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The Algorithm Design Manual Jan 04 2023

This newly expanded and updated second edition of the best-selling classic continues to take the "mystery" out of designing algorithms, and analyzing their efficacy and efficiency.

Expanding on the first edition, the book now serves as the primary textbook of choice for algorithm design courses while maintaining its status as the premier practical reference guide to algorithms for programmers, researchers, and students. The reader-friendly Algorithm Design Manual provides straightforward access to combinatorial algorithms technology, stressing design over analysis. The first part, Techniques, provides accessible instruction on methods for designing and analyzing computer algorithms. The second part, Resources, is intended for browsing and reference, and comprises the catalog of algorithmic resources, implementations and an extensive bibliography.

NEW to the second edition:

- Doubles the tutorial material and exercises over the first edition
- Provides full online support for lecturers, and a completely updated and improved website component with lecture slides, audio and video
- Contains a unique catalog identifying the 75 algorithmic problems that arise most often in practice, leading the reader down the right path to solve them
- Includes several NEW "war stories" relating experiences from real-world applications
- Provides up-to-date links leading to the very best algorithm implementations available in C, C++, and Java

[Prisoner B-3087](#) Oct 28 2019 Survive. At any cost. 10 concentration camps. 10 different places where you are starved, tortured, and worked mercilessly. It's something no one could imagine surviving. But it is what Yanek Gruener has to face. As a Jewish boy in 1930s Poland, Yanek is at the mercy of the Nazis who have taken over. Everything he has, and everyone he loves, have been snatched brutally from him. And then Yanek himself is taken prisoner -- his arm tattooed with the words PRISONER B-3087.

He is forced from one nightmarish concentration camp to another, as World War II rages all around him. He encounters evil he could have never imagined, but also sees surprising glimpses of hope amid the horror. He just barely escapes death, only to confront it again seconds later. Can Yanek make it through the terror without losing his hope, his will -- and, most of all, his sense of who he really is inside? Based on an astonishing true story.

[Mathematica](#) May 28 2022

[Programming Challenges](#) Oct 01 2022 There are many distinct pleasures associated with computer programming. Craftsmanship has its quiet rewards, the satisfaction that comes from building a useful object and making it work. Excitement arrives with the flash of insight that cracks a previously intractable problem. The spiritual quest for elegance can turn the hacker into an artist. There are pleasures in parsimony, in squeezing the last drop of performance out of clever algorithms and tight coding. The games, puzzles, and challenges of problems from international programming competitions are a great way to experience these pleasures while improving your algorithmic and coding skills. This book contains over 100 problems that have appeared in previous programming contests, along with discussions of the theory and ideas necessary to attack them. Instant online grading for all of these problems is available from two WWW robot judging sites. Combining this book with a judge gives an exciting new way to challenge and improve your programming skills. This book can be used for self-study, for teaching innovative courses in algorithms and programming, and in training for international competition. The problems in this book have been selected from over 1,000 programming problems at the Universidad de Valladolid online judge. The judge has ruled on well over one million submissions from 27,000 registered users around the world to date. We have taken only the best of the best, the most fun, exciting,

and interesting problems available.

The Woman in the White Kimono Sep 07 2020

Oceans and decades apart, two women are inextricably bound by the secrets between them. Japan, 1957. Seventeen-year-old Naoko Nakamura's prearranged marriage to the son of her father's business associate would secure her family's status in their traditional Japanese community, but Naoko has fallen for another man—an American sailor, a gaijin—and to marry him would bring great shame upon her entire family. When it's learned Naoko carries the sailor's child, she's cast out in disgrace and forced to make unimaginable choices with consequences that will ripple across generations. America, present day. Tori Kovac, caring for her dying father, finds a letter containing a shocking revelation—one that calls into question everything she understood about him, her family and herself. Setting out to learn the truth behind the letter, Tori's journey leads her halfway around the world to a remote seaside village in Japan, where she must confront the demons of the past to pave a way for redemption. In breathtaking prose and inspired by true stories from a devastating and little-known era in Japanese and American history, *The Woman in the White Kimono* illuminates a searing portrait of one woman torn between her culture and her heart, and another woman on a journey to discover the true meaning of home.

