

Curriculum Vitae

Bernhard Pfahringer

September 25, 2018



1 Academic Qualifications

1995, Dr.techn., Vienna University of Technology

1985, Dipl.-Ing., Vienna University of Technology

2 Professional positions held

- Dec 2017 - present: Professor, Computer Science Department, University of Waikato
- Jun 2017 - Oct 2017: Professor, Computer Science Department, University of Auckland

- 2015 - Jun 2017: Professor, Computer Science Department, University of Waikato
- 2013 - Jun 2017: Head of Department, Computer Science, University of Waikato
- 2007 - 2014: Associate Professor, Computer Science Department, University of Waikato
- 2000 - 2007: Senior Lecturer, Computer Science Department, University of Waikato
- 1997 - 2000: Research Fellow, Austrian Research Institute for AI
- 1996 - 1997: Postdoctoral Research Fellow, Computer Science, University of Waikato
- 1992 - 1998: Research Fellow, Austrian Research Institute for AI, Machine Learning
- 1986 - 1991: Research Assistant, Inst. for Medical Cybernetics and AI, University of Vienna
- 1985 - 1991: Research Associate, Austrian Research Institute for AI, Expert Systems

3 Teaching Experience

3.1 Teaching at the University of Waikato (except where noted)

- COMP423A/523A Data Stream Mining, 2018.
- COMPX203A Computer Systems, 2018 (with Tom Levy).
- ENGEN103A Engineering Computing, 2018 (with Eibe Frank).
- COMPSCI280 Introduction to Software Development, 2017 (UoA, with Angela Chang).
- COMP423A/523A Data Stream Mining, 2017.
- COMP421A/521A Machine Learning Algorithms, 2016.
- COMP423B/523B Data Stream Mining, 2016.
- COMP316A AI Techniques and Applications, 2015 (with Sam Sarjant).
- COMP423B/523B Data Stream Mining, 2015.
- COMP316A AI Techniques and Applications, 2014 (with Sam Sarjant).

- COMP423A/523A Data Stream Mining, 2014.
- COMP316A AI Techniques and Applications, 2013 (with Sam Sarjant).
- COMP423A/523A Data Stream Mining, 2013.
- COMP312A Computer Networks, 2012 (with Tony McGregor).
- COMP316A AI Techniques and Applications, 2012 (with Eibe Frank).
- COMP422A/522A Relational Data Mining, 2012.
- COMP313A Programming Languages, 2011.
- COMP423A/523A Data Stream Mining, 2011.
- COMP313A Programming Languages, 2010.
- 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.

3.2 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 Service at the University of Waikato

- (starting Jan 2019) Faculty representative at Academic Board
- (previously) Head of the Computer Science Department.
- Deputy head of the Machine Learning research group.
- (previously) Faculty Representative at Postgraduate Studies Committee.
- (previously) Associate Dean Research.
- (previously) Departmental Advisor for Graduate Diploma in IT admissions.
- (previously) Convenor of the Artificial Intelligence theme and of the Data Mining theme of the BCMS programme.
- (previously) Departmental Advisor for Postgraduate Diploma in CS admissions.
- (previously) Departmental representative on the School's Web committee.

