

Curriculum Vitae

Bernhard Pfahringer

November 16, 2020



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)

- COMPX310A Machine Learning, 2020.
- COMPX223A Database Practice and Experience, 2020 (with Colin Pilbrow).
- COMPX310A Machine Learning, 2019.
- COMPX305B Practical Data Mining, 2019 (with Lyn Hunt).
- COMPX523A Data Stream Mining, 2019.
- COMPX203A Computer Systems, 2018 (with Tom Levy).
- 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

- (previously) 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

- MBIE grant: “TAIAO: Time-Evolving Data Science / Artificial Intelligence for Advanced Open Environmental Science”, key researcher, 2019-2025.
- 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	Nuwan Gunasekara	supervisor	ongoing
PhD	Zhou Zhentao	chief supervisor	ongoing
PhD	Rajchada Chanajitt	chief supervisor	ongoing
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	Max Li	chief supervisor	ongoing
PhD	Henry Gouk	chief supervisor	2019
PhD	Tim Leathart	supervisor	2019
PhD	Sam Weng	supervisor	2018
PhD	Felipe Bravo	chief supervisor	2017
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	Alan Ansell	chief supervisor	2020
MSc	Arun Khanchandani	chief supervisor	2019
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
592	Jon Featherstone	chief supervisor	2020
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	Andrew Simmons	chief supervisor	2019
520	Luke Schwarz	chief supervisor	2019
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

- Honorary Doctorate, Amity University, India, 2020.
- Honorary Professorship, Amity University, India, 2020.
- 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.
- 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.
- PhD examiner for Mr. Md Zahidul Islam, University of South Australia, Sept. 2020.
- PhD examiner for Mr. Shengwei Hu, University of Auckland, Feb. 2020.
- PhD examiner for Mr. Abraham Weinberg, Ben-Gurion University of the Negev, Israel, Dec. 2019.
- PhD examiner for Mr. Dawei Chen, The Australian National University, Canberra, July 2019.

- PhD examiner for Mr. Jean Paul Barddal, Pontifícia Universidade Católica do Paraná, Nov. 2018.
- PhD examiner for Mr. Sunil Aryal, Monash University, Sep. 2017.
- PhD examiner for Mr. Xianbin Gu, University of Otago, June 2017.
- 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 Invited Talks

- Invited keynote talk at the 10th IEEE Confluence 2020 Conference, Noida, India, 2020.
- Invited public lecture for the Ross Ihaka Lecture series, Auckland, 2019.

- Invited keynote talk at the 5th Workshop on Machine Learning for Sensory Data Analytics, Wellington, 2018.
- 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 Supervision (LAWS2012), ACML, Singapore, 2012.
- 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).

5.6 Conference organization and reviewing

- 2018 Area Chair, ECML PKDD 2018, Dublin, Ireland
- 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.

5.7 Publications

5.7.1 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: Schöffl 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.

5.7.2 Journal Articles

Article in Refereed Journal

1. Rivolli A., Read J., Soares C., Pfahringer B., Carvalho A.C.P.L.F.de: An empirical analysis of binary transformation strategies and base algorithms for multi-label learning. Machine Learning 109(8): 1509-1563, 2020.
2. Yogarajan V., Pfahringer B., Mayo M.: A review of Automatic end-to-end De-Identification: Is High Accuracy the Only Metric? Applied Artificial Intelligence 34(3): 251-269, 2020.
3. Bravo-Marquez F., Frank E., Pfahringer B., Mohammad S.M.: AffectiveTweets: a Weka Package for Analyzing Affect in Tweets. Journal of Machine Learning Research 20: 92:1-92:6, 2019.
4. 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.
5. Barddal J.P, Enembreck F., Gomes H.M., Bifet A., Pfahringer B.: Boosting Decision Stumps for Dynamic Feature Selection on Data Streams, Inf Sys 83: 13-29, 2019.
6. 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.

7. 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.
8. 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.
9. Bravo-Marquez F., Frank E., Pfahringer B.: Building a Twitter opinion lexicon from automatically-annotated tweets. *Knowledge-Based Systems* 108: 65-78, 2016.
10. 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.
11. 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.
12. Weng M.-H., Utting M., Pfahringer B.: Bound Analysis for Whitley Programs. *Electr. Notes Theor. Comput. Sci.* 320: 53-67, 2016.
13. Torgo L., Branco P., Ribeiro R.P., Pfahringer B.: Resampling strategies for regression. *Expert Systems* 32(3): 465-476, 2015.
14. 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.
15. Hapfelmeier A., Pfahringer B., Kramer S.: Pruning Incremental Linear Model Trees with Approximate Lookahead. *IEEE Trans. Knowl. Data Eng.* 26(8): 2072-2076, 2014.
16. Zliobaite I., Bifet A., Pfahringer B., Holmes G.: Active Learning With Drifting Streaming Data. *IEEE Trans. NNLS* 25(1): 27-39, 2014.
17. Sun Q., Pfahringer B.: Pairwise meta-rules for better meta-learning-based algorithm ranking. *Machine Learning* 93(1): 141-161, 2013.
18. Bifet A., Frank E., Holmes G., Pfahringer B.: Ensembles of Restricted Hoeffding Trees, *ACM TIST*, 3, 30, 2012.
19. 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.
20. 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.

