

Expert Systems Principles And Programming Third Edition

Mathematical Models for Decision Support
 Principles and Applications
 Systematic Introduction to Expert Systems
 An Introduction to Expert Systems
 Expert Systems: Tools and Applications
 Introduction to Expert Systems
 Artificial Intelligence Illuminated
 Principles of Artificial Intelligence and Expert Systems Development
 Adventure in Prolog
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 Building Expert Systems
 The Technology of Knowledge Management and Decision Making for the 21st Century
 Exact Computational Methods for Bayesian Networks
 Knowledge Representations and Problem-Solving Methods
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 Probabilistic Networks and Expert Systems
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 Artificial Intelligence
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EUGENE ROBINSON

Mathematical Models for Decision Support Addison Wesley Publishing Company

Expert Systems Principles and Programming Brooks/Cole

Principles and Applications Addison Wesley Publishing Company

This volume presents concise and comprehensive coverage of the principles and concepts that are fundamental to the design of expert systems software and hardware and the development of knowledge-based systems. The volume includes an overview of the symbolic and object-oriented programming languages used to create knowledge representation languages structures, a description of declarative and procedural knowledge representation schemes, a discussion of search algorithms and various numerical and non-numerical techniques for dealing with uncertainty, and an introduction to reasoning with one or more inference engines. The book also provides an overview of the architecture and functions of blackboard systems, a review of the state of the art in explanation, and a discussion of user interface requirements and integrated systems.

Systematic Introduction to Expert Systems CRC Press

"This book represents a thorough and extensive treatment of the software build process including the choices, benefits, and challenges of a well designed build process. I recommend it not only to all software build engineers but to all software developers since a well designed build process is

key to an effective software development process." —Kevin Bodie, Director Software Development, Pitney Bowes Inc. "An excellent and detailed explanation of build systems, an important but often overlooked part of software development projects. The discussion of productivity as related to build systems is, alone, well worth the time spent reading this book." —John M. Pantone, Objectech Corporation, VP, IT Educator and Course Developer "Peter Smith provides an interesting and accessible look into the world of software build systems, distilling years of experience and covering virtually every type of tool in the build engineer's toolbox. Well organized, well written, and very thorough; I would recommend this book to anyone with a build system under their responsibility." —Jeff Overbey, Project Co-Lead, Photran "Software Build Systems teaches how to think about building software. It surveys the tools and techniques for building software products and the ways things go wrong. This book will appeal to those new to build systems as well as experienced build system engineers." —Monte Davidoff, Software Development Consultant, Alluvial Software, Inc. Inadequate build systems can dramatically impact developer productivity. Bad dependencies, false compile errors, failed software images, slow compilation, and time-wasting manual processes are just some of the byproducts of a subpar build system. In Software Build Systems, software productivity expert Peter Smith shows you how to implement build systems that overcome all these problems, so you can deliver reliable software more rapidly, at lower cost. Smith explains the core principles underlying highly efficient build systems, surveying both system features and usage scenarios. Next, he encapsulates years of experience in creating and maintaining diverse build systems—helping you make well-informed choices about tools and practices, and avoid common traps and pitfalls. Throughout, he shares a wide range of practical examples and lessons from multiple environments, including Java, C++, C, and C#. Coverage includes • Mastering build system concepts, including source trees, build tools, and

compilation tools • Comparing five leading build tools: GNU Make, Ant, SCons, CMake, and the Eclipse IDE's integrated build features • Ensuring accurate dependency checking and efficient incremental compilation • Using metadata to assist debugging, profiling, and source code documentation • Packaging software for installation on your target machine • Best practices for managing complex version-control systems, build machines, and compilation tools If you're a developer, this book will illuminate the issues involved in building and maintaining the build system that's best for your team. If you're a manager, you'll discover how to evaluate your team's build system and improve its effectiveness. And if you're a build "guru," you'll learn how to optimize the performance and scalability of your build system, no matter how demanding your requirements are.

An Introduction to Expert Systems Morgan Kaufmann

At present one of the main obstacles to a broader application of expert systems is the lack of a theory to tell us which problem-solving methods are available for a given problem class. Such a theory could lead to significant progress in the following central aims of the expert system technique: - Evaluating the technical feasibility of expert system projects: This depends on whether there is a suitable problem-solving method, and if possible a corresponding tool, for the given problem class. - Simplifying knowledge acquisition and maintenance: The problem-solving methods provide direct assistance as interpretation models in knowledge acquisition. Also, they make possible the development of problem-specific expert system tools with graphical knowledge acquisition components, which can be used even by experts without programming experience. - Making use of expert systems as a knowledge medium: The structured knowledge in expert systems can be used not only for problem solving but also for knowledge communication and tutorial purposes. With such a theory in mind, this book provides a systematic introduction to expert systems. It describes the basic knowledge representations and the present situation with regard to the identification, realization, and integration of problem-solving methods for the main problem classes of expert systems: classification (diagnostics), construction, and simulation.