The Hope Chest Aug 19 2021 Celebrate the 100th anniversary of the 19th Amendment with this stirring historical novel about women's suffrage! She's searching for her sister. Along the way, she finds a friend . . . and a cause. It's been three years since Violet's sister, Chloe, left home, and Violet is determined to find her! She runs away and follows her sister's trail all the way to New York and then Tennessee. There, she discovers not only Chloe but the fierce fight for women's right to vote. And what a fight it is! Violet and her new friend Myrtle join Chloe in the Suffragists' cause, eager to sway legislators to their side. Violet knows that her parents would surely disapprove of her decisions, but if fighting for justice makes her the wrong kind of girl . . . then why does it feel so right? A perfect Common Core tie-in, *The Hope Chest* includes back matter with period photographs, historical

notes about the suffrage movement, a "Voting in America" timeline, and other activities. It's also a New York State curriculum title for fourth grade. Don't miss *Starting from Seneca Falls*, another historical novel about women's suffrage from the author of *The Hope Chest*!

Adventures of a Mathematician Dec 31 2019

The true story that inspired the 2020 film. The autobiography of mathematician Stanislaw Ulam, one of the great scientific minds of the twentieth century, tells a story rich with amazingly prophetic speculations and peppered with lively anecdotes. As a member of the Los Alamos National Laboratory from 1944 on, Ulam helped to precipitate some of the most dramatic changes of the postwar world. He was among the first to use and advocate computers for scientific research, originated ideas for the nuclear propulsion of space vehicles, and made fundamental contributions to many of today's most challenging mathematical projects. With his wide-ranging interests, Ulam never emphasized the importance of his contributions to the research that resulted in the hydrogen bomb. Now Daniel Hirsch and William Mathews reveal the true story of Ulam's pivotal role in the making of the "Super," in their historical introduction to this behind-the-scenes look at the minds and ideas that ushered in the nuclear age. An epilogue by Françoise Ulam and Jan Mycielski sheds new light on Ulam's character and mathematical originality.

Telegraph Days May 16 2021 Orphaned by her father's suicide, Nellie and her brother, Jackson, take jobs in the western town of Rita Blanca, where deputy sheriff Jackson is forced to confront six gunfighter brothers and telegrapher Nellie pursues a romance with Buffalo Bill during the Battle of the O.K. Corral. Reprint.

Thick Big Data Aug 26 2019 The social sciences are becoming datafied. The questions once considered the domain of sociologists are now answered by data scientists operating on large datasets and breaking with methodological tradition, for better or worse. The traditional social sciences, such as sociology or anthropology, are under the double threat of becoming marginalized or even irrelevant, both from new methods of research which require more computational skills and from increasing competition from the corporate world which

gains an additional advantage based on data access. However, unlike data scientists, sociologists and anthropologists have a long history of doing qualitative research. The more quantified datasets we have, the more difficult it is to interpret them without adding layers of qualitative interpretation. Big Data therefore needs Thick Data. This book presents the available arsenal of new methods and tools for studying society both quantitatively and qualitatively, opening ground for the social sciences to take the lead in analysing digital behaviour. It shows that Big Data can and should be supplemented and interpreted through thick data as well as cultural analysis. Thick Big Data is critically important for students and researchers in the social sciences to understand the possibilities of digital analysis, both in the quantitative and qualitative area, and to successfully build mixed-methods approaches.

