

---

## Contents

|   |     |
|---|-----|
| <b>Dedication</b> .....   | V   |
| <b>Preface</b> .....  | VII |
| <b>Foreword</b> .....   | IX  |
| <hr/>   |     |
| <b>Part I Background: Human Decision Making</b>   |     |
| <hr/>   |     |
| <b>1 Understanding Human Decision Making – A Fundamental Step Towards Effective Intelligent Decision Support</b><br><i>Jean-Charles Pomerol and Frederic Adam</i> ..... | 3   |
| <b>2 Cognitive Elements of Human Decision Making</b><br><i>Jens Pohl</i> .....  | 41  |
| <hr/>   |     |
| <b>Part II Methods: Computational Intelligence</b>  |     |
| <hr/>   |     |
| <b>3 Introduction to Computational Intelligence for Decision Making</b><br><i>Witold Pedrycz, Nikhil Ichalkaranje, Gloria Phillips-Wren, and Lakhmi Jain</i> .....      | 79  |
| <b>4 Collaborative Decision Making Amongst Human and Artificial Beings</b><br><i>Daniel I. Thomas and Ljubo B. Vlacic</i> .....   | 97  |
| <b>5 Decision Analysis with Fuzzy Targets</b><br><i>Van-Nam Huynh, Yoshiteru Nakamori, and Tetsuya Murai</i> .....  | 135 |

|   |     |
|---|-----|
| <b>6 An Approximation Kuhn–Tucker Approach for Fuzzy Linear Bilevel Decision Making</b>   |     |
| <i>Guangquan Zhang, Jie Lu, and Tharam Dillon</i>   | 157 |
| <b>7 A Replanning Support for Critical Decision Making Situations: A Modelling Approach</b>   |     |
| <i>Guy Camilleri, Jean-Luc Soubie, and Pascale Zarate</i>   | 173 |
| <b>8 A Unifying Multimodel Taxonomy and Agent-Supported Multisimulation Strategy for Decision-Support</b>                                     |     |
| <i>Levent Yilmaz and Andreas Tolk</i>   | 193 |
| <hr/>   |     |
| <b>Part III Applications: Intelligent Decision Support</b>  |     |
| <hr/>   |     |
| <b>9 A Consensus Support System for Group Decision Making Problems with Heterogeneous Information</b>   |     |
| <i>F. Mata, L. Martínez, and E. Herrera-Viedma</i>  | 229 |
| <b>10 Evaluating Medical Decision Making Heuristics and Other Business Heuristics with Neural Networks</b>                                    |     |
| <i>Steven Walczak</i>   | 259 |
| <b>11 Building Intelligent Sensor Networks with Multiagent Graphical Models</b>   |     |
| <i>Yang Xiang</i>   | 289 |
| <b>12 An Intelligent Expert Systems’ Approach to Layout Decision Analysis and Design under Uncertainty</b>                                    |     |
| <i>Abdul-Rahim Ahmad, Otman Basir, Khaled Hassanein, and Shahid Azam</i>  | 321 |
| <b>13 Using Self Organising Feature Maps to Unravel Process Complexity in a Hospital Emergency Department: A Decision Support Perspective</b> |     |
| <i>A. Ceglowski and L. Churilov</i>   | 365 |
| <b>14 Future Directions: Building a Decision Making Framework Using Agent Teams</b>   |     |
| <i>Jeffrey Tweedale, Christos Sioutis, Gloria Phillips-Wren, Nikhil Ichalkaranje, Pierre Urlings, and Lakhmi C. Jain</i>                      | 387 |

Intelligent Decision Making: An AI-Based Approach

Phillips-Wren, G.; Ichalkaranje, N. (Eds.)

2008, XIV, 410 p., Hardcover

ISBN: 978-3-540-76828-9