

Foundations Of Algorithms Neapolitan

Network Cabling Illuminated Foundations of Algorithms Using C++ Pseudocode Managing Software Projects Artificial Intelligence and Algorithms in Intelligent Systems Discrete Structures, Logic, and Computability Foundations of Algorithms Using Java Pseudocode Artificial Intelligence Data Mining: Know It All Foundations of Algorithms Using C++ Pseudocode, Third Edition Measured Words Data Structures and Algorithms in Java Foundations of Algorithms Evolutionary Algorithms in Management Applications Dynamic Programming and Its Applications Foundations of Algorithms Algorithmic Puzzles Methods of IT Project Management The SAGE Handbook of Quantitative Methodology for the Social Sciences Algorithms C++ Plus Data Structures Computer Networking for LANS to WANS: Hardware, Software and Security Probabilistic Reasoning in Intelligent Systems Algorithms Foundations of Algorithms Learning Bayesian Networks Secure Transaction Protocol Analysis Algorithms Encyclopedia of Algorithms Foundations of Algorithms Algorithmics Foundations of Neural Networks, Fuzzy Systems, and Knowledge Engineering Object-oriented Data Structures Using Java Music and Technology in the Twentieth Century 40 Algorithms Every Programmer Should Know Discrete Mathematics Probabilistic Methods for Financial and Marketing Informatics Foundations of Algorithms Using C++ Pseudocode, Third Edition Principles of Computer Networks and Communications Foundations of Algorithms C++ Data Structures: a Laboratory Course

Network Cabling Illuminated

Data Structures in Java is a continuation of Nell Dale's best-selling Introduction to Java and Software Design text. Data Structures is designed for students who have already taken one semester of computer science and are able to take a problem of medium complexity, write an algorithm to solve the problem, code the algorithm in a programming language, and demonstrate the correctness of their solution. The focus is on teaching computer science principles with chapter concepts being reinforced by case studies. The object-oriented concepts of encapsulation, inheritance, and polymorphism are covered, while the book remains centered on abstract data types.

Foundations of Algorithms Using C++ Pseudocode

Essential Information about Algorithms and Data Structures A Classic Reference
The latest version of Sedgwick, s best-selling series, reflecting an indispensable body of knowledge developed over the past several decades. Broad Coverage Full treatment of data structures and algorithms for sorting, searching, graph processing, and string processing, including fifty algorithms every programmer should know. See

Managing Software Projects

Braun (Universitat der Bundeswehr) presents 13 contributions by scholars in two fields of history--musicology and technology. Topics include the role of Yamaha in Japan's musical development, the social construction of the synthesizer, the player piano as a precursor of computer music, the musical role of airplanes and locomotives, the origins of the 45-RPM record, violin vibrato and the phonograph, Jimi Hendrix, the aesthetic challenge of sound sampling, and others. Originally published in 2000 as *I Sing the Body Electric: Music and Technology in the 20th Century*. Annotation copyrighted by Book News, Inc., Portland, OR.

Artificial Intelligence and Algorithms in Intelligent Systems

Foundations of Algorithms, Fifth Edition offers a well-balanced presentation of algorithm design, complexity analysis of algorithms, and computational complexity. Ideal for any computer science students with a background in college algebra and discrete structures, the text presents mathematical concepts using standard English and simple notation to maximize accessibility and user-friendliness. Concrete examples, appendices reviewing essential mathematical concepts, and a student-focused approach reinforce theoretical explanations and promote learning and retention. C++ and Java pseudocode help students better

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understand complex algorithms. A chapter on numerical algorithms includes a review of basic number theory, Euclid's Algorithm for finding the greatest common divisor, a review of modular arithmetic, an algorithm for solving modular linear equations, an algorithm for computing modular powers, and the new polynomial-time algorithm for determining whether a number is prime. The revised and updated Fifth Edition features an all-new chapter on genetic algorithms and genetic programming, including approximate solutions to the traveling salesperson problem, an algorithm for an artificial ant that navigates along a trail of food, and an application to financial trading. With fully updated exercises and examples throughout and improved instructor resources including complete solutions, an Instructor's Manual and PowerPoint lecture outlines, Foundations of Algorithms is an essential text for undergraduate and graduate courses in the design and analysis of algorithms. Key features include:

