007, ECAI2006, ICML2006, KDD2006, DS2006, ILP2006, IJCAI2005, ICML2005, DS2005, ECML2005, PKDD2005, ICML2004, ECML2004, IJCAI2003, ICML2003, ECML2003, ILP2002, ICML2002.

5.4 Publications

- Hall M., Frank E., Holmes G., **Pfahringer B.** , Peter Reutemann, Witten I.H.: The WEKA data mining software: an update , SIGKDD Explorations. vol 11, ACM, 2009. pp.10-18.
- Read J., **Pfahringer B.**, Holmes G., Frank E.: Classifier chains for multi-label classification,ECML/PKDD 2009, Bled, Slovenia.
- Bouckaert R., Holmes G., **Pfahringer B.**, Fletcher D.: Gaussian processes on graphics cards for NIRS, NIR2009, Bangkok, Thailand.
- Bifet A., Holmes G., **Pfahringer B.**, Gavalda R.: Improving adaptive bagging methods for evolving data streams, ACML2009, Nanjing, China.
- **Pfahringer B.**, Fletcher D., Bouckaert R., Holmes G.: Random model trees: a competitive off-the-shelf technology for NIRS, NIR2009, Bangkok, Thailand.
- Mutter S., **Pfahringer B.**, Holmes G.: The positive effects of negative information: extending one-class classification models in binary proteomic sequence classification, AI2009, Melbourne, Australia.
- Bifet A., Holmes G., **Pfahringer B.**, Kirkby R., Gavalda R.: New Ensemble Methods for Evolving Data Streams. KDD2009, Paris, France.
- Anderson G. and **Pfahringer B.** : Relational Random Forests based on Random Relational Rules, IJCAI2009, Pasadena, California, USA.
- Mutter S., **Pfahringer B.**, Holmes G.: Propositionalisation of Profile Hidden Markov Models for Biological Sequence Analysis. Australasian Conference on Artificial Intelligence 2008: 278-288
- Wu X., Holmes G., **Pfahringer B.** : Mining Arbitrarily Large Datasets Using Heuristic k-Nearest Neighbour Search. Australasian Conference on Artificial Intelligence 2008: 355-361
- Read J., **Pfahringer B.**, Holmes G.: Multi-label Classification Using Ensembles of Pruned Sets. ICDM 2008: 995-1000
- Vanschoren J., Blockeel H., **Pfahringer B.**, Holmes G.: Organizing the World's Machine Learning Information. ISoLA 2008: 693-708

- Vanschoren J., **Pfahringer B.**, Holmes G.: Learning from the Past with Experiment Databases. PRICAI 2008: 485-496
- **Pfahringer B.**, Holmes G., Kirkby R.: Handling Numeric Attributes in Hoeffding Trees. PAKDD2008, Osaka, Japan.
- Anderson G. and **Pfahringer B.** : Exploiting Propositionalization based on Random Relational Rules for Semi-Supervised Learning,, PAKDD2008, Osaka, Japan.
- **Pfahringer B.**, Claire Leschi, Peter Reutemann: Scaling Up Semi-supervised Learning: An Efficient and Effective LLGC Variant. PAKDD 2007: 236-247
- **Pfahringer B.**, Holmes G., Kirkby R.: New Options for Hoeffding Trees. Australian Conference on Artificial Intelligence 2007: 90-99
- Anderson G. and **Pfahringer B.** : Clustering Relational Data based on Randomized Propositionalization, in Proceedings of the 17th International Conference on Inductive Logic Programming (ILP 2007), Corvallis, Oregon, USA, June 19-21, 2007.
- Holmes G., **Pfahringer B.** , Kirkby R.: Cache Hierarchy Inspired Compression: a Novel Architecture for Data Streams, Journal of Information Technology in Asia, 2006.
- Anderson G. and **Pfahringer B.** : Random Relational Rules, in Proceedings of the 16th International Conference on Inductive Logic Programming (ILP 2006), Santiago de Compostela, Spain, August 24-27, 2006.
- Frank E. and **Pfahringer B.** : Improving on bagging with input smearing, in Proc 10th Pacific-Asia Conference on Knowledge Discovery and Data Mining, Singapore. Springer, 2006.
- Kurt Driessens, Peter Reutemann, **Pfahringer B.**, and Claire Leschi: Using weighted nearest neighbor to benefit from unlabeled data, in Wee Keong Ng, Masaru Kitsuregawa, Jianzhong Li, and Kuiyu Chang, editors, Advances in Knowledge Discovery and Data Mining, 10th Pacific-Asia Conference, PAKDD 2006, volume 3918 of LNCS, pages 60-69, 2006.
- **Pfahringer B.**: A semi-supervised spam mail detector, Discovery Challenge Workshop, ECML/PKDD 2006.
- Stefan Kramer, **Pfahringer B.** (Eds): Inductive Logic Programming, 15th International Conference, ILP2005, LNAI 3625
- Stefan Kramer, **Pfahringer B.** (Eds): Late-breaking papers, Inductive Logic Programming, 15th International Conference, ILP2005, TUM-I0510, Munich University of Technology