Expert Systems: Tools and Applications Cambridge University Press

The new edition of this market-leading text builds upon the blend of expert systems theory and application established in earlier editions.

Introduction to Expert Systems Springer Science & Business Media

It is quite an onerous task to edit the proceedings of a two week long institute with learned contributors from many parts of the world. All the same, the editorial team has found the process of refereeing and reviewing the contributions worthwhile and completing the volume has proven to be a satisfying task. In setting up the institute we had considered models and methods taken from a number of different disciplines. As a result the whole institute - preparing for it, attending it and editing the proceedings - proved to be an intense learning experience for us. Here I speak on behalf of the committee and the editorial team. By the time the institute took place, the papers were delivered and the delegates exchanged their views, the structure of the topics covered and their relative positioning appeared in a different light. In editing the volume I felt compelled to introduce a new structure in grouping the papers. The contents of this volume are organised in eight main sections set out below: 1. Abstracts. 2. Review Paper. 3. Models with Multiple Criteria and Single or Multiple Decision Makers. 4. Use of Optimisation Models as Decision Support Tools. 5. Role of Information Systems in Decision Making: Database and Model Management Issues. 6. Methods of Artificial Intelligence in Decision Making: Intelligent Knowledge Based Systems. 7. Representation of Uncertainty in Mathematical Models and Knowledge Based Systems. 8. Mathematical Basis for Constructing Models and Model Validation.

Artificial Intelligence Illuminated Brooks/Cole

Expert system technology is receiving increasing popularity and acceptance in the engineering community. This is due to the fact that there actually exists a close match between the capabilities of the current generation expert systems and the requirements of engineering practice. Prepared by a distinguished team of experts, this book provides a balanced state-of-the-art presentation of the design principles of engineering expert systems, and a representative picture of their capabilities to assist efficiently the design, diagnosis and operation of complex industrial plants. Among the application areas covered are the following: hardware synthesis, industrial plant layout design, fault diagnosis, process control, image analysis, computer communication, electric power systems, intelligent control, robotics, and manufacturing systems. The book is appropriate for the researcher and the professional. The researcher can save considerable time in searching the scattered technical information on engineering expert systems. The professional can have readily available a rich set of guidelines and techniques that are applicable to a wide class of engineering domains.

Principles of Artificial Intelligence and Expert Systems Development Elsevier

Abstract: "This monograph provides an introduction to the theory of expert systems. The task of medical diagnosis is used as a unifying theme throughout. A broad perspective is taken, ranging from the role of diagnostic programs to methods of evaluation. While much emphasis is placed on probability theory, other calculi of uncertainty are given due consideration."

Adventure in Prolog Wiley

A self-contained tutorial on Z for working programmers discussing practical ways to apply formal methods in real projects, first published in 1997.

Introduction to Artificial Intelligence and Expert Systems Nova Publishers

Building expert systems; Evaluating an expert system; Expert system tools; A typical problem for expert systems; Transcripts illustrating the operation of prototype expert systems for the spill crisis-management application.

Introduction to Knowledge Systems Springer Science & Business Media

A concise practical introduction to the history, characteristics, structure, operation, and use of expert systems. Provides programmers with sufficient insight and guidance to enable them to construct an expert system shell using a favorite programming language. Shows how to develop and maintain expert systems, and how to tackle technical problems unique to the field. There's also advice on how to access new applications.

Building Expert Systems Routledge

Focusing on fundamental scientific and engineering issues, this book communicates the principles of building and using knowledge systems from the conceptual standpoint as well as the practical. Previous treatments of knowledge systems have focused on applications within a particular field, or on symbol-level representations, such as the use of frame and rule representations. Introduction to Knowledge Systems presents fundamentals of symbol-level representations including representations for time, space, uncertainty, and vagueness. It also compares the knowledge-level

organizations for three common knowledge-intensive tasks: classification, configuration, and diagnosis. The art of building knowledge systems incorporates computer science theory, programming practice, and psychology. The scope of this book is appropriately broad, ranging from the design of hierarchical search algorithms to techniques for acquiring the task-specific knowledge needed for successful applications. Each chapter proceeds from concepts to applications, and closes with a brief tour of current research topics and open issues. Readers will come away with a solid foundation that will enable them to create real-world knowledge systems using whatever tools and programming languages are most current and appropriate. *The Technology of Knowledge Management and Decision Making for the 21st Century* Springer Science & Business Media Artificial intelligence, or AI, is largely an experimental science--at least as much progress has been made by building and analyzing programs as by examining theoretical questions. MYCIN is one of several well-know programs that embody some intelligence and provide data on the extent to which intelligent behavior can be programmed. As with other AI programs, its development was slow and not always in a forward direction. The book shares the results of nearly a decade of work, the experiments performed, and present a coherent picture of the work. It presents a critical analysis of several pieces of related research, performed by a large number of scientists. The whole field of AI will benefit from detailed, retrospective examinations of experiments, for this is the way the scientific foundations of the field will gradually be defined. This is the reason this analysis of the MCYIN experiments is being offered to readers.