The Algorithm Design Manual Nov 02 2022 "My absolute favorite for this kind of interview preparation is Steven Skiena's *The Algorithm Design Manual*. More than any other book it helped me understand just how astonishingly commonplace ... graph problems are -- they should be part of every working programmer's toolkit. The book also covers basic data structures and sorting algorithms, which is a nice bonus. ... every 1 - pager has a simple picture, making it easy to remember. This is a great way to learn how to identify hundreds of problem types." (Steve Yegge, *Get that Job at Google*) "Steven Skiena's *Algorithm Design Manual* retains its title as the best and most comprehensive practical algorithm guide to help identify and solve problems. ... Every programmer should read this book, and anyone working in the field should keep it close to hand. ... This is the best investment ... a programmer or aspiring programmer can make." (Harold Thimbleby, *Times Higher Education*) "It is wonderful to open to a random spot and discover an interesting algorithm. This is the only textbook I felt compelled to bring with me out of my student days.... The color really adds a lot of energy to the new edition of the book!" (Cory Bart, University of Delaware) "This is the most approachable book on algorithms I have." (Megan Squire, Elon University) --- This newly expanded and updated third edition of the best-

selling classic continues to take the "mystery" out of designing algorithms, and analyzing their efficiency. It serves as the primary textbook of choice for algorithm design courses and interview self-study, while maintaining its status as the premier practical reference guide to algorithms for programmers, researchers, and students. The reader-friendly *Algorithm Design Manual* provides straightforward access to combinatorial algorithms technology, stressing design over analysis. The first part, *Practical Algorithm Design*, provides accessible instruction on methods for designing and analyzing computer algorithms. The second part, the *Hitchhiker's Guide to Algorithms*, is intended for browsing and reference, and comprises the catalog of algorithmic resources, implementations, and an extensive bibliography.

NEW to the third edition: -- New and expanded coverage of randomized algorithms, hashing, divide and conquer, approximation algorithms, and quantum computing -- Provides full online support for lecturers, including an improved website component with lecture slides and videos -- Full color illustrations and code instantly clarify difficult concepts -- Includes several new "war stories" relating experiences from real-world applications -- Over 100 new problems, including programming-challenge problems from LeetCode and Hackerrank. -- Provides up-to-date links leading to the best implementations available in C, C++, and Java

Additional Learning Tools: -- Contains a unique catalog identifying the 75 algorithmic problems that arise most often in practice, leading the reader down the right path to solve them -- Exercises include "job interview problems" from major software companies -- Highlighted "take home lessons" emphasize essential concepts -- The "no theorem-proof" style provides a uniquely accessible and intuitive approach to a challenging subject -- Many algorithms are presented with actual code (written in C) -- Provides comprehensive references to both survey articles and the primary literature

Written by a well-known algorithms researcher who received the IEEE Computer Science and Engineering Teaching Award, this substantially enhanced third edition of *The Algorithm Design Manual* is an essential learning tool for students and professionals needed a solid grounding in

algorithms. Professor Skiena is also the author of the popular Springer texts, *The Data Science Design Manual* and *Programming Challenges: The Programming Contest Training Manual*.

Representation Learning for Natural

Language Processing Jan 30 2020 This open access book provides an overview of the recent advances in representation learning theory, algorithms and applications for natural language processing (NLP). It is divided into three parts. Part I presents the representation learning techniques for multiple language entries, including words, phrases, sentences and documents. Part II then introduces the representation techniques for those objects that are closely related to NLP, including entity-based world knowledge, sememe-based linguistic knowledge, networks, and cross-modal entries. Lastly, Part III provides open resource tools for representation learning techniques, and discusses the remaining challenges and future research directions. The theories and algorithms of representation learning presented can also benefit other related domains such as machine learning, social network analysis, semantic Web, information retrieval, data mining and computational biology. This book is intended for advanced undergraduate and graduate students, post-doctoral fellows, researchers, lecturers, and industrial engineers, as well as anyone interested in representation learning and natural language processing.

Graph Representation Learning Aug 31 2022

This book is a foundational guide to graph representation learning, including state-of-the-art advances, and introduces the highly successful graph neural network (GNN) formalism. Graph-structured data is ubiquitous throughout the natural and social sciences, from telecommunication networks to quantum chemistry. Building relational inductive biases into deep learning architectures is crucial for creating systems that can learn, reason, and generalize from this kind of data. Recent years have seen a surge in research on graph representation learning, including techniques for deep graph embeddings, generalizations of convolutional neural networks to graph-structured data, and neural message-passing approaches inspired by belief propagation. These advances in graph representation learning

have led to new state-of-the-art results in numerous domains, including chemical synthesis, 3D vision, recommender systems, question answering, and social network analysis. It begins with a discussion of the goals of graph representation learning as well as key methodological foundations in graph theory and network analysis. Following this, the book introduces and reviews methods for learning node embeddings, including random-walk-based methods and applications to knowledge graphs. It then provides a technical synthesis and introduction to the highly successful graph neural network (GNN) formalism, which has become a dominant and fast-growing paradigm for deep learning with graph data. The book concludes with a synthesis of recent advancements in deep generative models for graphs -- a nascent but quickly growing subset of graph representation learning.