- Frank E., Hall M., Holmes G., Kirkby R., **Pfahringer B.**, Witten I.H., and Trigg L.: WEKA: A Machine Learning Workbench for Data Mining. Data Mining and Knowledge Discovery Handbook. Springer-Verlag, 2005.

- Holmes G., Kirkby R., **Pfahringer B.** : Stress-testing Hoeffding Trees, 9th European Conference on Principles and Practice of Knowledge Discovery in Databases (PKDD05) Porto, Portugal, 2005

- Holmes G., **Pfahringer B.**, Kirkby R.: Cache Hierarchy Inspired Compression: a Novel Architecture for Data Streams, Fourth International Conference on IT in Asia (CITA05), Kuching, Malaysia, 2005

- **Pfahringer B.**, Reutemann P., Mayo M.: A novel two stage scheme utilizing the test set for model selection in text classification, The 18th Autralian Joint Conference on Artificial Intelligence. University of Technology, Sydney, Sydney, Australia, 5-9 December, 2005.

- Holmes G., Kirkby R., **Pfahringer B.**: Tie-Breaking in Hoeffding Trees, Second International Workshop on Knowledge Discovery from Data Streams, Porto, Portugal, 2005

- Blockeel H., Dzeroski S., Kompare B., Kramer S., **Pfahringer B.**, Van Laer W.: Experiments in Predicting Biodegradability, Journal of Applied Artificial Intelligence, 18/2, 2004.

- Li M., Holmes G., **Pfahringer B.**: Clustering Large Datasets Using Cobweb and K-means in Tandem 17th Australian Joint Conference on Artificial Intelligence, Cairns, 2004

- Reutemann P., **Pfahringer B.**, Frank E.: A Toolbox for Learning from Relational Data with Propositional and Multi-Instance Learners, 17th Australian Joint Conference on Artificial Intelligence, Cairns, 2004

- Kibriya A.M., Frank E., **Pfahringer B.**, Holmes G.: Multinomial Naive Bayes for Text Categorization Revisited 17th Australian Joint Conference on Artificial Intelligence, Cairns, 2004

- G. Holmes, R. Kirkby, **Pfahringer B.**: Mining Data Streams using Option Trees. Workshop on Knowledge Discovery in Data Streams, 15th European Conference on Machine Learning (ECML), Pisa, 2004

- **Pfahringer B.**, Holmes G., Wang C.: Millions of Random Rules, Workshop on Advances in Inductive Rule Learning, 15th European Conference on Machine Learning (ECML), Pisa, 2004

- **Pfahringer B.**: Sampling, ROC curves, and the Imbalanced Classes Problem, Working Paper, 2004

- Holmes G., Kirkby R., **Pfahringer B.**: Batch-Incremental Learning for Mining Data Streams, Working Paper, 2004