5 Scholarship and research

5.1 Generation of externally funded research

- PDH grant: “Visual Skin Disease Clinical Decision Support Tool”, Scientific Advisor, Nov 2018 - Oct 2019.
- PDH grant: “GP Triage using Deep Learning”, Associate Investigator, Aug 2018 - Jul 2020.
- PDH grant: “Interpretable Machine Learning”, Scientific Advisor, Jul 2018 - Jan 2020.
- MBIE grant: “Precision driven healthcare initiative”, Scientific Theme Leader for “predictive modelling”, 2016-2023.
- Marsden grant: “Deep learning without the headache: computationally efficient extraction of features from data with many correlated variables”, Marsden Funds, Associate Investigator, 2016-2018.
- BuildIT Post-Doctoral Grant Award for Dr. Bifet, 2010-2012.
- TAD Scholarship for Sam Sarjant, 2009-2013.
- Marsden grant: “Predicting Sets by Discovering and Exploiting Neighbourhood Relationships”, Marsden Funds, Principal Investigator, 2004-2007.
- FRST project on NIR prediction, Objective Leader, 2004-2007.
- FRST project on GCMS prediction, Objective Leader, 2008-2012.
- Pilot data mining study for Metrix (Division of Mighty River Power), Principal Investigator, Nov.2008-Aug.2009.
- The Smash Palace Fund, minor CS/ML support for this Music Department project, May 2005-May 2006.
- EU MetaL research project, Objective Leader, 1999.
- Consultancy work for Orica, Crop and Food, Hill Labs, and Mariner7.com.

5.2 Research and Honour's students at Waikato

| Type | Name | Supervision | Finished |
|------|-----------------------|------------------|----------|
| PhD | Vithya Yogarajan | chief supervisor | ongoing |
| PhD | Chen Zheng | chief supervisor | ongoing |
| PhD | Attaullah Sahito | chief supervisor | ongoing |
| PhD | Alex Peng (UoA) | supervisor | ongoing |
| PhD | Henry Gouk | chief supervisor | ongoing |
| PhD | Max Li | chief supervisor | ongoing |
| PhD | Felipe Bravo | chief supervisor | ongoing |
| PhD | Sam Weng | supervisor | ongoing |
| PhD | Tim Leathart | supervisor | ongoing |
| PhD | Quan Sun | chief supervisor | 2014 |
| PhD | Sam Sarjant | chief supervisor | 2013 |
| PhD | Edmond Zhang | supervisor | 2013 |
| PhD | Stefan Mutter | chief supervisor | 2011 |
| PhD | Jesse Read | chief supervisor | 2010 |
| PhD | Grant Anderson | chief supervisor | 2008 |
| PhD | Richard Kirkby | supervisor | 2008 |
| PhD | Roger Clayton | supervisor | 2004 |
| MSc | Vladimir Petko | chief supervisor | 2016 |
| MSc | Adam Lynam | chief supervisor | 2009 |
| MSc | Nripendra Pradhananga | chief supervisor | 2007 |
| MSc | Ben Clelland | supervisor | 2006 |
| MSc | Maximilien Sauban | chief supervisor | 2004 |
| 591 | Jonathan Hannam | chief supervisor | 2014 |
| 591 | Vladimir Petko | chief supervisor | 2012 |
| 591 | Nripendra Pradhananga | chief supervisor | 2006 |
| 591 | Quan Qiu | chief supervisor | 2005 |
| 520 | Tristan Anderson | co supervisor | 2018 |
| 520 | Frankie Yuan | chief supervisor | 2017 |
| 520 | Jean Pierre Möller | chief supervisor | 2016 |
| 520 | Luke Edwards | chief supervisor | 2015 |
| 520 | Mark Feaver | chief supervisor | 2013 |
| 520 | Tony Gray | chief supervisor | 2012 |
| 420 | Veronica Liesaputra | chief supervisor | 2005 |
| 420 | Jesse Read | chief supervisor | 2005 |
| 420 | Jane Yung-Chen Wang | co supervisor | 2004 |
| 420 | Cheng (Gary) Weng | supervisor | 2003 |
| 420 | Malcolm Ware | chief supervisor | 2001 |
| 420 | Bennie Johnston | supervisor | 2001 |
| 420 | Michael Dewsnip | supervisor | 2001 |
| 420 | Richard Kirkby | supervisor | 2000 |