Mathematica Cookbook Jul 18 2021

Mathematica Cookbook helps you master the application's core principles by walking you through real-world problems. Ideal for browsing, this book includes recipes for working with numerics, data structures, algebraic equations, calculus, and statistics. You'll also venture into exotic territory with recipes for data visualization using 2D and 3D graphic tools, image processing, and music. Although Mathematica 7 is a highly advanced computational platform, the recipes in this book make it accessible to everyone -- whether you're working on high school algebra, simple graphs, PhD-level computation, financial analysis, or advanced engineering models. Learn how to use Mathematica at a higher level with functional programming and pattern matching Delve into the rich library of functions for string and structured text manipulation Learn how to apply the tools to physics and engineering problems Draw on Mathematica's access to physics, chemistry, and biology data Get techniques for solving equations in computational finance Learn how to use Mathematica for sophisticated image processing Process music and audio as musical notes, analog waveforms, or digital sound samples

Flight of the Sparrow May 04 2020 From the author of *Emily's House* comes a "compelling, emotionally gripping"* novel of historical

fiction—perfect for readers of America’s First Daughter. Massachusetts Bay Colony, 1676. Even before Mary Rowlandson was captured by Indians on a winter day of violence and terror, she sometimes found herself in conflict with her rigid Puritan community. Now, her home destroyed, her children lost to her, she has been sold into the service of a powerful woman tribal leader, made a pawn in the ongoing bloody struggle between English settlers and native people. Battling cold, hunger, and exhaustion, Mary witnesses harrowing brutality but also unexpected kindness. To her confused surprise, she is drawn to her captors’ open and straightforward way of life, a feeling further complicated by her attraction to a generous, protective English-speaking native known as James Printer. All her life, Mary has been taught to fear God, submit to her husband, and abhor Indians. Now, having lived on the other side of the forest, she begins to question the edicts that have guided her, torn between the life she knew and the wisdom the natives have shown her. Based on the compelling true narrative of Mary Rowlandson, *Flight of the Sparrow* is an evocative tale that transports the reader to a little-known time in early America and explores the real meanings of freedom, faith, and acceptance. READERS GUIDE INCLUDED

The Dutch Wife Dec 23 2021 A sweeping story of survival during World War II Amsterdam, May 1943. As the tulips bloom and the Nazis tighten their grip across the city, the last signs of Dutch resistance are being swept away. Marijke de Graaf and her husband are arrested and deported to different concentration camps in Germany. Marijke is given a terrible choice: to suffer a slow death in the labor camp or—for a chance at survival—to join the camp brothel. On the other side of the barbed wire, SS officer Karl Mÿller arrives at the camp hoping to live up to his father’s expectations of wartime glory. When he encounters the newly arrived Marijke, this meeting changes their lives forever. Woven into the narrative across space and time is Luciano Wagner’s ordeal in 1977 Buenos Aires, during the heat of the Argentine Dirty War. In his struggle to endure military captivity, he searches for ways to resist from a prison cell he may never leave. From the Netherlands to Germany to Argentina, *The Dutch Wife* braids

together the stories of three individuals who share a dark secret and are entangled in two of the most oppressive reigns of terror in modern history. This is a novel about the blurred lines between love and lust, abuse and resistance, and right and wrong, as well as the capacity for ordinary people to persevere and do the unthinkable in extraordinary circumstances.