- Frank E., Hall M., **Pfahringer B.**: Locally Weighted Naive Bayes, Nineteenth Conference on Uncertainty in Artificial Intelligence (UAI2003)
- Weidmann N., Frank E., **Pfahringer B.**: A Two-Level Learning Method for Generalized Multi-instance problems, Fourteenth European Conference on Machine Learning (ECML2003)
- Sauban M., **Pfahringer B.**: Text Classification using Document Profiling, Seventh European Conference on Principles and Practice of Knowledge Discovery in Databases (PKDD2003)
- **Pfahringer B.**, Holmes G.: Propositionalization through Stochastic Discrimination Late-breaking paper, 13th International Conference on Inductive Logic Programming (ILP2003)
- Holmes G., **Pfahringer B.**, Kirkby R.: Mining Data Streams using Option Trees, Working paper 08/03, 2003
- Holmes G., **Pfahringer B.**, Kirkby R., Frank E., Hall M.: Multiclass Alternating Decision Trees, ECML, 2002
- **Pfahringer B.**: Data Mining Challenge Problems: any Lessons Learned?, ICML Workshop DDLL, 2002
- Clayton R., Cleary J.G., **Pfahringer B.**, Utting M.: Optimizing Tabling Structures for Bottom-Up Logic Programming, International Workshop on Logic Based Program Development and Transformation (LOPSTR), 2002
- Witten I.H., Frank E., **Pfahringer B.**, Hall M.: Inside WEKA – and Beyond the Book, Tutorial at ICML 2002
- **Pfahringer B.**: Introduction to Data Mining, New Zealand Statistical Association, Data Mining Workshop 2002
- S. Kramer, G. Widmer, **B. Pfahringer**, M. De Groeve.Prediction of Ordinal Classes Using Regression Trees, in Fundamenta Informaticae, special issue on ISMIS-2000, 2001
- **Pfahringer B.**, Holmes G, Schmidberger G.: Wrapping Boosters against Noise, Fourteenth Australian Joint Conference on Artificial Intelligence (AI'01), 2001
- **Pfahringer B.**, Holmes G, Kirkby R.: Optimizing the Induction of Alternating Decision Trees, in Cheung D., Williams G.J., Li Q. (eds.), Proceedings of the Fith Pacific-Asia Conference on Advances in Knowledge Discovery and Data Mining (PAKDD2001), Springer, 2001
- Clayton R., Cleary J., **Pfahringer B.**, Utting M.: Intermediate Language for Tabling, working paper, 2001

- **Pfahringer B.**: (The Futility of) Trying to Predict Carcinogenicity of Chemical Compounds, The Predictive Toxicology Challenge Workshop, Twelfth European Conference on Machine Learning (ECML2001), Freiburg, 2001

- Gottmann E., Kramer S., **Pfahringer B.**, Helma C.: Data Quality in Predictive Toxicology Part 2: Reproducibility of Rodent Carcinogenicity Experiments, Environmental Health Perspectives, 109(5):509-514, 2001.

- Kovar K., Fuernkranz J., Petrak J., **Pfahringer B.**, Trappl R., Widmer G.: Searching for Patters in Political Events Sequences: Experiments with the KEDS Database, Cybernetics and Systems, 31(6), 649, 2000.

- **Pfahringer B.**: Winning the KDD99 Classification Cup: Bagged Boosting, SIGKDD explorations, 1(2), 65-66, 2000.

- **Pfahringer B.**, Bensusan H., Giraud-Carrier C.: Meta-Learning by Landmarking Various Learning Algorithms, in Langley P.(ed.), Proceedings of the 17th International Conference on Machine Learning (ICML-2000), Morgan Kaufmann, Los Altos/Palo Alto/San Francisco, 2000.

- Fuernkranz J., **Pfahringer B.**, Kaindl H., Kramer S.: Learning to Use Operational Advice, in Horn W.(ed.), ECAI 2000. Proceedings of the 14th European Conference on Artificial Intelligence, IOS, Amsterdam, pp.291-295, 2000

- Kramer S., Widmer G., **Pfahringer B.**, DeGroeve M.: Prediction of Ordinal Classes Using Regression Trees, Proceedings of the 12th International Symposium on Methodologies for Intelligent Systems (ISMIS'2000), Charlotte, N.C., 2000.