5.3 Research students at other universities

| Type | Name | Supervision | Finished |
|------------|--------------------|------------------|----------|
| 791 (UoA) | Boyang Tang | chief supervisor | 2018 |
| 791 (UoA) | Zhao Jin | chief supervisor | 2018 |
| German MSc | Markus Blumenstock | chief supervisor | 2014 |
| German MSc | Uwe Dick | chief supervisor | 2006 |
| German MSc | Peter Reutemann | chief supervisor | 2004 |
| German MSc | Nils Weidmann | supervisor | 2003 |

5.4 Professional contribution, and recognition

- Member of the Editorial Board of the Machine Learning Journal, since 2002.
- Member of the Editorial Board of the Data Mining and Knowledge Discovery Journal, since 2015.
- Founding member, and Co-Vice Chair: ACM SIGKDD ANZ Chapter, 2014.
- Member of the IEEE Data Mining TC of the CI Society, since 2013.
- Member of the Steering Committee for the Discovery Science Conference series, since 2010.
- Member of the Steering Committee for the Asian Conference on Machine Learning series, 2009-2015.
- Invited keynote talk at the IoT Large Scale Learning from Data Streams Workshop, at ECML PKDD 2018, Dublin.
- Invitation-only Dagstuhl workshop on Automating Data Science, Oct 2018.
- Two week research visit to Telekom ParisTech, including three seminar talks, Sep 2018.
- Invited keynote at 9th Asian Conference on Intelligent Information and Database Systems (ACIIDS 2017), Kanazawa, 2017.
- Invited lectures on Data Stream Mining, Third International Winter School on Big Data, Bari, 2017.
- Invited keynote talk at the Third European Network Intelligence Conference (ENIC2016), Wroclaw, 2016.
- Invited keynote talk at the Meta-learning & Algorithm Selection Workshop (MetaSel2015), Porto, 2015.
- Invited keynote talk at the Big Data, Streams and Heterogeneous Source Mining Workshop (BigMine 2015), Sydney, 2015.

- Invited talk at the iKnow2014 conference, Graz, Austria, as part of an invited and fully paid-for research visit to the Know Center of the Technical University of Graz, 2014.
- Invited keynote talk at the Machine Learning for Sensory Data Analysis Workshop (MLSDA 2013), Dunedin, 2013.
- Invited keynote talk at the First International Workshop on Learning with Weak Super- vision (LAWS2012), ACML, Singapore, 2012.
- Spanish government travel award for a research visit to the Technical University of Barcelona (UPC) to do joint research work with Prof. Gavalda, Sept. 2011.
- Research visits to Prof. Kramer's research group at the University of Technology, Munich, Germany; Sept.2003-Dec.2003, Sept.2006-Dec.2006, and July 2010-Sept.2010.
- Invited seminars before 2012: Yahoo! Research Barcelona (Sept.2011), University of Zaragoza (Sept.2011, travel grant Barcelona-Zaragoza-Barcelona), Technical University of Barcelona/UPC (Sept.2011), University of Porto (Sept.2010, travel grant Barcelona-Porto-Barcelona), Catholic University of Leuven, Belgium, (Jan.2008, travel grant NZ-Leuven-NZ), Austrian Research Institute for Artificial Intelligence (Nov.2006, travel grant Munich-Vienna-Munich), University of Lyon (Oct.2006, travel grant Munich-Lyon-Munich), Technical University of Munich (Dec.2006, and Sept.2010).
- Habilitation examiner for Dr. Georg Krempl, Otto-von-Guericke University Magdeburg, Oct. 2016.
- PhD examiner (including a travel grant to attend in person) for Mr. Jan van Rijn, Leiden University, Dec. 2016.
- PhD examiner for Mr. Daniel Weimar, University of Bremen, Jul. 2016.
- PhD examiner for Mr. David Huang, Auckland University, Nov. 2015.
- PhD examiner for Mr. Cong An Tran, Massey University, Oct. 2013.
- PhD examiner for Ms. Yun Zhang, Victoria University, June 2011.
- PhD examiner (including a travel grant to attend in person) for Ms. Rita Ribeiro, University of Porto, Portugal, Sept. 2011.
- PhD examiner, Mr. Alfred Krzywicki, School of Computer Science and Engineering, University of New South Wales (UNSW), Nov. 2011.
- PhD examiner, Mr. Tao Yang, School of Engineering, University of Auckland, Feb. 2010.