Algorithms and Data Structures Sep 27 2019 Algorithms are at the heart of every nontrivial computer application, and algorithmics is a modern and active area of computer science. Every computer scientist and every professional programmer should know about the basic algorithmic toolbox: structures that allow efficient organization and retrieval of data, frequently used algorithms, and basic techniques for modeling, understanding and solving algorithmic problems. This book is a concise introduction addressed to students and professionals familiar with programming and basic mathematical language. Individual chapters cover arrays and linked lists, hash tables and associative arrays, sorting and selection, priority queues, sorted sequences, graph representation, graph traversal, shortest paths, minimum spanning trees, and optimization. The algorithms are presented in a modern way, with explicitly formulated invariants, and comment on recent trends such as algorithm engineering, memory hierarchies, algorithm libraries and certifying algorithms. The authors use pictures, words and high-level pseudocode to explain the algorithms, and then they present more detail on efficient implementations using real programming languages like C++ and Java. The authors have extensive experience teaching these subjects to undergraduates and graduates, and they offer a clear presentation, with examples, pictures, informal explanations, exercises, and some linkage to the real world. Most chapters have the same basic structure: a motivation for the problem, comments on the most important applications, and then simple solutions presented as informally as possible and as formally as necessary. For the more advanced issues, this approach leads to a more mathematical treatment, including some theorems and proofs. Finally, each chapter concludes with a section on further findings,

providing views on the state of research, generalizations and advanced solutions.

The Outcasts of Time Nov 21 2021 December 1348. What if you had just six days to save your soul? With the country in the grip of the Black Death, brothers John and William fear that they will shortly die and suffer in the afterlife. But as the end draws near, they are given an unexpected choice: either to go home and spend their last six days in their familiar world, or to search for salvation across the forthcoming centuries, living each one of their remaining days ninety-nine years after the last. John and William choose the future and find themselves in 1447, ignorant of almost everything going on around them. The year 1546 brings no more comfort, and 1645 challenges them in further unexpected ways. It is not just that technology is changing; things they have taken for granted all their lives prove to be short-lived. As they find themselves in stranger and stranger times, the reader travels with them, seeing the world through their eyes as it shifts through disease, progress, enlightenment, and war. But their time is running out—can they do something to redeem themselves before the six days are up?

Quicksort Jul 06 2020

Software Quality Assurance Oct 21 2021 This textbook offers undergraduate students an introduction to the main principles and some of the most popular techniques that constitute 'software quality assurance'. The book seeks to engage students by placing an emphasis on the underlying foundations of modern quality-assurance techniques, using these to highlight why techniques work, as opposed to merely focussing on how they work. In doing so it provides readers with a comprehensive understanding of where software quality fits into the development lifecycle (spoiler: everywhere), and what the key quality assurance activities are. The book focuses on quality assurance in a way that typical, more generic software engineering reference books do not. It is structured so that it can (and should) be read from cover to cover throughout the course of a typical university module. Specifically, it is Concise: it is small enough to be readable in its entirety over the course of a typical software engineering module. Explanatory: topics are discussed not merely in terms of what they are,

but also why they are the way they are - what events, technologies, and individuals or organisations helped to shape them into what they are now. Applied: topics are covered with a view to giving the reader a good idea of how they can be applied in practice, and by pointing, where possible, to evidence of their efficacy. The book starts from some of the most general notions (e.g. quality and development process), and gradually homes-in on the more specific activities, assuming knowledge of the basic notions established in prior chapters. Each chapter concludes with a "Key Points" section, summarising the main issues that have been covered in the chapter. Throughout the book there are exercises that serve to remind readers of relevant parts in the book that have been covered previously, and give them the opportunity to reflect on a particular topic and refer to related references.