Exact Computational Methods for Bayesian Networks Springer Science & Business Media

This volume collects the most recent papers on artificial intelligence (AI) and expert systems written at The Rand Corporation. Rand's leadership in the field of AI started with the seminal work of Newell, Shaw, and Simon some thirty years ago and continues with recent work in expert systems and knowledge-based simulation. The first chapter in this volume provides a brief historical perspective of Rand's AI activity from its early days in the 1950s to its current efforts. Special attention is given to Rand's research during the past decade.

Knowledge Representations and Problem-Solving Methods Wiley

This book provides a comprehensive presentation of artificial intelligence (AI) methodologies and tools valuable for solving a wide spectrum of engineering problems. What's more, it offers these AI tools on an accompanying disk with easy-to-use software. Artificial Intelligence and Expert Systems for Engineers details the AI-based methodologies known as: Knowledge-Based Expert Systems (KBES); Design Synthesis; Design Critiquing; and Case-Based Reasoning. KBES are the most popular AI-based tools and have been successfully applied to planning, diagnosis, classification, monitoring, and design problems. Case studies are provided with problems in engineering design for better understanding of the problem-solving models using the four methodologies in an integrated software environment. Throughout the book, examples are given so that students and engineers can acquire skills in the use of AI-based methodologies for application to practical problems ranging from diagnosis to planning, design, and construction and manufacturing in various disciplines of engineering. Artificial Intelligence and Expert Systems for Engineers is a must-have reference for students, teachers, research scholars, and professionals working in the area of civil engineering design in particular and engineering design in general.

Software Build Systems Elsevier

Artificial intelligence (AI) is the part of computer science concerned with designing intelligent computer systems (systems that exhibit characteristics we associate with intelligence in human behavior). This book is the first published textbook of AI in chemical engineering, and provides broad and in-depth coverage of AI programming, AI principles, expert systems, and neural networks in chemical engineering. This book introduces the computational means and methodologies that are used to enable computers to perform intelligent engineering tasks. A key goal is to move beyond the principles of AI into its applications in chemical engineering. After reading this book, a chemical engineer will have a firm grounding in AI, know what chemical engineering applications of AI exist today, and understand the current challenges facing AI in engineering. Allows the reader to learn AI quickly using inexpensive personal computers Contains a large number of illustrative examples, simple exercises, and complex practice problems and solutions Includes a computer diskette for an illustrated case study Demonstrates an expert system for separation synthesis (EXSEP) Presents a detailed review of published literature on expert systems and neural networks in chemical engineering

Principles and Experience Springer Science & Business Media

Computing Methodologies -- Artificial Intelligence.

Artificial Intelligence in the 21st Century Expert Systems Principles and Programming

Not long ago" Dennis Merritt wrote one of the best books that I know of about implementing expert systems in Prolog, and I was very glad he published it in our series. The only problem is there are still some unfortunate people around who do not know Prolog and are not sufficiently prepared either to read Merritt's book, or to use this extremely productive language, be it for knowledge-based work or even for everyday programming. Possibly this last statement may surprise you if you were under the impression that Prolog was an "artificial intelligence language" with very limited application potential. Please believe this editor's statement that quite the opposite is true: for at least four years, I have been using Prolog for every programming task in which I am given the option of choosing the language. Therefore, I 'am indeed happy that Dennis Merritt has written another good book on my language of choice, and that it meets the high standard he set with his prior book, Building Expert Systems in Prolog. All that remains for me to do is to wish you success and enjoyment when taking off on your Adventure in Prolog.

The Way of Z Springer Science & Business Media

The work reviewed in this book represents the synthesis of two important developments in modelling of complex stochastic phenomena. The book gives a thorough and rigorous mathematical treatment of the underlying ideas, structures, and algorithms.

Principles and Programming : Solutions Manual CRC Press

This new edition provides a comprehensive, colorful, up-to-date, and accessible presentation of AI without sacrificing theoretical foundations. It includes numerous examples, applications, full color images, and human interest boxes to enhance student interest. New chapters on robotics and machine learning are now included. Advanced topics cover neural nets, genetic algorithms, natural language processing, planning, and complex board games. A companion DVD is provided with resources, applications, and figures from the book. Numerous instructors' resources are available

upon adoption. eBook Customers: Companion files are available for downloading with order number/proof of purchase by writing to the publisher at info@merclearning.com. FEATURES: • Includes new chapters on robotics and machine learning and new sections on speech understanding and metaphor in NLP • Provides a comprehensive, colorful, up to date, and accessible presentation of AI without sacrificing theoretical foundations • Uses

numerous examples, applications, full color images, and human interest boxes to enhance student interest • Introduces important AI concepts e.g., robotics, use in video games, neural nets, machine learning, and more thorough practical applications • Features over 300 figures and color images with worked problems detailing AI methods and solutions to selected exercises • Includes DVD with resources, simulations, and figures from the book • Provides numerous instructors' resources, including: solutions to exercises, Microsoft PP slides, etc.