- Masters thesis examiner, Mr. Jonathan Robert Wells, Faculty of Information Technology, Monash University, Australia, May 2009.
- PhD examiner (including a travel grant to attend in person) for Ms. Anneleen Van Assche, Catholic University of Leuven, Belgium, Jan. 2008.
- An invited journal version of an award-winning conference paper was published in 2007. The Best paper award was from the International Conference on Information Technology in Asia (CITA'05) for “Cache hierarchy inspired compression: a novel architecture for data streams”, by Geoffrey Holmes, Bernhard Pfahringer and Richard Kirkby. This paper was an outcome of Richard Kirkby’s PhD work, which was supervised by Geoff Holmes and me.

5.5 Conference organization and reviewing

- 2017 Area Chair, ECML PKDD 2017, Skopje, Mazedonia
- 2016 Tutorial Chair, ACML 2016, Hamilton, New Zealand
- 2016 Area Chair, ECML PKDD 2016, Riva del Garda, Italy
- 2015 Program co-chair Australasian AI Conference 2015, Canberra, Australia
- 2015 Area Chair, ECML PKDD 2015, Porto, Portugal
- 2014 Area Chair, ECML PKDD 2014, Nancy, France
- 2013 Area Chair, ECML PKDD 2013, Prague, Czech Republic
- 2012 Special Session Chair, PRICAI2012, Kuching, Malaysia
- 2012 Area Chair, ECML PKDD 2012, Bristol, UK
- 2011 Area Chair, ICML2011, Bellevue, Washington, USA
- 2010 Program co-chair Discovery Science 2010, Canberra, Australia
- 2009 Workshop chair, PAKDD2009, Bangkok, Thailand
- 2007 Area Chair, ECML/PKDD2007, Warsaw, Poland
- 2006 Area Chair, ECML/PKDD2006, Berlin, Germany
- 2005 Co-organizer and program co-chair ILP2005, Bonn, Germany
- 2004 Workshop chair, PRICAI2004, Auckland, New Zealand

- 2002 - ongoing: Program committee member / reviewer for various conferences, including SAC2019, ACML2018, DS2018, KDD2018, ECML2018, SAC2018, KDD2017, ACML2017, ILP2017, DS2017, SAC2017, KDD2016, ACML2016, ILP2016, DS2016, KDD2015, ACML2015, ILP2015, DS2015, KDD2014, ACML2014, ILP2014, DS2014, PRICAI2014, KDD2013, ILP2013, DS2013, ACML2013, KDD2012, ILP2012, DS2012, ACML2012, KDD2011, ECMLPKDD2011, IJCAI2011, ILP2011, PAKDD2011, ACML2011, 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.

5.6 Publications

5.6.1 Books

Books:

1. Bifet A., Gavalda R., Holmes G., and Pfahringer B.: Machine Learning for Data Streams with Practical Examples in MOA, MIT Press, 2018.

Book chapters:

1. Frank E., Hall M., Holmes G., Kirkby R., Bernhard Pfahringer, Ian H. Witten, and Len Trigg. WEKA: A Machine Learning Workbench for Data Mining. Data Mining and Knowledge Discovery Handbook. Springer-Verlag, 2005.
2. Helma, C., Gottmann, E., Kramer, S. and Pfahringer, B. Artificial Intelligence Methoden zur Vorhersage der Kanzerogenitaet organischer Verbindungen. in: Schöfl H, Spielmann H, Tritthart HA (Hrsg.): Ersatz- und Ergaenzungsmethoden zu Tierversuchen, Springer Verlag, 1999.
3. 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.
4. 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.

