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DATA MINING IN FINANCE

Advances in Relational and Hybrid Methods

by

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DATA MINING IN FINANCE presents a comprehensive overview of major algorithmic approaches to predictive data mining, including statistical, neural networks, rule-based, decision-tree, and fuzzy-logic methods, and then examines the suitability of these approaches to financial data mining. The book focuses specifically on relational data mining (RDM), which is a learning method able to learn more expressive rules than other symbolic approaches. RDM is thus better suited for financial mining, because it is able to make greater use of underlying domain knowledge. Relational data mining also has a better ability to explain the discovered rules--ability critical for avoiding spurious patterns which inevitably arise when the number of variables examined is very large. The earlier algorithms for relational data mining, also known as inductive logic programming (ILP), suffer from a relative computational inefficiency and have rather limited tools for processing numerical data.

DATA MINING IN FINANCE introduces a new approach, combining relational data mining with the analysis of statistical significance of discovered rules. This reduces the search space and speeds up the algorithms. The book also presents interactive and fuzzy logic tools for "mining" the knowledge from the experts, further reducing the search space.

DATA MINING IN FINANCE contains a number of practical examples of forecasting S&P 500, exchange rates, stock directions, and rating stocks for portfolio, allowing interested readers to start building their own models. This book is an excellent reference for researchers and professionals in the fields of artificial intelligence, machine learning, data mining, knowledge discovery, and applied mathematics.

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Table of Contents on reverse side

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TABLE OF CONTENTS

Foreword by Gregory Piatetsky-Shapiro

Preface

Acknowledgements

1. The Scope and Methods of the Study

- Introduction
- Problem definition
- Data mining methodologies
- Modern methodologies in financial knowledge discovery
- Data mining and database management
- Data mining: definitions and practice
- Learning paradigms for data mining
- Intellectual challenges in data mining

2. Numerical Data Mining Models with Financial Applications

- Statistical, autoregression models
- Financial applications of autoregression models
- Instance-based learning and financial applications
- Neural networks
- Neural networks and hybrid systems in finance
- Recurrent neural networks in finance
- Modular networks and genetic algorithms
- Testing results and the complete round robin method
- Expert mining
- Interactive learning of monotone Boolean functions

3. Rule-Based and Hybrid Financial Data Mining

- Decision tree and DNF learning
- Decision tree and DNF learning in finance
- Extracting decision trees from neural networks
- Extracting decision trees from neural networks in finance
- Probabilistic rules and knowledge-based stochastic modeling
- Knowledge-based stochastic modeling in finance

4. Relational Data Mining (RDM)

- Introduction
- Examples
- Relational data mining paradigm

- Challenges and obstacles in relational data mining
- Theory of RDM
- Background knowledge
- Algorithms: FOIL and FOCL
- Algorithm MMDR
- Numerical relational data mining
- Data types
- Empirical axiomatic theories: empirical contents of data

5. Financial Applications of Relational Data Mining

- Introduction
- Transforming numeric data into relations
- Hypotheses and probabilistic "laws"
- Markov chains as probabilistic "laws" in finance
- Learning
- Method of forecasting
- Experiment 1
- Experiment 2
- Interval stock forecast for portfolio selection
- Predicate invention for financial applications: calendar effects
- Conclusion

6. Comparison of Performance of RDM and other methods in financial applications

- Forecasting methods
- Approach: measures of performance
- Experiment 1: simulated trading performance
- Experiment 1: comparison with ARIMA
- Experiment 2: forecast and simulated gain
- Experiment 2: analysis of performance
- Conclusion

7. Fuzzy logic approach and its financial applications

- Knowledge discovery and fuzzy logic
- "Human logic" and mathematical principles of uncertainty
- Difference between fuzzy logic and probability theory
- Basic concepts of fuzzy logic
- Inference problems and solutions
- Constructing coordinated contextual linguistic variables
- Constructing coordinated fuzzy inference
- Fuzzy logic in finance

References

Subject Index

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