- The only text of its kind with a chapter on genetic algorithms
- Use of C++ and Java pseudocode to help students better understand complex algorithms
- No calculus background required
- Numerous clear and student-friendly examples throughout the text
- Fully updated exercises and examples throughout
- Improved instructor resources, including complete solutions, an Instructor's Manual, and PowerPoint lecture outlines

Discrete Structures, Logic, and Computability

Probabilistic Reasoning in Intelligent Systems is a complete and accessible account

of the theoretical foundations and computational methods that underlie plausible reasoning under uncertainty. The author provides a coherent explication of probability as a language for reasoning with partial belief and offers a unifying perspective on other AI approaches to uncertainty, such as the Dempster-Shafer formalism, truth maintenance systems, and nonmonotonic logic. The author distinguishes syntactic and semantic approaches to uncertainty--and offers techniques, based on belief networks, that provide a mechanism for making semantics-based systems operational. Specifically, network-propagation techniques serve as a mechanism for combining the theoretical coherence of probability theory with modern demands of reasoning-systems technology: modular declarative inputs, conceptually meaningful inferences, and parallel distributed computation. Application areas include diagnosis, forecasting, image interpretation, multi-sensor fusion, decision support systems, plan recognition, planning, speech recognition--in short, almost every task requiring that conclusions be drawn from uncertain clues and incomplete information. Probabilistic Reasoning in Intelligent Systems will be of special interest to scholars and researchers in AI, decision theory, statistics, logic, philosophy, cognitive psychology, and the management sciences. Professionals in the areas of knowledge-based systems, operations research, engineering, and statistics will find theoretical and computational tools of immediate practical use. The book can also be used as an excellent text for graduate-level courses in AI, operations research, or applied probability.

Foundations of Algorithms Using Java Pseudocode

Artificial Intelligence

Evolutionary Algorithms (EA) are powerful search and optimisation techniques inspired by the mechanisms of natural evolution. They imitate, on an abstract level, biological principles such as a population based approach, the inheritance of information, the variation of information via crossover/mutation, and the selection of individuals based on fitness. The most well-known class of EA are Genetic Algorithms (GA), which have received much attention not only in the scientific community lately. Other variants of EA, in particular Genetic Programming, Evolution Strategies, and Evolutionary Programming are less popular, though very powerful too. Traditionally, most practical applications of EA have appeared in the technical sector. Management problems, for a long time, have been a rather neglected field of EA-research. This is surprising, since the great potential of evolutionary approaches for the business and economics domain was recognised in pioneering publications quite a while ago. John Holland, for instance, in his seminal book *Adaptation in Natural and Artificial Systems* (The University of Michigan Press, 1975) identified economics as one of the prime targets for a theory of adaptation, as formalised in his reproductive plans (later called Genetic Algorithms).

Data Mining: Know It All

Part of the new Digital Filmmaker Series! Digital Filmmaking: An Introduction is the first book in the new Digital Filmmaker Series. Designed for an introductory level course in digital filmmaking, it is intended for anyone who has an interest in telling stories with pictures and sound and won't assume any familiarity with equipment or concepts on the part of the student. In addition to the basics of shooting and editing, different story forms are introduced from documentary and live events through fictional narratives. Each of the topics is covered in enough depth to allow anyone with a camera and a computer to begin creating visual projects of quality.

Foundations of Algorithms Using C++ Pseudocode, Third Edition

Foundations of Algorithms Using Java Pseudocode offers a well-balanced presentation on designing algorithms, complexity analysis of algorithms, and computational complexity that is accessible to mainstream computer science students who have a background in college algebra and discrete structures. To support their approach, the authors present mathematical concepts using standard English and a simpler notation than is found in most texts. A review of essential mathematical concepts is presented in three appendices. In addition, they

reinforce the explanations with numerous concrete examples to help students grasp theoretical concepts.