5.6.2 Journal Articles

Article in Refereed Journal

1. Barddal J.P., Enembreck F., Murilo-Gomes H., Bifet A., Pfahringer B.: Merit-guided dynamic feature selection filter for data streams. *Expert Systems with Applications* 116: 227-242, 2019.
2. van Rijn J.N., Holmes G., Pfahringer B., Vanschoren J.: The online performance estimation framework: heterogeneous ensemble learning for data streams. *Machine Learning* 107: 149-176, 2018.
3. Murilo-Gomes H., Bifet A., Read J., Barddal J.P., Enembreck F., Pfahringer B., Holmes G., Abdessalem T.: Adaptive random forests for evolving data stream classification. *Machine Learning* 106(9-10): 1469-1495, 2017.
4. Barddal J.P., Murilo-Gomes H., Enembreck F., Pfahringer B.: A survey on feature drift adaptation: Definition, benchmark, challenges and future directions. *Journal of Systems and Software* 127: 278-294, 2017.
5. Bravo-Marquez F., Frank E., Pfahringer B.: Building a Twitter opinion lexicon from automatically-annotated tweets. *Knowledge-Based Systems* 108: 65-78, 2016.
6. Read J., Reutemann P., Pfahringer B., Holmes G.: MEKA: A multi-label/multi-target extension to WEKA. *Journal of Machine Learning Research* 17, 21, 1-5, 2016.
7. Barddal J.P., Murilo-Gomes H., Enembreck F., Pfahringer B.: A survey on feature drift adaptation: Definition, benchmark, challenges and future directions. *Journal of Systems and Software*, Available online 7 July 2016.
8. Weng M.-H., Utting M., Pfahringer B.: Bound Analysis for Whitley Programs. *Electr. Notes Theor. Comput. Sci.* 320: 53-67, 2016.
9. Torgo L., Branco P., Ribeiro R.P., Pfahringer B.: Resampling strategies for regression. *Expert Systems* 32(3): 465-476, 2015.
10. Zliobaite I., Bifet A., Read J., Pfahringer B., Holmes G.: Evaluation methods and decision theory for classification of streaming data with temporal dependence. *Machine Learning* 98(3): 455-482, 2015.
11. Hapfelmeier A., Pfahringer B., Kramer S.: Pruning Incremental Linear Model Trees with Approximate Lookahead. *IEEE Trans. Knowl. Data Eng.* 26(8): 2072-2076, 2014.
12. Zliobaite I., Bifet A., Pfahringer B., Holmes G.: Active Learning With Drifting Streaming Data. *IEEE Trans. NNLS* 25(1): 27-39, 2014.
13. Sun Q., Pfahringer B.: Pairwise meta-rules for better meta-learning-based algorithm ranking. *Machine Learning* 93(1): 141-161, 2013.
14. Bifet A., Frank E., Holmes G., Pfahringer B.: Ensembles of Restricted Hoeffding Trees, *ACM TIST*, 3, 30, 2012.

