Guide to Cisco Routers Configuration

Becoming a Router Geek

This work provides a guide to the configuration of Cisco routers, from tasks for beginners to advanced operations. A collection of detailed "how-to" instructions are presented, which will be of use to all professionals and students who engage with Cisco routers in the field or in the lab. The guide starts with the simple step-by-step task of connecting the router and performing basic configuration, before building up to complex and sensitive operations such as router IOS upgrade and Site-to-Site VPNs.

Features

- Provides a guide to the configuration of Cisco routers
- Presents detailed and easy-to-follow "how-to" instructions
- For beginners and advanced users alike

Contents

Starting Up - Routing Protocols - Domestic Jobs - WAN Technologies - Upgrades and Backups - Security - Miscellaneous Hints and Tips

Fields of interest

Computer Communication Networks

Target groups

Research

Discount group

Professional Non-Medical

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Instruction Sequences for Computer Science

This book demonstrates that the concept of an instruction sequence offers a novel and useful viewpoint on issues relating to diverse subjects in computer science. Selected issues relating to well-known subjects from the theory of computation and the area of computer architecture are rigorously investigated in this book thinking in terms of instruction sequences.

Features

- Contains a complete and self-contained theory about imperative programs based on very elementary principles
- Presents the first theory of instruction sequences, a forgotten basic concept of computer science
- Provides a new perspective on non-uniform computational complexity
- Provides a new perspective on the halting problem

Contents


Fields of interests

Computation by Abstract Devices; Logics and Meanings of Programs; Mathematical Logic and Formal Languages

Target groups

Research

Discount group

Professional Non-Medical

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Instructional Programs, Norms and Action

Essays in Honor of Marek J. Sergot on the Occasion of His 60th Birthday

Contents


Fields of interests

Artificial Intelligence (incl. Robotics); Computer Communication Networks; Mathematical Logic and Formal Languages

Target groups

Research

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Professional Non-Medical

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Target groups

Research

Discount group

Professional Non-Medical
News 7/2012

M. Bernardo, Università di Urbino „Carlo Bo“, Italy; V. Cortellessa, A. Pierantonio, Università dell’Aquila, Coppito-L’Aquila, Italy (Eds)

Formal Methods for Model-Driven Engineering


This book presents 11 tutorial lectures by leading researchers given at the 12th edition of the International School on Formal Methods for the Design of Computer, Communication and Software Systems, SFM 2012, held in Bertinoro, Italy, in June 2012. SFM 2012 was devoted to model-driven engineering and covered several topics including modeling languages; model transformations, functional and performance modeling and analysis; and model evolution management.

Features
► Made for students, researchers, and practitioners
► Original, readable, and useful lecture notes
► Thoroughly revised tutorials

Contents
The Less Well Known UML: A Short User Guide
- MDE Basics with a DSL Focus
- Object Constraint Language (OCL): A Definitive Guide
- Model Transformations
- Graph Transformations for MDE
- Adaptation, and Models at Runtime
- Abstractions for Validation in Action
- Software Performance Modeling
- Model Transformations in Non-functional Analysis
- Software Performance Antipatterns: Modeling and Analysis
- An Introduction to Model Versioning
- Formal Specification and Testing of Model Transformations

Fields of interests
Software Engineering; Software Engineering/Programming and Operating Systems; Mathematical Logic and Formal Languages

Target groups
Research

Discount group
Professional Non-Medical

Available
2012, VII, 439 p. 158 illus. (Lecture Notes in Computer Science / Programming and Software Engineering, Volume 7320) Softcover
► $95.00
ISBN 978-3-642-30981-6

P. Christen, The Australian National University, Canberra, ACT, Australia

Data Matching
Concepts and Techniques for Record Linkage, Entity Resolution, and Duplicate Detection

Data matching (also known as record or data linkage, entity resolution, object identification, or field matching) is the task of identifying, matching and merging records that correspond to the same entities from several databases or even within one database.

