Aims and scope

Advances in data gathering, storage, and distribution have created a need for computational tools and techniques to aid in data analysis. Data Mining and Knowledge Discovery in Databases (KDD) is a rapidly growing area of research and application that builds on techniques and theories from many fields, including statistics, databases, pattern recognition and learning, data visualization, uncertainty modelling, data warehousing and OLAP, optimization, and high performance computing.

KDD is concerned with issues of scalability, the multi-step knowledge discovery process for extracting useful patterns and models from raw data stores (including data cleaning and noise modelling), and issues of making discovered patterns understandable.

Data Mining and Knowledge Discovery is the premier technical publication in the field, providing a resource collecting relevant common methods and techniques and a forum for unifying the diverse constituent research communities. The journal publishes original technical papers in both the research and practice of DMKD, surveys and tutorials of important areas and techniques, and detailed descriptions of significant applications. Short (2-4 pages) application summaries are published in a special section.

The journal accepts paper submissions of any work relevant to DMKD. A summary of the scope of *Data Mining and Knowledge Discovery* includes:

Theory and Foundational Issues: Data and knowledge representation; modelling of structured, textual, and multimedia data; uncertainty management; metrics of interestingness and utility of discovered knowledge; algorithmic complexity, efficiency, and scalability issues in data mining; statistics over massive data sets.

Data Mining Methods: including classification, clustering, probabilistic modelling, prediction and estimation, dependency analysis, search, and optimization.

Algorithms for data mining including spatial, textual, and multimedia data (e.g., the Web), scalability to large databases, parallel and distributed data mining techniques, and automated discovery agents.

Knowledge Discovery Process: Data pre-processing for data mining, including data cleaning, selection, efficient sampling, and data reduction methods; evaluating, consolidating, and explaining discovered knowledge; data and knowledge visualization; interactive data exploration and discovery.

Application Issues: Application case studies; data mining systems and tools; details of successes and failures of KDD; resource/knowledge discovery on the Web; privacy and security issues.