

# Publications List

Johannes Fürnkranz

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The key publications can be categorized into **inductive rule learning** [4, 19, 24, 26, 35, 38, 41, 42, 44, 57, 62, 69, 74, 183], **preference learning** [5, 13, 23, 25, 29, 31, 95, 113, 114], **multilabel classification** [32, 47, 52, 58, 59, 61, 63], **reinforcement learning** [17, 22, 64, 65] **web and text mining** [53, 54, 55, 68, 27, 28, 37, 39, 102, 119, 118, 124], **game playing** [6, 18, 20, 30, 33, 46, 77, 101, 123, 149], **data mining in the social sciences** [34, 40, 45, 121, 122], and **predictive maintenance** [48, 56]. Particularly noteworthy are a **monograph** on inductive rule learning [4], and two **edited collections** on preference learning [5] and machine learning for game playing [6].

The **most cited publications** are [38, 41, 32], which all show more than 400 citations in Google Scholar, 14 more are cited 100 times or more [107, 5, 31, 35, 95, 205, 102, 124, 98, 44, 93, 88, 4, 6]. My **h-Index** in Google Scholar is **38**, i.e., 38 publications have received 38 or more citations (cf. <http://scholar.google.de/citations?user=sfTn4wEAAAAJ>).

Most publications are available from <http://www.ke.tu-darmstadt.de/staff/juffi/publications>.

## Academic Writings

- [1] Fürnkranz J. *Inductive Rule Learning for Data and Web Mining*. Habilitation thesis, Vienna University of Technology, 2001.
- [2] Fürnkranz J. *Efficient Pruning Methods for Relational Learning*. PhD thesis, Vienna University of Technology, 1994.
- [3] Fürnkranz J. *Induktives Lernen durch Generieren von Decision Trees*. Master's thesis, Vienna University of Technology, 1991. In German.

## Monograph

- [4] Fürnkranz J., Lavrač N., and Gamberger D. *Foundations of Rule Learning*. Springer-Verlag, 2012.

## Edited Books

- [5] Fürnkranz J. and Hüllermeier E. (eds.) *Preference Learning*. Springer-Verlag, 2010.
- [6] Fürnkranz J. and Kubat M. (eds.) *Machines that Learn to Play Games*. Nova Science Publishers, Huntington, NY, 2001.

## Edited Conference Proceedings

- [7] Kern-Isberner G., Fürnkranz J., Thimm M. (eds.) *KI 2017: Advances in Artificial Intelligence – 40th Annual German Conference on AI*. Lecture Notes in Artificial Intelligence 10505, Dortmund, 2017. Springer-Verlag.
- [8] Fürnkranz J., Hüllermeier, E., and Higuchi, T. (eds.) *Discovery Science: DS 2013*, Lecture Notes in Artificial Intelligence 8140, Singapore, 2013. Springer-Verlag.
- [9] Fürnkranz J. and Joachims T. (eds.) *Proceedings of the 27th International Conference on Machine Learning (ICML 2010)*, Haifa, Israel, 2010. Omnipress.

- [10] Fürnkranz J., Scheffer T., and Spiliopoulou M. (eds.) *Machine Learning: ECML 2006*, Lecture Notes in Artificial Intelligence 4212, Berlin Germany, September 2006. Springer-Verlag.
- [11] Fürnkranz J., Scheffer T., and Spiliopoulou M. (eds.) *Knowledge Discovery in Databases: PKDD 2006*, Lecture Notes in Artificial Intelligence 4213, Berlin Germany, September 2006. Springer-Verlag.

## Edited Special Issues

- [12] Fürnkranz, J. and Hüllermeier, E. (eds.) Special Issue on Discovery Science. *Information Sciences*, 329, 2016.
- [13] Hüllermeier E. and Fürnkranz J. (eds.) Special Issue on Preference Learning and Ranking. *Machine Learning*, 93(2-3), 2013.
- [14] Fürnkranz J., and Knobbe A. (eds.) Special Issue on Global Modeling using Local Models. *Data Mining and Knowledge Discovery*, 21(1), 2010.
- [15] Bowling M., Fürnkranz J., Graepel T., and Musick R. (eds.) Special Issue on Machine Learning and Games. *Machine Learning*, 63(3), June 2006.
- [16] Fürnkranz J. and Pfahringer B. (eds.) Special Issue on First-order Knowledge Discovery in Databases. *Applied Artificial Intelligence*, 12(5), 1998.

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- [17] Wirth C., Akrou R., Neumann G., and Fürnkranz J. A survey of preference-based reinforcement learning methods. *Journal of Machine Learning Research*, 2017. To appear.
- [18] Joppen T., Moneke M., Schröder N., Wirth C., and Fürnkranz J. Informed hybrid game tree search. *IEEE Transactions on Computational Intelligence and AI in Games*, 2017. To appear.
- [19] Valmarska A., Lavrač N., Fürnkranz J., and Robnik-Sikonja M. Refinement and selection heuristics in subgroup discovery and classification rule learning. *Expert Systems with Applications*, 81:147–162, 2017.
- [20] Wirth C. and Fürnkranz J. On learning from game annotations. *IEEE Transactions on Computational Intelligence and AI in Games*, 7(3):304–316, 2015.
- [21] Park S.-H. and Fürnkranz J. Efficient implementation of class-based decomposition schemes for Naïve Bayes. *Machine Learning*, 96(3):295–309, 2014. Technical Note.
- [22] Fürnkranz J., Hüllermeier E., Cheng W., and Park S.-H. Preference-based reinforcement learning: a formal framework and a policy iteration algorithm. *Machine Learning*, 89(1-2):123–156, 2012. Special Issue on ECML/PKDD 2011.
- [23] Park S.-H. and Fürnkranz J. Efficient prediction algorithms for binary decomposition techniques. *Data Mining and Knowledge Discovery*, 24(1):40–77, 2012.
- [24] Wohlrab L. and Fürnkranz J. A review and comparison of strategies for handling missing values in separate-and-conquer rule learning. *Journal of Intelligent Information Systems*, 36(1):73–98, 2011.
- [25] Fürnkranz J. and Sima J.-F. On exploiting hierarchical label structure with pairwise classifiers. *SIGKDD Explorations*, 12(2):21–25, 2010. Special Issue on Mining Unexpected Results.

- [26] Janssen F. and Fürnkranz J. On the quest for optimal rule learning heuristics. *Machine Learning* 78(3):343–379, 2010.
- [27] Ghiglieri M. and Fürnkranz J. Learning to recognize missing e-mail attachments. *Applied Artificial Intelligence*, 24(5):443–462, 2010.
- [28] Loza Mencía E., Park S.-H., and Fürnkranz J. Efficient voting prediction for pairwise multilabel classification. *Neurocomputing* 73(7-9):1164–1176, 2010.
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- [34] Billari F.C., Fürnkranz J., and Prskawetz A. Timing, sequencing, and quantum of life course events: A machine learning approach. *European Journal of Population*, 22(1):37–65, March 2006.
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**Invited Papers, Book Chapters and Published Workshop Papers**



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