Features
► First book on a topic of growing importance for applications
► Brings together research from various areas like databases, statistics, information retrieval, data mining, and machine learning
► Details the data matching process step by step
► Includes an overview of freely available data matching systems and a detailed discussion of practical aspects and limitations

Contents
Part I Overview
- Introduction
- The Data Matching Process
- Part II Steps of the Data Matching Process
- Data Pre-Processing
- Indexing
- Field and Record Comparison
- Classification
- Evaluation of Matching Quality and Complexity
- Part III Further Topics
- Privacy Aspects of Data Matching
- Further Topics and Research Directions
- Data Matching Systems

Fields of interests
Database Management; Data Mining; Knowledge Discovery; Information Storage and Retrieval

Target groups
Research

Discount group
Professional Non-Medical

Available
2012, XVI, 274 p. 66 illus. (Data-Centric Systems and Applications) Hardcover
► approx. $69.95
ISBN 978-3-642-31163-5

K. H. Dam, I. Nikolic, Z. Lukso, Delft University of Technology, The Netherlands (Eds)

Agent-Based Modelling of Socio-Technical Systems

Decision makers in large scale interconnected network systems require simulation models for decision support.

Features
► Gives a practical introduction to agent-based modelling of socio-technical systems, such as infrastructures
► Includes practical suggestions and procedures based on years of modelling experience
► Provides numerous examples in various (infrastructure) domains which take the reader through the development process and can inspire new applications

Contents
Foreword by Prof Nigel Gilbert
- Preface by the editors
- Part I Theory and Practice
- 1 Introduction: G.P. Dijkema, Z. Lukso and M.P.C. Weijnen
- 2 Theory: I. Nikolic and J. Kasmire
- 3 Practice: I. Nikolic, K.H. van Dam and J. Kasmire
- Part II Case Studies
- 4 Introduction to the Case Studies: K.H. van Dam, Z. Lukso, and M.P.C. Weijnen
- 5 Agent-Based Models of Supply Chains: B. Behdani, K.H. van Dam and Z. Lukso
- 6 An Agent-Based Model of Consumer Lighting: E.J.L. Chappin and M.R. Afman
- 8 An Agent-Based Model of a Mobile Phone Production, Consumption and Recycling Network: L. A. Bollinger, C.B. Davis and I. Nikolic
- List of Contributors

Fields of interests
Simulation and Modeling; Complexity; Computational Intelligence

Target groups
Graduate

Discount group
Professional Non-Medical

Available
2013, XXI, 275 p. 207 illus., 7 in color. (Agent-Based Social Systems, Volume 9) Hardcover
► $119.00
ISBN 978-94-007-4932-0

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Fields of interests
Simulation and Modeling; Complexity; Computational Intelligence

Target groups
Graduate

Discount group
Professional Non-Medical

Available
2013, XXI, 275 p. 207 illus., 7 in color. (Agent-Based Social Systems, Volume 9) Hardcover
► $119.00
ISBN 978-94-007-4932-0
M. Davis, E. Schonberg, New York University, NY, USA (Eds)

From Linear Operators to Computational Biology
Essays in Memory of Jacob T. Schwartz

In his rich and varied career as a mathematician, computer scientist, and educator, Jacob T. Schwartz wrote seminal works in analysis, mathematical economics, programming languages, algorithmics, and computational geometry.

Features
- Contributions by leading researchers in their fields
- Technical contributions spanning various areas of Computer Science and Physics
- Explores the many fields in which Jacob T. Schwartz excelled: theorem proving, robotics, complexity theory, motion planning, and the foundations of quantum theory, amongst others

Contents

Fields of interests
Programming Languages, Compilers, Interpreters; Mathematical Logic and Foundations; Quantum Physics

Target groups
Research

Discount group
Professional Non-Medical

M. Heisel, Universität Duisburg-Essen, Germany (Ed)

Software Service and Application Engineering
Essays Dedicated to Bernd Krämer on the Occasion of His 65th Birthday

This festschrift volume, published in honor of Bernd Krämer on the occasion of his 65th birthday, contains 11 contributions by close scientific companions.