Measured Words

Measured Words investigates the rich commerce between computation and writing that proliferated in fifteenth- and sixteenth-century Italy. Arielle Saiber explores the relationship between number, shape, and the written word in the works of four exceptional thinkers: Leon Battista Alberti's treatise on cryptography, Luca Pacioli's ideal proportions for designing Roman capital letters, Niccolò Tartaglia's poem embedding his solution to solving cubic equations, and Giambattista Della Porta's curious study on the elements of geometric curves. Although they came from different social classes and practiced the mathematical and literary arts at differing levels of sophistication, they were all guided by a sense that there exist deep ontological and epistemological bonds between computational and verbal thinking and production. Their shared view that a network or continuity exists between the arts yielded extraordinary results. Through measuring their words, literally and figuratively, they are models of what the very best interdisciplinary work can offer us.

Data Structures and Algorithms in Java

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understand complex algorithms No calculus background required Numerous clear and student-friendly examples throughout the text Fully updated exercises and examples throughout Improved instructor resources, including complete solutions, an Instructor s Manual, and PowerPoint lecture outlines"

Foundations of Algorithms

The SAGE Handbook of Quantitative Methodology for the Social Sciences is the definitive reference for teachers, students, and researchers of quantitative methods in the social sciences, as it provides a comprehensive overview of the major techniques used in the field. The contributors, top methodologists and researchers, have written about their areas of expertise in ways that convey the utility of their respective techniques, but, where appropriate, they also offer a fair critique of these techniques. Relevance to real-world problems in the social sciences is an essential ingredient of each chapter and makes this an invaluable resource.

Evolutionary Algorithms in Management Applications

Foundations of Algorithms Using C++ Pseudocode offers a well-balanced presentation on designing algorithms, complexity analysis of algorithms, &

computational complexity that is accessible to mainstream computer science students who have a background in college algebra & discrete structures. To support their approach, the authors present mathematical concepts using Standard English & a simpler notation than is found in most texts. A review of essential mathematical concepts is presented in three appendices. In addition, they reinforce the explanations with numerous concrete examples to help students grasp theoretical concepts.

Dynamic Programming and Its Applications

Learn algorithms for solving classic computer science problems with this concise guide covering everything from fundamental algorithms, such as sorting and searching, to modern algorithms used in machine learning and cryptography

Key Features Learn the techniques you need to know to design algorithms for solving complex problems Become familiar with neural networks and deep learning techniques Explore different types of algorithms and choose the right data structures for their optimal implementation

Book Description Algorithms have always played an important role in both the science and practice of computing. Beyond traditional computing, the ability to use algorithms to solve real-world problems is an important skill that any developer or programmer must have. This book will help you not only to develop the skills to select and use an algorithm to solve real-world problems but also to understand how it works. You'll start with an

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introduction to algorithms and discover various algorithm design techniques, before exploring how to implement different types of algorithms, such as searching and sorting, with the help of practical examples. As you advance to a more complex set of algorithms, you'll learn about linear programming, page ranking, and graphs, and even work with machine learning algorithms, understanding the math and logic behind them. Further on, case studies such as weather prediction, tweet clustering, and movie recommendation engines will show you how to apply these algorithms optimally. Finally, you'll become well versed in techniques that enable parallel processing, giving you the ability to use these algorithms for compute-intensive tasks. By the end of this book, you'll have become adept at solving real-world computational problems by using a wide range of algorithms.

What you will learn

- Explore existing data structures and algorithms found in Python libraries
- Implement graph algorithms for fraud detection using network analysis
- Work with machine learning algorithms to cluster similar tweets and process Twitter data in real time
- Predict the weather using supervised learning algorithms
- Use neural networks for object detection
- Create a recommendation engine that suggests relevant movies to subscribers
- Implement foolproof security using symmetric and asymmetric encryption on Google Cloud Platform (GCP)

Who this book is for

This book is for the serious programmer! Whether you are an experienced programmer looking to gain a deeper understanding of the math behind the algorithms or have limited programming or data science knowledge and want to learn more about how you can take advantage of these battle-tested

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algorithms to improve the way you design and write code, you'll find this book useful. Experience with Python programming is a must, although knowledge of data science is helpful but not necessary.

