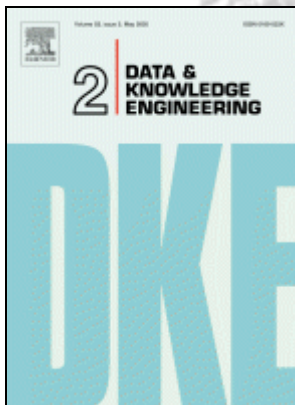# Call for Papers

Data & Knowledge Engineering Special Issue on

"Intelligent Data Mining"

Guest editors:

Juan-Carlos Cubero & Fernando Berzal

{jc.cubero|fberzal}@decsai.ugr.es
University of Granada (Spain)

About Data & Knowledge Engineering
http://www.elsevier.com/locate/issn/0169023X

DKE is an Elsevier Science Journal published since 1987. The major aim of the journal is to identify, investigate, and analyze the underlying principles in the design and effective use of Database Systems and Knowledgebase Systems.

DKE achieves this aim by publishing original research results, technical advances, and news items concerning data engineering, knowledge engineering, and the interface of these two fields.

Year	DKE Impact factor
2003	0.962
2002	1.039
2001	0.697

Source: ISI Journal Citation Report

Aims and scope of this special issue

Researchers in the Data Mining field have traditionally focused their efforts on obtaining fast and scalable algorithms in order to deal with huge amounts of data. It is nevertheless true that, more often than we might desire, the results we obtain using these efficient algorithms are of limited use in practice. The mere volume of these results causes what is known as a second-order data-mining problem. As a consequence, the quality of the resulting knowledge discovery process is poor, hence limiting data mining spread use and acceptance in many real-world situations.

Let us consider, for instance, the case for association rules. Too often, the overwhelming number of rules, usually in the order of thousands or even tens of thousands, makes knowledge discovery an oxymoron. In other words, no human expert can directly benefit from the results of such data mining techniques.

As a result, we can observe an increasing interest in devising new non-traditional methods that must be able to summarize the aforementioned high-volume results into more manageable chunks of knowledge. These non-traditional methods include:

- Efficient and scalable algorithms for **extracting "new" kinds of knowledge**. By definition, such algorithms should not produce a huge number of outputs. The resulting "new" kinds of knowledge will be therefore more focused on the problem at hand. They will probably lead to families of domain-specific data mining tools.

- **Novel techniques** for solving the second-order data-mining problem that standard data mining techniques create. In this case, additional computing resources are used in order to sift through the vast amount of data generated by the data mining algorithms themselves. This extra cost is usually a low price to pay if we consider the benefits we can obtain in practice.

Data & Knowledge Engineering Special Issue on
"Intelligent Data Mining"

In short, better and more understandable models and exploratory techniques, maybe wholly new techniques, are necessary for getting the most of data mining techniques in case we want to foster the adoption of data mining in real-world problems.

This special issue seeks papers dealing with *models, methods, techniques, and algorithms focused on the quality and interpretability of the obtained results*. Both improvements on traditional data mining techniques and the application of novel techniques will be taken into consideration. In the latter sense, authors are encouraged to submit papers dealing with the following topics:

- The use of fuzzy and rough sets to improve the interpretability of data mining results.
- Genetic algorithms and evolutionary computation for improving data mining results.
- Ontologies and their role in discovering complex patterns.
- The discovery of rarities, anomalies, exceptions, and other kinds of knowledge.
- Alternative techniques for the representation and exploration of data mining results.
- Novel models and techniques for summarizing data mining results.
- Methods for dealing with imprecision and uncertainty in the data mining results.
- The impact of the different aspects of quality in text and web mining.

Contributions on other areas
related to the scope of this special issue will also be welcome.

Instructions for authors

Submitted papers should have between 20 and 30 pages, and they must adhere to the format guidelines specified by the *DKE Guide for Authors*, which is available at the following URL:

http://authors.elsevier.com/GuideForAuthors.html?PubID=505608&dc=GFA

Electronic submission of papers in PDF format is accepted through

http://elvex.ugr.es/dke2005

Important dates
Submission deadline
May 20th, 2005
Notification of acceptance/rejection
September 20th, 2005
Camera-ready manuscripts
October 20th, 2005

Guest editors

Juan-Carlos Cubero
JC.Cubero@decsai.ugr.es
University of Granada (Spain)

Fernando Berzal
fberzal@decsai.ugr.es
University of Granada (Spain)

Program committee

Michael R. Berthold
University of Konstanz (Germany)
Kevin C. Chang
University of Illinois at Urbana-Champaign
Miguel Delgado
University of Granada (Spain)
Francisco Herrera
University of Granada (Spain)
Tzung-Pei Hong
National University of Kaohsiung (Taiwan)
Eyke Hüllermeier
University of Marburg (Germany)
Hisao Ishibuchi
Osaka Prefecture University (Japan)
Janusz Kacprzyk
Systems Research Institute (Poland)
Frank Klawonn
Univ.Applied Sciences Wolfenbuettel (DE)
Donald Kraft
Louisiana State University (USA)
Rudolf Kruse
University of Braunschweig (Germany)
Vipin Kumar
University of Minnesota (USA)
Pedro Larrañaga
University of the Basque Country (Spain)
Nicolás Marín
University of Granada (Spain)
Dunja Mladenic
J.Stefan Institute (Slovenia)
Sankar K. Pal
Indian Statistical Institute (India)
Witold Pedrycz
University of Alberta (Canada)
José Riquelme
University of Seville (Spain)
Daniel Sánchez
University of Granada (Spain)
Andrzej Skowron
Warsaw University (Poland)
Dominik Slezak
University of Regina (Canada)
Thomas Sudkamp
Wright State University (USA)
Einoshin Suzuki
Yokohama National University (Japan)
Maarten van Someren
University of Amsterdam (Holland)
Amparo Vila
University of Granada (Spain)
Ronald Yager
Iona College (USA)
Jiong Yang
Case Western Reserve University (USA)
Yiyu Yao
University of Regina (Canada)
Xingquan Zhu
University of Vermont (USA)