Features
- Commemorative publication
- Contains detailed papers on the themes surrounding Bernd Krämer’s work
- Up-to-date discussions of topics including Petri nets, service engineering and cloud computing

Contents

Fields of interests
Logics and Meanings of Programs; Computation by Abstract Devices; Software Engineering

Target groups
Research

Discount group
Professional Non-Medical
M. İlsever, C. Ünsalan, Yeditepe University, Kayısdagi, Turkey

**Two-Dimensional Change Detection Methods**

Remote Sensing Applications

Change detection using remotely sensed images has many applications, such as urban monitoring, land-cover change analysis, and disaster management. This work investigates two-dimensional change detection methods. The existing methods in the literature are grouped into four categories: pixel-based, transformation-based, texture analysis-based, and structure-based. In addition to testing existing methods, four new change detection methods are introduced: fuzzy logic-based, shadow detection-based, local feature-based, and bipartite graph matching-based. The latter two methods form the basis for a structural analysis of change detection. Three thresholding algorithms are compared, and their effects on the performance of change detection methods are measured. These tests on existing and novel change detection methods make use of a total of 35 panchromatic and multi-spectral Ikonos image sets. Quantitative test results and their interpretations are provided.

**Features**
- Discusses change detection methods for remote sensing applications
- Summarizes well-known methods in the literature
- Proposes novel methods to solve the problem

**Contents**
- Introduction
- Pixel-Based Change Detection Methods
- Transformation-Based Change Detection Methods
- Structure-Based Change Detection Methods
- Fusion of Change Detection Methods
- Experiments
- Final Comments

**Fields of interests**
- Image Processing and Computer Vision
- Pattern Recognition

**Target groups**
- Research

**Discount group**
- Professional Non-Medical

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S. Kumar, Indian Institute of Technology Roorkee, India

**Agent-based Semantic Web Service Composition**

Agent-based Semantic Web Service Composition closely examines the various aspects of SWS composition, and explores the concept that a Multi-Agent system can serve as an SWS composition system in which its agents can interact with one another to satisfy a high-level goal. In addition to surveying various proposed multi-agent-based SWS composition models, the book also highlights the cognitive parameter-based semantic web service selection models that can be used in multi-agent-based SWS composition, and outlines a new negotiation agreement-based SWS composition that can outperform existing techniques. Agent-based Semantic Web Service Composition is intended for researchers and practitioners as a reference guide for optimizing SWS composition and implementing multi-agent systems. Instructors and other academics working in a related field will also find the book invaluable.

**Contents**
- Introduction
- Semantic Web Agents
- Agent-based Semantic Web Service Selection and Composition
- Multi-Attribute Negotiation Between Semantic Web Agents
- A Multi-Agent Negotiation Based Approach to Selection and Composition of Semantic Web Services

**Fields of interests**
- Database Management
- Information Systems Applications (incl. Internet)
- Artificial Intelligence (incl. Robotics)

**Target groups**
- Research

**Discount group**
- Professional Non-Medical

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A. Luszczak, Wien

**Using Microsoft Dynamics AX 2012**

Precise descriptions and instructions enable users, students and consultants to easily understand Microsoft Dynamics AX 2012. Microsoft offers Dynamics AX as its premium ERP solution to support large and mid-sized organizations with a complete business management solution which is easy to use. Going through a simple but comprehensive case study – the sample company ‘Anso Technologies Inc’ – this book provides the required knowledge to handle all basic business processes in Dynamics AX. Exercises are there to train the processes and functionality, also making this book a good choice for self-study.

**Contents**
- Basics and Technology
- Navigation and User Interface
- Supply Chain Management
- Trade and Logistics
- Manufacturing
- Financial Management
- Target Group
- IT executives
- IT professionals and consultants
- Business management solutions
- New and current users of Dynamics AX
- Students of information technology, business administration and similar disciplines

**Features**
- Easily learning Dynamics AX through hands-on examples
- Including simple but comprehensive case study
- Knowledge to handle all basic business processes in Dynamics AX

**Target groups**
- Professional/practitioner

**Discount group**
- Professional Non-Medical
Knowledge Visualization

From Text to Art to Culture

This text reviews the evolution of the field of visualization, providing innovative examples from various disciplines, highlighting the important role that visualization plays in extracting and organizing the concepts found in complex data.