15. Read J., Bifet A., Holmes G., Pfahringer B.: Scalable and efficient multi-label classification for evolving data streams, *Machine Learning Journal*, 88, 243-272, 2012.
16. Vanschoren J., Blockeel H., Pfahringer B. and Holmes G.: Experiment databases: A new way to share, organize and learn from experiments, *Machine Learning Journal*, 87, 127-158, 2012.
17. Read J., Pfahringer B., Holmes G. and Frank E.: Classifier chains for multi-label classification, *Machine Learning Journal*, 85, 333-359, 2011.
18. Bifet, A., Holmes, G., Kirkby, R. and Pfahringer B.: MOA: Massive Online Analysis. *Journal of Machine Learning Research* 11, 1601-1604, 2010.
19. Bouckaert, R. R., Frank, E., Hall, M. A., Holmes, G., Pfahringer B., Reutemann, P. and Witten, I. H.: WEKA: Experiences with a Java open-source project. *Journal of Machine Learning Research (JMLR)* 11, 2533-2541, 2010.
20. Hall M., Frank E., Holmes G., Pfahringer B., Peter Reutemann, Ian H. Witten: The WEKA data mining software: an update, *ACM SIGKDD Explorations*, v11, July, pp.10-18., 2009
21. Holmes G., Pfahringer B., Kirkby R.: Robust Hoeffding Trees, *IEEE Journal of Transactions on Knowledge and Data Engineering*, 2006.
22. Holmes G., Pfahringer B., Kirkby R.: Cache Hierarchy Inspired Compression: a Novel Architecture for Data Streams, *Journal of Information Technology in Asia*, submitted, 2006.
23. 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.
24. 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
25. 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.
26. Kovar K., Fuernkranz J., Petrak J., Pfahringer B., Trappl R., Widmer G.: Searching for Patterns in Political Events Sequences: Experiments with the KEDS Database, *Cybernetics and Systems*, 31(6), 649-671, 2000.
27. 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.

28. 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.
29. Holzbaur C., Pfahringer B.: Synthesis of Hybrid Languages, *Applied Artificial Intelligence*, 1(1)39-52, 1987.
30. Pfahringer B., Holzbaur C.: Mixing Prolog and Lisp, in Trappl R. (ed.), *Cybernetics and Systems '86*, Reidel, Dordrecht/Boston, pp.759-765, 1986.

Article in Non-Refereed Journal

1. Pfahringer B.: The Weka solution to the 2004 KDD Cup. *SIGKDD Explorations* 6(2): 117-119, 2004.
2. Pfahringer B.: Winning the KDD99 Classification Cup: Bagged Boosting, *SIGKDD explorations*, 1(2), 65-66, 2000.
3. Petta P., Pfahringer B.: Workshop report: "Designing Personalities for Synthetic Actors", *OeGAI Journal*, 14(4), 1995.
4. Trappl R., Porenta G., Pfahringer B.: Medical Expert Systems for Developing Countries: An Application in Primary Health Care, *Microelectronics Monitor*, 28,94-98, 1989.

Edited Special Issue of Journal:

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

5.6.3 Papers in Conferences

1. Gouk H., Pfahringer B., Frank E., Cree M.J.: MaxGain: Regularisation of Neural Networks by Constraining Activation Magnitudes. *ECMLPKDD2018*, x-x, 2018.
2. Peng Y., Koh Y.S., Riddle P., Pfahringer B.: Using Supervised Pretraining to Improve Generalization of Neural Networks on Binary Classification Problems. *ECMLPKDD2018*, x-x, 2018.
3. Yuan L., Pfahringer B., Barddal J.P.: Iterative subset selection for feature drifting data streams. *SAC 2018*: 510-517, 2018.
4. Zhang E., Robinson R., Pfahringer B.: Deep Representation Learning from EHR. *ISMICT 2018*, x-x, 2018.
5. Leathart T., Frank E., Holmes G., Pfahringer B.: Probability Calibration Trees. *ACML 2017*: 145-160, 2017.

