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Editorial

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In this volume we have to discuss two papers:

- Akira, Otsuki and Masayoshi, Kawamura: The Study of the Role Analysis Method of Key Papers in the Academic Networks.

- László Kovács: Reduction of Distance Computations in Selection of Pivot Elements for Balanced GHT Structure.

Both papers are very interesting, innovative and clearly written. These papers have something in common. This is the use of specific elements and the search for them. Such elements are the starting point for learning structures and replace simple but complex searches. Both papers also make use of graphs for the representation. Related problems have been studied in many publications. For this reason high quality contributions are very welcome. The papers present different techniques what make them particularly interesting.

The first paper is concerned with the search for papers in academic-journals. Every researcher knows about this problem and how little help one gets from search engines. Basically, the (large) set of papers is divided into clusters for reducing the search. Clustering is a traditional semi-supervised technique in machine learning. This is a complex task and centrally much context information is used. Then the next step is to find key papers in a cluster. This relies on an earlier approach of " Citation Ranking". These papers are the "special elements". The approach relates the problem to networks and therefore graph theoretic methods are central. First existing methods for coupling nodes is investigated in great detail. Finally it is investigated how to make use of them.

The second paper deals with search in generalized hyperplane trees using partitioning. The quality of a partitioning depends very much on the indexing. The paper proposes an interval based matrix of distances. In such a situation specific elements, namely the pivot elements are again of big interest and their selection is a classical

problem for metric spaces. In contrast to the other paper pivot elements have no inner structure and the search is of purely combinatorial character. A major goal is balancing the tree structure. In this paper a combination of heuristics and local search optimization is investigated. The selection of useful pivot elements is a key to useful indexing. In this approach the pivot elements are discussed from the distance view only. Distances seem to be clear and solid magnitudes. In practical life, however, this is often violated and the author investigates uncertainty of distances as a first step. In addition, distances may partially unkown what leads to interval-based distances. Because the main point in the paper is efficiency it is interesting to see how the interval-based approach has a major influence for improving this. The reason is the compactification nature what is studied in detail. The measure for improvement is provided by a fitness function. Many of the techniques presented here are of interest for quite other topics in machine learning.

Both papers seem to have a great value for readers in machine learning in general. Both they also contain many concrete examples and evaluations based on them. This shows their practical relevance and usefulness. In the overall, I can recommend to read these papers.