Foundations of Algorithms

For graduate and upper-level undergraduate courses in algorithms, this text provides an approach that emphasizes design techniques. Included are over 1000 exercises, with answers to one third of them at the back of the book.

Algorithmic Puzzles

This book presents the latest trends and approaches in artificial intelligence research and its application to intelligent systems. It discusses hybridization of algorithms, new trends in neural networks, optimisation algorithms and real-life issues related to the application of artificial methods. The book constitutes the second volume of the refereed proceedings of the Artificial Intelligence and Algorithms in Intelligent Systems of the 7th Computer Science On-line Conference 2018 (CSOC 2018), held online in April 2018.

Methods of IT Project Management

The SAGE Handbook of Quantitative Methodology for the Social Sciences

Computer Architecture/Software Engineering

Algorithms

Foundations of Algorithms, Fifth Edition offers a well-balanced presentation of algorithm design, complexity analysis of algorithms, and computational complexity. Ideal for any computer science students with a background in college algebra and discrete structures, the text presents mathematical concepts using standard English and simple notation to maximize accessibility and user-friendliness. Concrete examples, appendices reviewing essential mathematical concepts, and a student-focused approach reinforce theoretical explanations and promote learning and retention. C++ and Java pseudocode help students better understand complex algorithms. A chapter on numerical algorithms includes a review of basic number theory, Euclid's Algorithm for finding the greatest common divisor, a review of modular arithmetic, an algorithm for solving modular linear equations, an algorithm for computing modular powers, and the new polynomial-time algorithm for determining whether a number is prime. The revised and

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updated Fifth Edition features an all-new chapter on genetic algorithms and genetic programming, including approximate solutions to the traveling salesperson problem, an algorithm for an artificial ant that navigates along a trail of food, and an application to financial trading. With fully updated exercises and examples throughout and improved instructor resources including complete solutions, an Instructor's Manual and PowerPoint lecture outlines, Foundations of Algorithms is an essential text for undergraduate and graduate courses in the design and analysis of algorithms. Key features include:

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C++ Plus Data Structures

The strong algorithmic emphasis of Discrete Mathematics is independent of a specific programming language, allowing students to concentrate on foundational problem-solving and analytical skills. Instructors get the topical breadth and organizational flexibility to tailor the course to the level and interests of their students. Algorithms are presented in English, eliminating the need for knowledge of a particular programming language. Computational and algorithmic exercise

sets follow each chapter section and supplementary exercises and computer projects are included in the end-of-chapter material. This Fifth Edition features a new Chapter 3 covering matrix codes, error correcting codes, congruence, Euclidean algorithm and Diophantine equations, and the RSA algorithm. MARKET: Intended for use in a one-semester introductory course in discrete mathematics.

Computer Networking for LANS to WANS: Hardware, Software and Security

The design and analysis of efficient data structures has long been recognized as a key component of the Computer Science curriculum. Goodrich, Tomassia and Goldwasser's approach to this classic topic is based on the object-oriented paradigm as the framework of choice for the design of data structures. For each ADT presented in the text, the authors provide an associated Java interface. Concrete data structures realizing the ADTs are provided as Java classes implementing the interfaces. The Java code implementing fundamental data structures in this book is organized in a single Java package, `net.datastructures`. This package forms a coherent library of data structures and algorithms in Java specifically designed for educational purposes in a way that is complimentary with the Java Collections Framework.

Probabilistic Reasoning in Intelligent Systems

Probabilistic Methods for Financial and Marketing Informatics aims to provide students with insights and a guide explaining how to apply probabilistic reasoning to business problems. Rather than dwelling on rigor, algorithms, and proofs of theorems, the authors concentrate on showing examples and using the software package Netica to represent and solve problems. The book contains unique coverage of probabilistic reasoning topics applied to business problems, including marketing, banking, operations management, and finance. It shares insights about when and why probabilistic methods can and cannot be used effectively. This book is recommended for all R&D professionals and students who are involved with industrial informatics, that is, applying the methodologies of computer science and engineering to business or industry information. This includes computer science and other professionals in the data management and data mining field whose interests are business and marketing information in general, and who want to apply AI and probabilistic methods to their problems in order to better predict how well a product or service will do in a particular market, for instance. Typical fields where this technology is used are in advertising, venture capital decision making, operational risk measurement in any industry, credit scoring, and investment science. 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 informatics.