- Helma C., Kramer S., **Pfahringer B.**, Gottmann E.: Data Quality in Predictive Toxicology Part 1: Identification of Chemical Structures and Calculation of Chemical Descriptors, Environmental Health Perspectives, 108:1029-1033, 2000.

- Helma C., Gottmann E., Kramer S. and **Pfahringer B.**: The Application of Machine Learning Algorithms to Detect Chemical Properties Responsible for Carcinogenicity. in: Gundertofte K, Jorgensen FS (Eds.): Molecular Modeling and Prediction of Bioactivity, Kluwer Academic/Plenum Publishers, New York, pp 464-466, 2000.

- Giraud-Carrier C., **Pfahringer B.**(eds.): Proceedings of the ICML-99 Workshop on Recent Advances in Meta-Learning and Future Work Bled, Slovenia, 1999.

- Dzeroski S., Blockeel H., Kompare B., Kramer S., **Pfahringer B.**, Van Laer W.: Experiments in Predicting Biodegradability, in Dzeroski S. and Flach P. (eds.): Inductive Logic Programming (ILP-99), Springer, 1999.

- **Pfahringer B.**, Kaindl H., Kramer S., Fürnkranz J.: Learning to Make Good Use of Operational Advice, in Proceedings of the ICML-99 Workshop on Machine Learning in Game Playing, Bled, Slovenia, 1999

- **Pfahringer, B.**, Gottmann, E., Kramer, S., Helma, C., Representational/Efficiency Issues In Toxicological Knowledge Discovery, in Proceedings of the AAAI Spring Symposium 1999 on Predictive Toxicology, Stanford, March 1999.

- Helma, C., Gottmann, E., Kramer, S., **Pfahringer, B.**: Data Quality Issues In Toxicological Knowledge Discovery, in Proceedings of the AAAI Spring Symposium 1999 on Predictive Toxicology, Stanford, March 1999.

- Helma, C., Kramer, S., **Pfahringer, B.**: Carcinogenicity Prediction for Noncongeneric Compounds: Experiments with the Machine Learning Program SRT and Various Sets of Chemical Descriptors, in: Proceedings 12th European Symposium on Quantitative Structure-Activity Relationships, 1998.

- Helma, C., Gottmann, E., **Pfahringer B.**, Kramer, S.: Extraction of Structure-Activity Relationships for Biodegradability and Mutagenicity of Non-Congeneric Compounds Using Structural Regression Trees, Presentation at the American Chemical Society (ACS) Symposium on Data Mining Chemical Information Databases, 1999.

- Helma, C., Gottmann, E., Kramer, S. and **Pfahringer, B.**: Artificial Intelligence Methoden zur Vorhersage der Kanzerogenität organischer Verbindungen. in: Schöffl H, Spielmann H, Tritthart HA (Hrsg.): Ersatz- und Ergänzungsmethoden zu Tierversuchen, Springer Verlag, 1999.

- Kramer S., **Pfahringer B.**, Helma C.: Stochastic Propositionalization of Non-Determinate Background Knowledge, in Page D.(ed.): Inductive Logic Programming (ILP98), Springer, 1998.

- Fuernkranz J., **Pfahringer B.**: Guest Editorial: First-Order Knowledge Discovery in Databases, Applied Artificial Intelligence, 12(5), 345-362, 1998.

- Helma C., Kramer S., **Pfahringer B.**: Carcinogenicity Prediction for Noncongeneric Compounds: Experiments with the Machine Learning Program SRT and Various Sets of Chemical Descriptors, Proc. of 12th European Symposium on Quantitative Structure-Activity Relationships, 1998.

- **Pfahringer B.**: Inducing Small and Accurate Decision Trees, TR-98-09, Oesterreichisches Forschungsinstitut fuer Artificial Intelligence, Wien, 1998.

- **Pfahringer B.**, Kramer S.: Discovering Compressive Partial Determinations in Mixed Numerical and Symbolic Domains, in Trappl R.(ed.),

Cybernetics and Systems '98: Proc. of 14th European Meeting on Cybernetics and Systems Research, Austrian Society for Cybernetic Studies, Vienna, 2 vols., pp.884-889, 1998.

