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| 1. Record Nr. | UNINA9910784616403321 |
| Autore | Neapolitan Richard E |
| Titolo | Probabilistic methods for financial and marketing informatics [[electronic resource] /] / Richard E. Neapolitan, Xia Jiang |
| Pubbl/distr/stampa | San Fransisco, CA, : Morgan Kaufmann Publishers, c2007 |
| ISBN | 1-281-31147-2 9786611311476 0-08-055567-5 |
| Edizione | [1st edition] |
| Descrizione fisica | 1 online resource (427 p.) |
| Altri autori (Persone) | JiangXia |
| Disciplina | 332.01/519542 |
| Soggetti | Finance - Statistical methods Bayesian statistical decision theory - Data processing Marketing - Statistical methods Information technology |
| Lingua di pubblicazione | Inglese |
| Formato | Materiale a stampa |
| Livello bibliografico | Monografia |
| Note generali | Description based upon print version of record. |
| Nota di bibliografia | Includes bibliographical references (p. 397-408) and index. |
| Nota di contenuto | Front Cover; Probabilistic Methods for Financial and Marketing Informatics; Copyright Page; Preface; Contents; Part I: Bayesian Networks and Decision Analysis; Chapter 1. Probabilistic Informatics; 1.1 What Is Informatics?; 1.2 Probabilistic Informatics; 1.3 Outline of This Book; Chapter 2. Probability and Statistics; 2.1 Probability Basics; 2.2 Random Variables; 2.3 The Meaning of Probability; 2.4 Random Variables in Applications; 2.5 Statistical Concepts; Chapter 3. Bayesian Networks; 3.1 What Is a Bayesian Network?; 3.2 Properties of Bayesian Networks 3.3 Causal Networks as Bayesian Networks 3.4 Inference in Bayesian Networks; 3.5 How Do We Obtain the Probabilities?; 3.6 Entailed Conditional Independencies *; Chapter 4. Learning Bayesian Networks; 4.1 Parameter Learning; 4.2 Learning Structure (Model Selection); 4.3 Score-Based Structure Learning *; 4.4 Constraint-Based Structure Learning; 4.5 Causal Learning; 4.6 Software Packages for Learning; 4.7 Examples of Learning; Chapter 5. Decision Analysis Fundamentals; 5.1 Decision Trees; 5.2 Influence Diagrams; 5.3 Dynamic Networks *; Chapter 6. Further Techniques in Decision Analysis |

6.1 Modeling Risk Preferences 6.2 Analyzing Risk Directly; 6.3 Dominance; 6.4 Sensitivity Analysis; 6.5 Value of Information; 6.6 Normative Decision Analysis; Part II: Financial Applications; Chapter 7. Investment Science; 7.1 Basics of Investment Science; 7.2 Advanced Topics in Investment Science*; 7.3 A Bayesian Network Portfolio Risk Analyzer*; Chapter 8. Modeling Real Options; 8.1 Solving Real Options Decision Problems; 8.2 Making a Plan; 8.3 Sensitivity Analysis; Chapter 9. Venture Capital Decision Making; 9.1 A Simple VC Decision Model; 9.2 A Detailed VC Decision Model 9.3 Modeling Real Decisions 9.A Appendix; Chapter 10. Bankruptcy Prediction; 10.1 A Bayesian Network for Predicting Bankruptcy; 10.2 Experiments; Part III: Marketing Applications; Chapter 11. Collaborative Filtering; 11.1 Memory-Based Methods; 11.2 Model-Based Methods; 11.3 Experiments; Chapter 12. Targeted Advertising; 12.1 Class Probability Trees; 12.2 Application to Targeted Advertising; Bibliography; Index

Sommario/riassunto

Bayesian Networks are a form of probabilistic graphical models and they are used for modeling knowledge in many application areas, from medicine to image processing. They are particularly useful for business applications, and* Unique coverage of probabilistic reasoning topics applied to business problems, including marketing, banking, operations management, and finance. * Shares insights about when and why probabilistic methods can and cannot be used effectively; * Complete review of Bayesian networks and probabilistic methods for those IT professionals new to informati