Algorithms

Computer Science

Foundations of Algorithms

Learning Bayesian Networks

Thoroughly updated, the new Third Edition of Discrete Structures, Logic, and Computability introduces beginning computer science and computer engineering students to the fundamental techniques and ideas used by computer scientists today, focusing on topics from the fields of mathematics, logic, and computer science itself. Dr. Hein provides elementary introductions to those ideas and techniques that are necessary to understand and practice the art and science of computing. The text contains all the topics for discrete structures in the reports of the IEEE/ACM Joint Task Force on Computing Curricula for computer science programs and for computer engineering programs.

Secure Transaction Protocol Analysis

C++ Data Structures: A Laboratory Course exemplifies the active learning experience. With a dynamic learn-by-doing focus, this laboratory manual encourages students to explore data structures by implementing them, a process through which students discover how data structures work and how they can be applied. Providing a framework that offers feedback and support, this text challenges students to exercise their creativity in both programming and analysis. Topics covered include: Text ADT, BlogEntry ADT, Stack ADT, Heap ADT, Weighted Graph ADT, and much more!

Algorithms

Designed for the beginner yet useful for the expert, COMPUTER NETWORKING FROM LANS TO WANS: HARDWARE, SOFTWARE, AND SECURITY covers all aspects of computer networking. Hardware details such as the operation of Ethernet, network media and devices, including hubs, switches, routers, and physical topology, are provided, with many design and troubleshooting examples. Software details such as the operation of the TCP/IP protocols, routing protocols, and network operating systems are examined. Applications, such as FTP, Telnet, and email are explained in detail, as are the requirements of writing client/server

applications, with several working examples provided. Techniques for applying security to networking and computing activities are covered, including network management, secure communication methods such as SSH, TLS, and VPN, and the fundamentals of forensics. A strong pedagogical approach introduces each new topic with practical, real-world examples, and step-by-step Hands-On Projects. Important Notice: Media content referenced within the product description or the product text may not be available in the ebook version.

Encyclopedia of Algorithms

The first edition of this popular textbook, Contemporary Artificial Intelligence, provided an accessible and student friendly introduction to AI. This fully revised and expanded update, Artificial Intelligence: With an Introduction to Machine Learning, Second Edition, retains the same accessibility and problem-solving approach, while providing new material and methods. The book is divided into five sections that focus on the most useful techniques that have emerged from AI. The first section of the book covers logic-based methods, while the second section focuses on probability-based methods. Emergent intelligence is featured in the third section and explores evolutionary computation and methods based on swarm intelligence. The newest section comes next and provides a detailed overview of neural networks and deep learning. The final section of the book focuses on natural language understanding. Suitable for undergraduate and beginning graduate

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students, this class-tested textbook provides students and other readers with key AI methods and algorithms for solving challenging problems involving systems that behave intelligently in specialized domains such as medical and software diagnostics, financial decision making, speech and text recognition, genetic analysis, and more.

Foundations of Algorithms

This book offers a well-balanced presentation on designing algorithms, complexity analysis of algorithms, and computational complexity that is accessible to mainstream computer science students who have a background in college algebra and discrete structures.

Algorithmics

This book serves as a textbook or reference for anyone with an interest in probabilistic modeling in the fields of computer science, computer engineering, and electrical engineering. This text is also a resource for courses on expert systems, machine learning, and artificial intelligence. Beginning with a basic theoretical introduction, the author then provides a discussion of inference, methods of learning, and applications based on Bayesian networks and beyond.

