DESCRIPTION

Big Data is a new field, with many technological challenges to be understood in order to use it to its full potential. These challenges arise at all stages of working with Big Data, beginning with data generation and acquisition. The storage and management phase presents two critical challenges: infrastructure, for storage and transportation, and conceptual models. Finally, to extract meaning from Big Data requires complex analysis. Here the authors propose using metaheuristics as a solution to these challenges; they are first able to deal with large size problems and secondly flexible and therefore easily adaptable to different types of data and different contexts.

The use of metaheuristics to overcome some of these data mining challenges is introduced and justified in the first part of the book, alongside a specific protocol for the performance evaluation of algorithms. An introduction to metaheuristics follows. The second part of the book details a number of data mining tasks, including clustering, association rules, supervised classification and feature selection, before explaining how metaheuristics can be used to deal with them. This book is designed to be self-contained, so that readers can understand all of the concepts discussed within it, and to provide an overview of recent applications of metaheuristics to knowledge discovery problems in the context of Big Data.
ABOUT THE AUTHOR

Clarisse DHAENENS is Professor at the University of Lille in France and belongs to a research team working with both CRISTAL Laboratory (UMR CNRS) and Inria.

Laetitia JOURDAN is Professor at the University of Lille in France and belongs to a research team working with both CRISTAL Laboratory (UMR CNRS) and Inria.

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