Deep Learning Apr 02 2020 Although interest in machine learning has reached a high point, lofty expectations often scuttle projects before they get very far. How can machine learning—especially deep neural networks—make a real difference in your organization? This hands-on guide not only provides the most practical information available on the subject, but also helps you get started building efficient deep learning networks. Authors Adam Gibson and Josh Patterson provide theory on deep learning before introducing their open-source DeepLearning4j (DL4J) library for developing production-class workflows. Through real-world examples, you'll learn methods and strategies for training deep network architectures and running deep learning workflows on Spark and Hadoop with DL4J. Dive into machine learning concepts in general, as well as deep learning in particular Understand how deep networks evolved from neural network fundamentals Explore the major deep network architectures, including Convolutional and Recurrent Learn how to map specific deep networks to the right problem Walk through the fundamentals of tuning general neural networks and specific deep network architectures Use vectorization techniques for different data types with DataVec, DL4J's workflow tool Learn how to use DL4J natively on Spark and Hadoop

While Paris Slept Apr 26 2022 One woman must make the hardest decision of her life in this unforgettably moving story of resistance and faith during one of the darkest times in history. Santa Cruz, 1953. Jean-Luc is a man on the run from his past. The scar on his face is a small price to pay for surviving the horrors of Nazi occupation in France. Now, he has a new life in California, a family. He never expected the past to come knocking on his door. Paris, 1944. A young Jewish woman's past is torn apart in a heartbeat. Herded onto a train bound for Auschwitz, in an act of desperation she entrusts her most precious possession to a stranger. All she has left now is hope. On a darkened platform, two destinies become intertwined, and the choices each person makes will change the future in ways neither could have imagined. Told from alternating perspectives, *While Paris Slept* reflects on the power of love, resilience, and courage when all seems lost. Exploring the strength of family ties, and what it really means to love someone unconditionally, this debut novel will capture your heart. Includes a Reading Group Guide.

The Boy at the Top of the Mountain Dec 11 2020 The powerful, unforgettable new novel from the bestselling author of *The Boy in the Striped Pajamas*, for ages 12+. When Pierrot becomes an orphan, he must leave his home in Paris for a new life with his Aunt Beatrix, a servant in a wealthy household at the top of the German mountains. But this is no ordinary time, for it is 1935 and the Second World War is fast approaching; and this is no ordinary house, for this is the Berghof, the home of Adolf Hitler. Quickly, Pierrot is taken under Hitler's wing, and is thrown into an increasingly dangerous new world: a world of terror, secrets and betrayal, from which he may never be able to escape.

Mathematical Optimization Terminology Jun 04 2020 *Mathematical Optimization Terminology: A Comprehensive Glossary of Terms* is a practical book with the essential formulations, illustrative examples, real-world applications and main references on the topic. This book helps readers gain a more practical understanding of optimization, enabling them to apply it to their algorithms. This book also addresses the need for a practical publication that introduces these concepts and techniques. Discusses real-world

applications of optimization and how it can be used in algorithms Explains the essential formulations of optimization in mathematics Covers a more practical approach to optimization

Data Structures and Algorithms with Python

Oct 09 2020 This textbook explains the concepts and techniques required to write programs that can handle large amounts of data efficiently. Project-oriented and classroom-tested, the book presents a number of important algorithms supported by examples that bring meaning to the problems faced by computer programmers. The idea of computational complexity is also introduced, demonstrating what can and cannot be computed efficiently so that the programmer can make informed judgements about the algorithms they use. Features: includes both introductory and advanced data structures and algorithms topics, with suggested chapter sequences for those respective courses provided in the preface; provides learning goals, review questions and programming exercises in each chapter, as well as numerous illustrative examples; offers downloadable programs and supplementary files at an associated website, with instructor materials available from the author; presents a primer on Python for those from a different language background.

Computational Discrete Mathematics Mar 14

2021 This book was first published in 2003. *Combinatorica*, an extension to the popular computer algebra system *Mathematica*®, is the most comprehensive software available for teaching and research applications of discrete mathematics, particularly combinatorics and graph theory. This book is the definitive reference/user's guide to *Combinatorica*, with examples of all 450 *Combinatorica* functions in action, along with the associated mathematical and algorithmic theory. The authors cover classical and advanced topics on the most important combinatorial objects: permutations, subsets, partitions, and Young tableaux, as well as all important areas of graph theory: graph construction operations, invariants, embeddings, and algorithmic graph theory. In addition to being a research tool, *Combinatorica* makes discrete mathematics accessible in new and exciting ways to a wide variety of people, by encouraging computational experimentation and

visualization. The book contains no formal proofs, but enough discussion to understand and appreciate all the algorithms and theorems it contains.