Foundations of Neural Networks, Fuzzy Systems, and Knowledge Engineering

One of Springer's renowned Major Reference Works, this awesome achievement provides a comprehensive set of solutions to important algorithmic problems for students and researchers interested in quickly locating useful information. This first edition of the reference focuses on high-impact solutions from the most recent decade, while later editions will widen the scope of the work. All entries have been written by experts, while links to Internet sites that outline their research work are provided. The entries have all been peer-reviewed. This defining reference is published both in print and on line.

Object-oriented Data Structures Using Java

This Book Covers All Aspects Of Network And Communications Cabling, Including Physical Characteristics Of The Various Types Of Cabling, Installation Design And Implementation Guidelines, Cabling Standards And Specifications, Software And Hardware Tools For Testing And Monitoring Installations, And Premises Wiring. With A Heavy Focus On Developing Hands-On Skills And Including Many Labs And Group Exercises For Learning Reinforcement, The Book Thoroughly Prepares Readers For The Certification Objectives Covered In The BICSI, NACSE And ETA Exams.

Music and Technology in the Twentieth Century

Methods of IT Project Management (Third Edition) is built around the latest version of the Project Management Body of Knowledge (PMBOK) and covers best practices unique to the IT field. It is designed for use in graduate, advanced undergraduate, and professional IT project management courses to prepare students for success in the IT field, and to prepare them to pass the Project Management Professional (PMP) certification exam given by the Project Management Institute (PMI), the world's leading certification in the field of project management. Unlike other project management texts, Methods of IT Project Management follows the IT project life cycle, from overview and initiation to execution, control, and closing. An enterprise-scale IT project (macro-case study) runs through the entire text. Each section presents mini-cases based on the larger case and focuses on new concepts presented in each section. Readers gain practical knowledge of IT project management workflows, at scale, while building technical knowledge and skills required to pass the PMP. Mini-case studies encourage deep retention, prompt rich in-class discussion, and challenge more advanced students and professionals alike. Unique skills covered can be put directly into practice. An appendix presents practice study questions and advice on preparing for and passing the PMP exam. The revised third edition includes expanded coverage of agile system development methodologies, leadership and negotiation skills, and process maturity models.

40 Algorithms Every Programmer Should Know

This book brings all of the elements of data mining together in a single volume, saving the reader the time and expense of making multiple purchases. It consolidates both introductory and advanced topics, thereby covering the gamut of data mining and machine learning tactics ? from data integration and pre-processing, to fundamental algorithms, to optimization techniques and web mining methodology. The proposed book expertly combines the finest data mining material from the Morgan Kaufmann portfolio. Individual chapters are derived from a select group of MK books authored by the best and brightest in the field. These chapters are combined into one comprehensive volume in a way that allows it to be used as a reference work for those interested in new and developing aspects of data mining. This book represents a quick and efficient way to unite valuable content from leading data mining experts, thereby creating a definitive, one-stop-shopping opportunity for customers to receive the information they would otherwise need to round up from separate sources. Chapters contributed by various recognized experts in the field let the reader remain up to date and fully informed from multiple viewpoints. Presents multiple methods of analysis and algorithmic problem-solving techniques, enhancing the reader's technical expertise and ability to implement practical solutions. Coverage of both theory and practice brings all of the elements of data mining together in a single volume, saving the reader the time and expense of making multiple purchases.

Discrete Mathematics

The present volume arose from the need for a comprehensive coverage of the state of the art in security protocol analysis. It aims to serve as an overall course-aid and to provide self-study material for researchers and students in formal methods theory and applications in e-commerce, data analysis and data mining. The volume will also be useful to anyone interested in secure e-commerce. The book is organized in eight chapters covering the main approaches and tools in formal methods for security protocol analysis. It starts with an introductory chapter presenting the fundamentals and background knowledge with respect to formal methods and security protocol analysis. Chapter 2 provides an overview of related work in this area, including basic concepts and terminology. Chapters 3 and 4 show a logical framework and a model checker for analyzing secure transaction protocols. Chapter 5 explains how to deal with uncertainty issues in secure messages, including inconsistent messages and conflicting beliefs in messages. Chapter 6 integrates data mining with security protocol analysis, and Chapter 7 develops a new technique for detecting collusion attack in security protocols. Chapter 8 gives a summary of the chapters and presents a brief discussion of some emerging issues in the field.