6. Bifet A., Zhang J., Fan W., He C., Zhang J., Qian J., Holmes G., Pfahringer B.: Extremely Fast Decision Tree Mining for Evolving Data Streams. KDD 2017: 1733-1742, 2017.
7. Cerqueira V., Torgo L., Oliveira M., Pfahringer B.: Dynamic and Heterogeneous Ensembles for Time Series Forecasting. DSAA 2017: 242-251, 2017.
8. Branco P., Torgo L., Ribeiro R., Frank E., Pfahringer B., Rau M.M.: Learning Through Utility Optimization in Regression Tasks. DSAA 2017: 30-39, 2017.
9. Weng M.-H., Pfahringer B., Utting M.: Static techniques for reducing memory usage in the C implementation of whiley programs. ACSW 2017: 15:1-15:8, 2017.
10. Gouk H., Cree M., Pfahringer B.: Learning Distance Metrics for Multi-Label Classification. ACML2016: 318-333, 2016.
11. Bravo-Marquez F., Frank E., Mohammad S.M., Pfahringer B.: Determining Word-Emotion Associations from Tweets by Multi-Label Classification. Proceedings of the 2016 IEEE/WIC/ACM International Conference on Web Intelligence (WI'16), 2016.
12. Bravo-Marquez F., Frank E., Pfahringer B.: From opinion lexicons to sentiment classification of tweets and vice versa: a transfer learning approach. Proceedings of the 2016 IEEE/WIC/ACM International Conference on Web Intelligence (WI'16), 2016.
13. Bravo-Marquez F., Frank E., Pfahringer B.: Annotate-Sample-Average (ASA): A New Distant Supervision Approach for Twitter Sentiment Analysis. ECAI 2016: 498-506, 2016.
14. Barddal J.P., Murilo-Gomes H., Enembreck F., Pfahringer B., Bifet A.: On Dynamic Feature Weighting for Feature Drifting Data Streams. ECMLPKDD2016: 2/129-144, 2016.
15. Leathart T., Pfahringer B., Frank E.: Building Ensembles of Adaptive Nested Dichotomies with Random-Pair Selection. ECMLPKDD2016: 2/179-194, 2016.
16. Bravo-Marquez F., Frank E., Pfahringer B.: From Unlabelled Tweets to Twitter-specific Opinion Words. SIGIR 2015: 743-746, 2015.
17. Bifet A., De Francisci Morales G., Read J., Holmes G., Pfahringer B.: Efficient Online Evaluation of Big Data Stream Classifiers. KDD 2015: 59-68, 2015.
18. Sakthithasan S., Pears R., Bifet A., Pfahringer B.: Use of ensembles of Fourier spectra in capturing recurrent concepts in data streams. IJCNN 2015: 1-8, 2015.

19. Bravo-Marquez F., Frank E., Pfahringer B.: Positive, Negative, or Neutral: Learning an Expanded Opinion Lexicon from Emoticon-Annotated Tweets. *IJCAI 2015*: 1229-1235, 2015.
20. van Rijn J.N., Holmes G., Pfahringer B., Vanschoren J.: Having a BLast: meta-learning and heterogeneous ensembles for data streams. *ICDM2015*: 1-6, 2015.
21. Rijn J.van, Pfahringer B., Holmes G. and Vanschoren J.: Algorithm Selection Problem in Stream Mining, *Discovery Science*, 2014.
22. Sun Q., Pfahringer B.: Hierarchical Meta-Rules for Scalable Meta-Learning, *PRICAI 2014*.
23. Ienco D., Bifet A., Pfahringer B., Poncelet P.: Change Detection in Categorical Evolving Data Streams, *SAC2014*, 792–797, 2014.
24. Frank E., Pfahringer B.: Propositionalisation of Multi-instance Data Using Random Forests. *Australasian Conference on Artificial Intelligence* 362-373, 2013.
25. Ienco D., Bifet A., Zliobaite I., Pfahringer B.: Clustering Based Active Learning for Evolving Data Streams. *Discovery Science 2013*: 79-93, 2013.
26. Torgo L., Ribeiro R.P., Pfahringer B., Branco P.: SMOTE for Regression. *EPIA 2013*: 378-389, 2013.
27. Bifet A., Read J., Pfahringer B., Holmes G., Zliobaite I.: CD-MOA: Change Detection Framework for Massive Online Analysis. *IDA 2013*: 92-103, 2013.
28. Sun Q., Pfahringer B., Mayo M.: Towards a Framework for Designing Full Model Selection and Optimization Systems. *MCS 2013*: 259-270, 2013.
29. Bifet A., Read J., Zliobaite I., Pfahringer B., Holmes G.: Pitfalls in Benchmarking Data Stream Classification and How to Avoid Them. *ECML/PKDD (1) 2013*: 465-479, 2013.
30. Seeland M., Kramer S., Pfahringer B.: Model Selection Based Product Kernel Learning for Regression on Graphs, *SAC 2013*, 136-143, 2013.
31. Bifet A., Read J., Pfahringer B., Holmes G.: Efficient Data Stream Classification via Probabilistic Adaptive Windows, *SAC 2013*, 801-806, 2013.
32. Sun Q., Pfahringer B.: Bagging Ensemble Selection for Regression. *Australasian Conference on Artificial Intelligence 2012*, 695-706, 2012.
33. Read J., Bifet A., Pfahringer B., Holmes G.: Batch-Incremental versus Instance-Incremental Learning in Dynamic and Evolving Data. *IDA 2012*, 313-323, 2012.