Introduction to Data Science Apr 14 2021

This accessible and classroom-tested textbook/reference presents an introduction to the fundamentals of the emerging and interdisciplinary field of data science. The coverage spans key concepts adopted from statistics and machine learning, useful techniques for graph analysis and parallel programming, and the practical application of data science for such tasks as building recommender systems or performing sentiment analysis. Topics and features: provides numerous practical case studies using real-world data throughout the book; supports understanding through hands-on experience of solving data science problems using Python; describes techniques and tools for statistical analysis, machine learning, graph analysis, and parallel programming; reviews a range of applications of data science, including recommender systems and sentiment analysis of text data; provides supplementary code resources and data at an associated website.

The Winter Sea Jan 12 2021 A NEW YORK TIMES AND USA TODAY BESTSELLER! "I've loved every one of Susanna's books! She has bedrock research and a butterfly's delicate touch with characters—sure recipe for historical fiction that sucks you in and won't let go!"—DIANA GABALDON, #1 New York Times bestselling author of *Outlander* A hauntingly beautiful tale of love that transcends time: an American writer travels to Scotland to craft a novel about the Jacobite Rebellion, only to discover her own ancestral memories of that torrid moment in Scottish history... In the spring of 1708, an invading Jacobite fleet of French and Scottish soldiers nearly succeeded in landing the exiled James Stewart in Scotland to reclaim his crown. When young Sophia Paterson travels to Slains Castle by the sea, she finds herself in the midst of the dangerous intrigue. Now, Carrie McClelland hopes to turn that story into her next bestselling novel. Settling herself in the shadow of that historic Scottish castle, she starts to write. But when she discovers her novel is more fact than fiction, Carrie wonders if she might be

the only living person who knows the truth—the ultimate betrayal—that happened all those years ago. A sweeping historical fantasy of love, danger, and time travel, Susanna Kearsley masterfully weaves Scotland's past into Carrie's present in this stunning book. Also by Susanna Kearsley: *The Rose Garden* *Mariana* *The Shadowy Horses* *The Firebird* *The Splendour Falls* *Season of Storms* *A Desperate Fortune* *Named of the Dragon* *Belleweather*

Minimum-Distortion Embedding Nov 29

2019 *Minimum-Distortion Embedding* describes the theory behind and practical use of a cutting-edge artificial intelligence technique.

Accompanied by an open-source software package, PyMDE, it illustrates applying these AI techniques in areas such as images, co-networks, demographics, genetics, and biology.

Principles of Data Mining Mar 02 2020 This book explains and explores the principal techniques of Data Mining, the automatic extraction of implicit and potentially useful information from data, which is increasingly used in commercial, scientific and other application areas. It focuses on classification, association rule mining and clustering. Each topic is clearly explained, with a focus on algorithms not mathematical formalism, and is illustrated by detailed worked examples. The book is written for readers without a strong background in mathematics or statistics and any formulae used are explained in detail. It can be used as a textbook to support courses at undergraduate or postgraduate levels in a wide range of subjects including Computer Science, Business Studies, Marketing, Artificial Intelligence, Bioinformatics and Forensic Science. As an aid to self study, this book aims to help general readers develop the necessary understanding of what is inside the 'black box' so they can use commercial data mining packages discriminately, as well as enabling advanced readers or academic researchers to understand or contribute to future technical advances in the field. Each chapter has practical exercises to enable readers to check their progress. A full glossary of technical terms used is included. This expanded third edition includes detailed descriptions of algorithms for classifying streaming data, both stationary data, where the underlying model is fixed, and data

that is time-dependent, where the underlying model changes from time to time - a phenomenon known as concept drift.