- Widmer G., Kramer S., **Pfahringer B.**, DeGroeve M.: Predicting Ordinal Classes in ILP, TR-98-08, Oesterreichisches Forschungsinstitut fuer Artificial Intelligence, Wien, 1998.

- Kramer S., **Pfahringer B.**, Helma C.: Mining for Causes of Cancer: Machine Learning Experiments at Various Levels of Detail, Proc. of 3rd International Conference on Knowledge Discovery and Data Mining (KDD), AAAI Press, Menlo Park, 1997.

- **Pfahringer B.**: Compression-Based Pruning of Decision Lists, in Someren M.van and Widmer G.(eds.), Machine Learning: ECML-97, Springer, pp.199-212, 1997.

- **Pfahringer B.**: On the Induction of Intelligible Ensembles, TR-97-30, Oesterreichisches Forschungsinstitut fuer Artificial Intelligence, Wien, 1997.

- **Pfahringer B.**, Witten I.H.: Improving Bagging Performance by Increasing Decision Tree Diversity, TR-97-31, Oesterreichisches Forschungsinstitut fuer Artificial Intelligence, Wien, 1997.

- Kramer S., **Pfahringer B.**: Efficient Search for Strong Partial Determinations, in Simoudis E. and Han J.(eds.), KDD-96: Proceedings Second International Conference on Knowledge Discovery & Data Mining, AAAI Press/MIT Press, Cambridge/Menlo Park, pp.371-374, 1996.

- **Pfahringer B.**: A Multi-Agent Approach to Open Shop Scheduling: Adapting the Ant-Q Formalism, Oesterreichisches Forschungsinstitut fuer Artificial Intelligence, Wien, TR-96-09, 1996.

- **Pfahringer B.**: OFAI Publishing Rules: A Case Study in Information Agents, Oesterreichisches Forschungsinstitut fuer Artificial Intelligence, Wien, TR-96-08, 1996.

- **Pfahringer B.**, Fuernkranz J.(eds.): Proceedings of the MLnet Familiarization Workshop on Data Mining with Inductive Logic Programming (ILP for KDD), Bari, Italy., 1996.

- **Pfahringer B.**: Compression-Based Discretization of Continuous Attributes, in Prieditis A. and Russell S.(eds.), Proceedings of the 12th International Conference on Machine Learning (ICML'95), Morgan Kaufmann, Los Altos/Palo Alto/San Francisco, 1995.

- **Pfahringer B.**, Kramer S.: Compression-Based Evaluation of Partial Determinations, Proc. of 1st International Conference on Knowledge Discovery and Data Mining (KDD-95), Montreal, Canada, 1995.

