

Call for Papers

Preference Learning and Ranking

Special Issue in *Machine Learning*

Editors: Eyke Hüllermeier and Johannes Fürnkranz

Methods for learning and predicting preference models from explicit or implicit preference information and feedback are among the very recent research trends in machine learning and knowledge discovery. Approaches relevant to this area range from learning special types of preference models such as lexicographic orders over collaborative filtering techniques for recommender systems and ranking techniques for information retrieval, to generalizations of classification problems such as label ranking. Like many complex learning tasks that have recently entered the stage in the field of machine learning, preference learning deviates strongly from the standard machine learning problems of classification and regression. It is particularly challenging as it involves the prediction of complex structures, such as weak or partial order relations, rather than single values. Moreover, training input will not, as it is usually the case, be offered in the form of complete examples but may comprise more general types of information, such as relative preferences or different kinds of indirect feedback.

Topics of interest to the special issue include, but are not limited to

- quantitative and qualitative approaches to modeling preferences and different forms of feedback and training data;
- learning utility functions and related regression problems;
- preference mining, preference elicitation, and active learning;
- learning relational preference models;
- generalizations or special forms of classification problems, such as label ranking, ordinal classification, and hierarchical classification;
- comparison of different preference learning paradigms (e.g., learning of single models vs. modular approaches that decompose the problem into subproblems);
- ranking problems, such as learning to rank objects or to aggregate rankings;
- methods for special application fields, such as web search, information retrieval, electronic commerce, games, personalization, or recommender systems.

Submissions to the special issue must be submitted like regular submissions to the journal. Instructions can be found at <http://www.springer.com/computer/ai/journal/10994>.

Submission Deadline: *December 31, 2011*

We aim for a publication of the special issue in late 2012/early 2013.

Eyke Hüllermeier
Phillips Universität Marburg
eyke@mathematik.uni-marburg.de

Johannes Fürnkranz
TU Darmstadt
juffi@ke.tu-darmstadt.de