Features
► Presents the state of the art in visualization research and development
► Highlights research developing at key intersections with other disciplines and its applicability to addressing complex real-world problems
► Discusses how visualization researchers are addressing complex issues of representation in knowledge, art, and culture

Contents

Fields of interests
Computer Graphics; Data Mining and Knowledge Discovery; Visualization

Target groups
Research

Discount group
Professional Non-Medical

Automated Configuration Problem Solving

Automated Configuration has long been the subject of intensive research, especially in Artificial Intelligence. It is a pervasive problem to be solved, and it is a good test of various knowledge representation and reasoning techniques. The problem shows up in applications such as various electrical circuit design, utility computing and even concurrent engineering. Automated Configuration Problem Solving defines the ubiquitous problem, illustrates the various solution techniques, and includes a survey using these techniques from the mid-70’s until the mid-90’s. During this time, various general approaches were developed, and then become more specialized. This book covers the development of the general problem solving techniques for automated configuration, which are based on both published academic work and patents.

Contents

Fields of interests
Artificial Intelligence (incl. Robotics); Computer-Aided Engineering (CAD, CAE) and Design; Engineering Design

Target groups
Research

Discount group
Professional Non-Medical

The Basque Language in the Digital Age

This white paper is part of a series that promotes knowledge about language technology and its potential. It addresses educators, journalists, politicians, language communities and others. The availability and use of language technology in Europe varies between languages. Consequently, the actions that are required to further support research and development of language technologies also differ for each language. The required actions depend on many factors, such as the complexity of a given language and the size of its community. META-NET, a Network of Excellence funded by the European Commission, has conducted an analysis of current language resources and technologies. This analysis focused on the 23 official European languages as well as other important national and regional languages in Europe. The results of this analysis suggest that there are many significant research gaps for each language. A more detailed expert analysis and assessment of the current situation will help maximise the impact of additional research and minimize any risks. META-NET consists of 54 research centres from 33 countries that are working with stakeholders from commercial businesses, government agencies, industry, research organisations, software companies, technology providers and European universities. Together, they are creating a common technology vision while developing a strategic research agenda that shows how language technology applications can address any research gaps by 2020.

Fields of interests
Language Translation and Linguistics; Computational Linguistics

Target groups
Popular/general

Discount group
Professional Non-Medical
G. Rehm, H. Uszkoreit, DFKI GmbH, Berlin, Germany (Eds)

The Croatian Language in the Digital Age

This white paper is part of a series that promotes knowledge about language technology and its potential. It addresses educators, journalists, politicians, language communities and others. The availability and use of language technology in Europe varies between languages. Consequently, the actions that are required to further support research and development of language technologies also differ for each language. The required actions depend on many factors, such as the complexity of a given language and the size of its community. META-NET, a Network of Excellence funded by the European Commission, has conducted an analysis of current language resources and technologies. This analysis focused on the 23 official European languages as well as other important national and regional languages in Europe. The results of this analysis suggest that there are many significant research gaps for each language. A more detailed expert analysis and assessment of the current situation will help maximise the impact of additional research and minimize any risks. META-NET consists of 54 research centres from 33 countries that are working with stakeholders from commercial businesses, government agencies, industry, research organisations, software companies, technology providers and European universities. Together, they are creating a common technology vision while developing a strategic research agenda that shows how language technology applications can address any research gaps by 2020.

Fields of interests
Language Translation and Linguistics; Computational Linguistics

Target groups
Popular/general

Discount group
Professional Non-Medical

Available
2012. Approx. 95 p. (White Paper Series) Softcover
➤ approx. $69.95
ISBN 978-3-642-30881-9

G. Rehm, H. Uszkoreit, DFKI GmbH, Berlin, Germany (Eds)

The Galician Language in the Digital Age

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G. Rehm, H. Uszkoreit, DFKI GmbH, Berlin, Germany (Eds)

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Fields of interests
Language Translation and Linguistics; Computational Linguistics