- Petta P., **Pfahringer B.**: Workshopreport: "Designing Personalities for Synthetic Actors", OeGAI Journal, 14(4), 1995.
- **Pfahringer B.**: A New MDL Measure for Robust Rule Induction (Extended Abstract), in Lavrac N. and Wrobel S.(eds.), Machine Learning: ECML-95, Springer, Berlin/Heidelberg/New York/Tokyo, pp.331-334, 1995.
- **Pfahringer B.**: Compression-Based Feature Subset Selection, in Turney P.(ed.), IJCAI-95 Workshop on Data Engineering for Inductive Learning, IJCAI'95 Workshop Program Working Notes, Montreal, Canada, 1995.
- **Pfahringer B.**: Evolving Good TSP Tours by Means of Heuristic Repair and Strong Crowding, Oesterreichisches Forschungsinstitut fuer Artificial Intelligence, Wien, TR-95-33, 1995.
- **Pfahringer B.**: Practical Uses of the Minimum Description Length Principle in Inductive Learning, Doctoral thesis, Department for Medical Cybernetics and AI, University of Vienna, 1995.
- **Pfahringer B.**: Controlling Constructive Induction in CiPF: An MDL Approach, in Bergadano F. and Raedt L.de(eds.), Machine Learning: ECML-94, Springer, pp.242-256, 1994.
- **Pfahringer B.**: Robust Constructive Induction, in Nebel B. and Dreschler-Fischer L.(eds.), KI-94: Advances in Artificial Intelligence, Springer, pp.118-129, 1994.
- **Pfahringer B.**: CiPF 2.0: A Robust Constructive Induction System, Proc. of Workshop on Constructive Induction and Change of Representation, 11th International Conference on Machine Learning (ML-94/COLT-94), 1994.
- Mozetic I., **Pfahringer B.**: Improving Diagnostic Efficiency in KARDIO: Abstractions, Constraint Propagation, and Model Compilation, in Keravnou E.(ed.), Deep Models for Medical Knowledge Engineering, Elsevier, Amsterdam/New York, pp.1-25, 1992.
- **Pfahringer B.**: CLP(gRel): Explicit Manipulation of (ground) Relational Dependencies in Logic Programming, TR-92-03, Oesterreichisches Forschungsinstitut fuer Artificial Intelligence, Wien, 1992.
- **Pfahringer B.**: How to Integrate Specialized Solvers: A CLP Approach, TR-92-31, Oesterreichisches Forschungsinstitut fuer Artificial Intelligence, Wien, 1992.
- **Pfahringer B.**: The Logical Way to Build a DL-based KR System, in MacGregor R., Issues in Description Logics: Users Meet Developers, AAAI Symposium Working Notes, 1992.

- **Pfahringer B.**: Unifikationserweiterungen: Vergleich und moegliche Nutzung in der Wissensrepraesentation anhand ausgewaehlter Beispiele, TR-92-30, Oesterreichisches Forschungsinstitut fuer Artificial Intelligence, Wien, 1992.

- **Pfahringer B.**, Matiasek J.: A CLP Schema to Integrate Specialized Solvers and its Application to Natural Language Processing, TR-92-37, Oesterreichisches Forschungsinstitut fuer Artificial Intelligence, Wien, 1992.

- Buchberger E., Garner E., Heinz W., Matiasek J., **Pfahringer B.**: VIE-DU - A Second Generation Dialogue System, TR-91-04, Oesterreichisches Forschungsinstitut fuer Artificial Intelligence, Wien, 1991.

- Buchberger E., Garner E., Heinz W., Matiasek J., **Pfahringer B.**: VIE-DU - Dialogue by Unification, in Kaindl H.(ed.), 7.Oesterreichische Artificial-Intelligence-Tagung, Springer, pp.42-51, 1991.

- **Pfahringer B.**: Theory Unification: Use and Support (Abstract), in Nebel B., et al., International Workshop on Terminological Logics, Dagstuhl-Seminar-Report, 12 (9119), 1991.

- **Pfahringer B.**: Constraintpropagation in Qualitative Modelling: Domain Variables Improve Diagnostic Efficiency, Proc. AISB-91, pp. 129-135, Leeds, UK, April 16-19, 1991,Springer-Verlag.

- **Pfahringer B.**: Extending Explanation-Based Generalization, in Retti J. and Leidlmair K.(eds.), 5.Oesterreichische Artificial-Intelligence-Tagung, Springer, Berlin/Heidelberg/New York/Tokyo, pp.149-153, 1989.

- **Pfahringer B.**: Integrating Definitions and Defaults, Oesterreichisches Forschungsinstitut fuer Artificial Intelligence, Wien, TR-89-8, 1989.

- Trappl R., Porenta G., **Pfahringer B.**: Medical Expert Systems for Developing Countries: An Application in Primary Health Care, Microelectronics Monitor, 28,94-98, 1989.

- Porenta G., Binder T., **Pfahringer B.**, Anvari A., Weber H.: Antiarrhythmic Strategies: A Knowledge Based System for Exploring Clinical Data, Pacing and Clinical Electrophysiology, 11(6)II (Proc.Cardiostim 88, Monaco), 1988.

- Porenta G., Binder T., **Pfahringer B.**, Anvari A., Weber H.: Evaluating Antiarrhythmic Strategies: A Knowledge-Based System for Exploring Clinical Data, Institut fuer Med.Kybernetik u. AI, Universitaet Wien, Bericht 88-04, 1988.

