ADVANCED INFORMATION AND KNOWLEDGE PROCESSING

Information systems and intelligent knowledge processing are playing an increasing role in business, science and technology. Recently, advanced information systems have evolved to facilitate the co-evolution of human and information networks within communities. These advanced information systems use various paradigms including artificial intelligence, knowledge management, and neural science as well as conventional information processing paradigms.

Vazirgiannis · Halkidi · Gunopulos

Uncertainty Handling and Quality Assessment in Data Mining

Uncertainty Handling and Quality Assessment in Data Mining provides an introduction to the application of these concepts in Knowledge Discovery and Data Mining. It reviews the state-of-the-art in uncertainty handling and discusses a framework for unveiling and handling uncertainty. Coverage of quality assessment begins with an introduction to cluster analysis and a comparison of the methods and approaches that may be used. The techniques and algorithms involved in other essential data mining tasks, such as classification and extraction of association rules, are also discussed together with a review of the quality criteria and techniques for evaluating the data mining results.

This book presents a general framework for assessing quality and handling uncertainty, which is based on tested concepts and theories. This framework forms the basis of an implementation tool, 'UMiner' which is introduced to the reader for the first time.

Aimed at IT professionals involved with data mining and knowledge discovery, the work is supported with case studies from epidemiology that illustrate how the tool works in 'real-world' data mining projects. The book would also be of interest to final year undergraduates or post-graduate students looking at: databases, algorithms, artificial intelligence and information systems particularly with regard to uncertainty and quality assessment.

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