Target groups
Popular/general

Discount group
Professional Non-Medical

Available
2012. Approx. 95 p. (White Paper Series) Softcover
➤ approx. $69.95
ISBN 978-3-642-30875-8
This white paper is part of a series that promotes knowledge about language technology and its potential. It addresses educators, journalists, politicians, language communities and others. The availability and use of language technology in Europe varies between languages. Consequently, the actions that are required to further support research and development of language technologies also differ for each language. The required actions depend on many factors, such as the complexity of a given language and the size of its community. META-NET, a Network of Excellence funded by the European Commission, has conducted an analysis of current language resources and technologies. This analysis focused on the 23 official European languages as well as other important national and regional languages in Europe. The results of this analysis suggest that there are many significant research gaps for each language. A more detailed expert analysis and assessment of the current situation will help maximise the impact of additional research and minimize any risks. META-NET consists of 54 research centres from 33 countries that are working with stakeholders from commercial businesses, government agencies, industry, research organisations, software companies, technology providers and European universities. Together, they are creating a common technology vision while developing a strategic research agenda that shows how language technology applications can address any research gaps by 2020.

**Fields of interests**
Language Translation and Linguistics; Computational Linguistics

**Target groups**
Popular/general

**Discount group**
Professional Non-Medical
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**Fields of interests**
Language Translation and Linguistics; Computational Linguistics

**Target groups**
Popular/general

**Discount group**
Professional Non-Medical

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The Swedish Language in the Digital Age

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**Fields of interests**
Language Translation and Linguistics; Computational Linguistics

**Target groups**
Popular/general

**Discount group**
Professional Non-Medical

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Secure two-party computation, called secure function evaluation (SFE), enables two mutually distrusting parties, the client and server, to evaluate an arbitrary function on their respective private inputs while revealing nothing but the result. Originally the technique was considered to be too inefficient for practical privacy-preserving applications, but in recent years rapid speed-up in computers and communication networks, algorithmic improvements, automatic generation, and optimizations have enabled their application in many scenarios.

**Features**
- Achieves an excellent balance between theory and applicability
- Essential for researchers, students and practitioners who construct practical cryptographic protocols for privacy-preserving real-world applications
- Describes algorithm engineering methods to engineer efficient secure protocols

**Contents**
- Chap. 1. Introduction.
- Chap. 3. Circuit Optimizations and Constructions.
- Chap. 5. Modular Design of Efficient SFE Protocols.
- Chap. 6. Conclusions.
- References.
- Index.

**Fields of interests**
Data Structures, Cryptology and Information Theory; Computer Systems Organization and Communication Networks; Communications Engineering, Networks

**Target groups**
Research

**Discount group**
Professional Non-Medical
Handbook of Neuroevolution through Erlang

Features
► Provides a friendly step-by-step guide on the construction of Topology and Weight Evolving Artificial Neural Network systems from start to finish ► Covers novel material for using Erlang in the construction of TWEANN systems ► Explains why Neural Network based Computational Intelligence systems map perfectly to Erlang’s architecture, and the importance of this programming language to the future of computational intelligence ► Introduces new TWEANN algorithms, with the final result being a concurrent, cutting edge, direct and indirect encoded, plasticity enabled, TWEANN platform

Contents

Fields of interests
Software Engineering/Programming and Operating Systems; Artificial Intelligence (incl. Robotics); Computational Biology/Bioinformatics

Target groups
Professional/practitioner

Discount group
Professional Non-Medical

C. Storm, Oldenburg, Germany

Specification and Analytical Evaluation of Heterogeneous Dynamic Quorum-Based Data Replication Schemes

Data replication by employing quorum systems is an important concept to improve operation availability on data objects in distributed systems that have strong data consistency demands. These data replication schemes must be modeled and carefully evaluated with respect to different quality measures. Christian Storm addresses the former by a uniform data replication scheme specification method and realizes the latter by a comprehensive approach to the analytical evaluation of quorum-based data replication schemes. The system model allows to evaluate operation availability and other quality measures for the write as well as for the read operation.

Features
► Publication in the field of technology

Contents

Fields of interest
Software Engineering/Programming and Operating Systems

Target groups
Research

Discount group
Professional Non-Medical

A. Trendowicz, Fraunhofer Institute for Experimental Software Engineering, Kaiserslautern, Germany

Software Cost Estimation, Benchmarking, and Risk Assessment

The Software Decision-Makers’ Guide to Predictable Software Development

Software effort estimation is a key element of software project planning and management. Yet, in industrial practice, the important role of effort estimation is often underestimated and/or misunderstood.