- Porenta G., **Pfahringer B.**, Hoberstorfer M., Trappl R.: A Decision Support System for Village Health Workers in Developing Countries, Applied Artificial Intelligence, 2(1)47-63, 1988.

- Trost H., **Pfahringer B.**: VIE-KL: An Experiment in Hybrid Knowledge Representation, Oesterreichisches Forschungsinstitut fuer Artificial Intelligence, Wien, TR-88-8, 1988.
- Holzbaur C., **Pfahringer B.**: Synthesis of Hybrid Languages, Applied Artificial Intelligence, 1(1)39-52, 1987.
- Horn W., Imhof H., **Pfahringer B.**, Salomonowitz E.: A Radiological Expert System for the PC - Design and Implementation Issues, in Fox J., et al.(eds.), Proceedings of the European Conference on Artificial Intelligence in Medicine (AIME-87), Springer, Berlin/Heidelberg/New York/Tokyo, pp.169-176, 1987.
- Imhof H., Horn W., **Pfahringer B.**: Computerunterstuetzte radiologische Nierendiagnostik - Anwendung eines Expertensystems, Proc. of 5.Grazer radiologisches Symposium, Springer, Berlin, 1987.
- Porenta G., **Pfahringer B.**, Binder T., Rimpfl T., Norman G., Weber H.: A Decision Support System for Selecting and Assessing Antiarrhythmic Therapies, Proc. of Computers in Cardiology 1987, IEEE, Washington, DC, 1987.
- Porenta G., **Pfahringer B.**, Hoberstorfer M., Trappl R.: A Decision Support System for Village Health Workers,
- in Buchberger E., et al.(eds.), Artificial Intelligence - Perspectives and Implications, CompLex, Norwegian University Press, Oslo, 11/87, 1987.
- Hoberstorfer M., Horn W., **Pfahringer B.**, Porenta G., Trappl R., Widmer G.: Medizinische Expertensysteme am PC: Zwei Implementierungen fuer Industrie- und Entwicklungslaender, Berichte der Oesterreichischen Studiengesellschaft fuer Kybernetik, Wien, 1986.
- Hoberstorfer M., **Pfahringer B.**, Porenta G., Trappl R.: Ein medizinisches Expertensystem am PC: Entscheidungsunterstuetzung fuer einen Village Health Worker in Entwicklungslaendern, in Rappelsberger P., et al.(eds.), Medizinische Informatik '86, Oldenbourg, Muenchen/Wien, pp.347-350, 1986.
- Horn W., **Pfahringer B.**, Imhof H., Salomonowitz E.: Ein entscheidungsunterstuetzendes Expertensystem fuer die Radiodiagnostik, in Rappelsberger P., et al.(eds.), Medizinische Informatik '86, Oldenbourg, Muenchen/Wien, 1986.
- **Pfahringer B.**, Holzbaur C.: Mixing Prolog and Lisp, in Trappl R.(ed.), Cybernetics and Systems '86, Reidel, Dordrecht/Boston, pp.759-765, 1986.
- **Pfahringer B.**: VIEnna Knowledge Engineering Tool - Der Frame Teil, Diploma thesis, Department for Medical Cybernetics and AI, University of Vienna, 1985.

- **Pfahringer B.**, Holzbaur C.: VIE-KET: Frames + Prolog, in Trost H. and Retti J.(eds.), Oesterreichische Artificial Intelligence-Tagung, Springer, Berlin/Heidelberg/New York/Tokyo, pp.132-139, 1985.

6 External

Machine learning / data mining consultancy:

- Metrix, 2008/2009
- Orica, 2006
- Crop and Food, 2003-2007 (as part of the FRST project)
- Hill Labs, 2003-2007 (as part of the FRST project)
- Mariner7.com (a Carter Holt Harvey subsidiary), 2001

Supporter and contributor to open source data mining tools:

- Weka http://www.cs.waikato.ac.nz/~ml/weka/index.html
- Moa http://www.cs.waikato.ac.nz/~abifet/MOA/