34. Seeland M., Buchwald F., Kramer S., Pfahringer B.: Maximum Common Subgraph based locally weighted regression. SAC 2012, 165-172, 2012.
35. Wicker J., Pfahringer B., Kramer S.: Multi-label classification using boolean matrix decomposition. SAC 2012, 179-186, 2012.
36. Zliobaite I., Bifet A., Pfahringer B., Holmes G.: Active Learning with Evolving Streaming Data. ECML/PKDD 2011:597-612, 2011.
37. Pfahringer B.: Semi-random Model Tree Ensembles: An Effective and Scalable Regression Method. Australasian Conference on Artificial Intelligence 2011:231-240, 2011.
38. Sun Q., Pfahringer B.: Bagging Ensemble Selection. Australasian Conference on Artificial Intelligence 2011:251-260, 2011.
39. Bifet A., Holmes G., Pfahringer B.: MOA-TweetReader: Real-Time Analysis in Twitter Streaming Data. Discovery Science 2011:46-60, 2011.
40. Bifet A., Holmes G., Pfahringer B., Read J., Kranen P., Kremer H., Jansen T., Seidl T.: MOA: A Real-Time Analytics Open Source Framework. ECML/PKDD 2011:617-620, 2011.
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5.6.4 Workshop papers

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4. Bifet A., Holmes G., Pfahringer B., Gavalda R.: Detecting Sentiment Change in Twitter Streaming Data. *WAPA 2011*: 5-11, 2011.
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5.6.5 Edited volume of Conference or Workshop Proceedings

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5.7 Technical reports (not quality assured)

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5.8 Thesis

1. 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.
2. Pfahringer B.: VIENNA Knowledge Engineering Tool - Der Frame Teil, Diploma thesis, Department for Medical Cybernetics and AI, University of Vienna, 1985.

5.9 Other presentations

1. Bifet A., Pfahringer B.: Hands-on Tutorial on Massive Online Analytics. At KDD 2017 (August 15, Halifax, Canada).
2. Witten I.H., Frank E., Pfahringer B., Hall M.: Inside WEKA – and Beyond the Book, Tutorial at ICML 2002.
3. Pfahringer B.: Introduction to Data Mining, New Zealand Statistical Association, Data Mining Workshop 2002
4. 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.

5.10 Software

- Ongoing contributions to the Moa Data Stream Mining suite.
- Ongoing contributions to the Weka Machine Learning suite.

5.11 Data Mining competition and prizes

- 2009 PAKDD 2nd place: credit card default prediction challenge
- 2006 ECML/PKDD Challenge, Creativity Award, and tied for 1st place classification award
- 2005 ACM SIGKDD service award for the Weka team
- 2004 Winning entry for the 2004 KDD Cup protein prediction task
- 2003 2nd place in the EUNITE competition on 'Prediction of glass production quality'
- 1999 Winner of the KDD'99 classifier contest
- 1998 Honourable mention in the KDD'98 classifier contest
- 1994 Winner of the Inductive Learning Competition "New East-West Challenge"