Features
► Both the CoBRA method and its presentation are driven by and aimed at industrial practice ► A complete and comprehensible specification of all relevant CoBRA processes is presented ► The methodological concepts and their usage are illustrated by numerous practical examples and case studies from various software organizations

Contents

Fields of interests
Software Engineering; Management of Computing and Information Systems; Project Management

Target groups
Research

Discount group
Professional Non-Medical

Due September 2012

2012. XXI, 820 p. 173 illus. Hardcover
► approx. $189.00
ISBN 978-1-4614-4462-6

Available
2012. XIV, 350 p. 93 illus. Softcover
► $99.00
ISBN 978-3-8348-2380-9

Available
2012. X, 276 p. 103 illus. in color. (The Fraunhofer IESE Series on Software and Systems Engineering) Hardcover
► approx. $89.95
ISBN 978-3-642-30763-8

44
B. Turban

**Tool-Based Requirement Traceability between Requirement and Design Artifacts for Safety-Critical Systems**

Processes for developing safety-critical systems impose special demands for ensuring requirements traceability. Achieving valuable traceability information, however, is especially difficult concerning the transition from requirements to design. Bernhard Turban analyzes systems and software engineering theories the problem is cross-cutting in (embedded systems development, systems engineering, software engineering, requirements engineering and management, design theory and processes for safety-critical systems). As a solution, the author proposes a new tool approach supporting designers in their thinking in order to achieve traceability as a by-product to normal design activities and extending traceability information with information about design decision rationale.

**Contents**


**Fields of interest**

Multimedia Information Systems

**Target groups**

Research

**Discount group**

Professional Non-Medical

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J. Vince, Bournemouth University, UK

**Matrix Transforms for Computer Games and Animation**

Matrix transforms are ubiquitous within the world of computer graphics, where they have become an invaluable tool in a programmer’s toolkit for solving everything from 2D image scaling to 3D rotation about an arbitrary axis. Virtually every software system and hardware graphics processor uses matrices to undertake operations such as scaling, translation, reflection and rotation. Nevertheless, for some newcomers to the world of computer games and animation, matrix notation can appear obscure and challenging. Matrices and determinants were originally used to solve groups of simultaneous linear equations, and were subsequently embraced by the computer graphics community to describe the geometric operations for manipulating two- and three-dimensional structures. Consequently, to place matrix notation within an historical context, the author provides readers with some useful background to their development, alongside determinants.

**Features**

- Assumes no prior knowledge of matrix notation
- Chapters contain practical worked examples
- Easy to read descriptions on how to apply matrix notation within the world of computer games and animation

**Contents**


**Fields of interests**

Computer Imaging, Vision, Pattern Recognition and Graphics; Mathematics, general; Image Processing and Computer Vision

**Target groups**

Lower undergraduate

**Discount group**

Professional Non-Medical

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K.-H. Yoo, William Paterson University, Wayne, NJ, USA; U. Gretzel, University of Wollongong, NSW, Australia; M. Zanker, Alpen-Adria-Universität Klagenfurt, Klagenfurt, Austria

**Persuasive Recommender Systems**

**Conceptual Background and Implications**

Whether users are likely to accept the recommendations provided by a recommender system is of utmost importance to system designers and the marketers who implement them. By conceptualizing the advice seeking and giving relationship as a fundamentally social process, important avenues for understanding the persuasiveness of recommender systems open up. Specifically, research regarding influential factors in advice seeking relationships, which is abundant in the context of human-human relationships, can provide an important framework for identifying potential influence factors in recommender system context. This book reviews the existing literature on the factors in advice seeking relationships in the context of human-human, human-computer, and human-recommender system interactions. It concludes that many social cues that have been identified as influential in other contexts have yet to be implemented and tested with respect to recommender systems. Implications for recommender system research and design are discussed.

**Contents**


**Fields of interests**

Artificial Intelligence (incl. Robotics); Data Mining and Knowledge Discovery

**Target groups**

Research

**Discount group**

Professional Non-Medical