Probabilistic Methods for Financial and Marketing Informatics

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Dynamic Programming and Its Applications provides information pertinent to the theory and application of dynamic programming. This book presents the development and future directions for dynamic programming. Organized into four parts encompassing 23 chapters, this book begins with an overview of recurrence conditions for countable state Markov decision problems, which ensure that the optimal average reward exists and satisfies the functional equation of dynamic programming. This text then provides an extensive analysis of the theory of successive approximation for Markov decision problems. Other chapters consider the computational methods for deterministic, finite horizon problems, and present a unified and insightful presentation of several foundational questions. This book discusses as well the relationship between policy iteration and Newton's method. The final chapter deals with the main factors severely limiting the application of dynamic programming in practice. This book is a valuable resource for growth theorists, economists, biologists, mathematicians, and applied management scientists.

Foundations of Algorithms Using C++ Pseudocode, Third Edition

Algorithmic puzzles are puzzles involving well-defined procedures for solving problems. This book will provide an enjoyable and accessible introduction to

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algorithmic puzzles that will develop the reader's algorithmic thinking. The first part of this book is a tutorial on algorithm design strategies and analysis techniques. Algorithm design strategies — exhaustive search, backtracking, divide-and-conquer and a few others — are general approaches to designing step-by-step instructions for solving problems. Analysis techniques are methods for investigating such procedures to answer questions about the ultimate result of the procedure or how many steps are executed before the procedure stops. The discussion is an elementary level, with puzzle examples, and requires neither programming nor mathematics beyond a secondary school level. Thus, the tutorial provides a gentle and entertaining introduction to main ideas in high-level algorithmic problem solving. The second and main part of the book contains 150 puzzles, from centuries-old classics to newcomers often asked during job interviews at computing, engineering, and financial companies. The puzzles are divided into three groups by their difficulty levels. The first fifty puzzles in the Easier Puzzles section require only middle school mathematics. The sixty puzzle of average difficulty and forty harder puzzles require just high school mathematics plus a few topics such as binary numbers and simple recurrences, which are reviewed in the tutorial. All the puzzles are provided with hints, detailed solutions, and brief comments. The comments deal with the puzzle origins and design or analysis techniques used in the solution. The book should be of interest to puzzle lovers, students and teachers of algorithm courses, and persons expecting to be given puzzles during job interviews.

Principles of Computer Networks and Communications

Principles of Computer Networks and Communications provides a blend of foundation material and historical context that follows a developmental approach to understanding network and communications technology. Following a discourse that keeps the business student's needs squarely in mind, M. Barry Dumas and Morris Schwartz create a text that allows the student to develop a comprehension of the subject matter and an overall appreciation for the telecommunications field.

Foundations of Algorithms

Neural networks and fuzzy systems are different approaches to introducing human-like reasoning into expert systems. This text is the first to combine the study of these two subjects, their basics and their use, along with symbolic AI methods to build comprehensive artificial intelligence systems. In a clear and accessible style, Kasabov describes rule-based and connectionist techniques and then their combinations, with fuzzy logic included, showing the application of the different techniques to a set of simple prototype problems, which makes comparisons possible. A particularly strong feature of the text is that it is filled with applications in engineering, business, and finance. AI problems that cover most of the application-oriented research in the field (pattern recognition, speech and image

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processing, classification, planning, optimization, prediction, control, decision making, and game simulations) are discussed and illustrated with concrete examples. Intended both as a text for advanced undergraduate and postgraduate students as well as a reference for researchers in the field of knowledge engineering, Foundations of Neural Networks, Fuzzy Systems, and Knowledge Engineering has chapters structured for various levels of teaching and includes original work by the author along with the classic material. Data sets for the examples in the book as well as an integrated software environment that can be used to solve the problems and do the exercises at the end of each chapter are available free through anonymous ftp.

C++ Data Structures: a Laboratory Course

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