21. Read J., Pfahringer B., Holmes G. and Frank E.: Classifier chains for multi-label classification, *Machine Learning Journal*, 85, 333-359, 2011.
22. Bifet, A., Holmes, G., Kirkby, R. and Pfahringer B.: MOA: Massive Online Analysis. *Journal of Machine Learning Research* 11, 1601-1604, 2010.
23. 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.
24. 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
25. Holmes G., Pfahringer B., Kirkby R.: Robust Hoeffding Trees, *IEEE Journal of Transactions on Knowledge and Data Engineering*, 2006.
26. Holmes G., Pfahringer B., Kirkby R.: Cache Hierarchy Inspired Compression: a Novel Architecture for Data Streams, *Journal of Information Technology in Asia*, submitted, 2006.
27. 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.
28. 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
29. 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.
30. 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.
31. 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.
32. 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.
33. Holzbaur C., Pfahringer B.: Synthesis of Hybrid Languages, *Applied Artificial Intelligence*, 1(1)39-52, 1987.

34. Pfahringer B., Holzbauer 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.: Workshopreport: "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.

5.7.3 Papers in Conferences

1. Carnein M., Trautmann H., Bifet A., Pfahringer B.: confStream: Automated Algorithm Selection and Configuration of Stream Clustering Algorithms. *LION 2020*: 80-95, 2020.
2. Montiel J., Mitchell R., Frank E., Pfahringer B., Abdessalem T., Bifet A.: Adaptive XGBoost for Evolving Data Streams. *IJCNN 2020*.
3. Gomes H.M., Montiel J., Mastelini S.M., Pfahringer B., Bifet A.: On Ensemble Techniques for Data Stream Regression. *IJCNN 2020*.
4. Bahri M., Pfahringer B., Bifet A., Maniu S.: Efficient Batch-Incremental Classification Using UMAP for Evolving Data Streams. *IDA 2020*.
5. Yogarajan V., Gouk H., Smith T., Mayo M., Pfahringer B.: Comparing High Dimensional Word Embeddings Trained on Medical Text to Bag-of-Words for Predicting Medical Codes. *ACIIDS 2020*.
6. Wicker J., Hua C., Rebello R., Pfahringer B.: XOR-based Boolean Matrix Decomposition, *ICDM2019*.
7. Peng Y., Koh Y.S., Riddle P., Pfahringer B.: Investigating the effect of novel classes in semi-supervised learning, *ACML2019*.
8. Gouk H., Pfahringer B., Frank E.: Stochastic Gradient Trees, *ACML2019*.

9. Gomes H.M., Mello R., Pfahringer B., Bifet A.: Feature Scoring using Tree-Based Ensembles for Evolving Data Streams, IEEE Big Data 2019.
10. Attaulah, Frank E., Pfahringer B.: Semi-Supervised Learning using Siamese Networks, AI2019.
11. Leathart T., Frank E., Pfahringer B., Holmes G.: Ensembles of Nested Dichotomies with Multiple Subset Evaluation, PAKDD2019.
12. Leathart T., Frank E., Pfahringer B., Holmes G.: On Calibration of Nested Dichotomies, PAKDD2019.
13. Gouk H., Pfahringer B., Frank E., Cree M.J.: MaxGain: Regularisation of Neural Networks by Constraining Activation Magnitudes. ECMLPKDD2018, 541-556, 2018.
14. Peng Y., Koh Y.S., Riddle P., Pfahringer B.: Using Supervised Pretraining to Improve Generalization of Neural Networks on Binary Classification Problems. ECMLPKDD2018, 410-425, 2018.
15. Yuan L., Pfahringer B., Barddal J.P.: Iterative subset selection for feature drifting data streams. SAC 2018: 510-517, 2018.
16. Bravo-Marquez F., Frank E., Pfahringer B.: Transferring sentiment knowledge between words and tweets. Web Intelligence 16(4): 203-220, 2018.
17. Zhang E., Robinson R., Pfahringer B.: Deep Representation Learning from EHR. ISMICT 2018, 1-6, 2018.
18. Leathart T., Frank E., Holmes G., Pfahringer B.: Probability Calibration Trees. ACML 2017: 145-160, 2017.
19. 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.
20. Cerqueira V., Torgo L., Oliveira M., Pfahringer B.: Dynamic and Heterogeneous Ensembles for Time Series Forecasting. DSAA 2017: 242-251, 2017.
21. 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.
22. 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.
23. Gouk H., Cree M., Pfahringer B.: Learning Distance Metrics for Multi-Label Classification. ACML2016: 318-333, 2016.

24. 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.
25. 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.
26. 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.
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5.7.4 Workshop papers

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5.7.5 Edited volume of Conference or Workshop Proceedings

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5.8 Technical reports (not quality assured)

1. Pfahringer B.: Sampling, ROC curves, and the Imbalanced Classes Problem, Working Paper, 2004
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5.9 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.

5.10 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.

5.11 Software

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

5.12 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"