Algorithms Feb 22 2022

The Data Science Design Manual Dec 03 2022

This engaging and clearly written textbook/reference provides a must-have introduction to the rapidly emerging interdisciplinary field of data science. It focuses on the principles fundamental to becoming a good data scientist and the key skills needed to build systems for collecting, analyzing, and interpreting data. The Data Science Design Manual is a source of practical insights that highlights what really matters in analyzing data, and provides an intuitive understanding of how these core concepts can be used. The book does not emphasize any particular programming language or suite of data-analysis tools, focusing instead on high-level discussion of important design principles. This easy-to-read text ideally serves the needs of undergraduate and early graduate students embarking on an "Introduction to Data Science" course. It reveals how this discipline sits at the intersection of statistics, computer science, and machine learning, with a distinct heft and character of its own. Practitioners in these and related fields will find this book perfect for self-study as well. Additional learning tools: Contains "War Stories," offering perspectives on how data science applies in the real world Includes "Homework Problems," providing a wide range of exercises and projects for self-study Provides a complete set of lecture slides and online video lectures at www.data-manual.com Provides "Take-Home Lessons," emphasizing the big-picture concepts to learn from each chapter Recommends exciting "Kaggle Challenges" from the online platform Kaggle Highlights "False Starts," revealing the subtle reasons why certain approaches fail Offers examples taken from the data science television show "The Quant Shop" (www.quant-shop.com)

Concrete Mathematics: A Foundation for Computer Science Mar 26 2022

The Ice Cream Queen of Orchard Street Feb 10 2021 "An upside-down, funhouse treat. You'll lick it up." - USA Today In 1913, little Malka Treynovsky flees Russia with her family. Bedazzled by tales of gold and movie stardom,

she tricks them into buying tickets for America. Yet no sooner do they land on the squalid Lower East Side of Manhattan when Malka is crippled and abandoned in the street. Taken in by an Italian ices peddler, she manages to survive through cunning and inventiveness. As she learns the secrets of his trade, she begins to shape her own destiny. She falls in love with a gorgeous, illiterate radical named Albert, and they set off across America in an ice cream truck. Slowly, she transforms herself into Lillian Dunkle, "The Ice Cream Queen" -- doyenne of an empire of ice cream franchises and a celebrated television personality. Yet Lillian Dunkle is nothing like the whimsical motherly persona she crafts for herself in the media. Conniving, profane, and irreverent, she is a supremely complex woman who prefers a good stiff drink to an ice cream cone. And when her past begins to catch up with her, everything she has spent her life building will be at stake.

Algorithm Design Jun 16 2021 Michael Goodrich and Roberto Tamassia, authors of the successful, *Data Structures and Algorithms in Java, 2/e*, have written *Algorithm Engineering*, a text designed to provide a comprehensive introduction to the design, implementation and analysis of computer algorithms and data structures from a modern perspective. This book offers theoretical analysis techniques as well as algorithmic design patterns and experimental methods for the engineering of algorithms. Market: Computer Scientists; Programmers.

Who's Bigger? Jul 30 2022 The authors use quantitative analysis to rank the prominence of more than 1,000 of history's biggest figures, while also discussing trends gleaned from the rankings, as well as the computational methods used to determine the rankings.

Software Design for Flexibility Nov 09 2020 Strategies for building large systems that can be easily adapted for new situations with only minor programming modifications. Time pressures encourage programmers to write code that works well for a narrow purpose, with no room to grow. But the best systems are evolvable; they can be adapted for new situations by adding code, rather than changing the existing code. The authors describe techniques they have found effective--over their combined 100-plus years of programming

experience--that will help programmers avoid programming themselves into corners. The authors explore ways to enhance flexibility by:

- Organizing systems using combinators to compose mix-and-match parts, ranging from small functions to whole arithmetics, with standardized interfaces
- Augmenting data with independent annotation layers, such as units of measurement or provenance
- Combining independent pieces of partial information using unification or propagation
- Separating control structure from problem domain with domain models, rule systems and pattern matching, propagation, and dependency-directed backtracking
- Extending the programming language, using dynamically extensible evaluators

Big Data Aug 07 2020 Summary Big Data teaches you to build big data systems using an architecture that takes advantage of clustered hardware along with new tools designed specifically to capture and analyze web-scale data. It describes a scalable, easy-to-understand approach to big data systems that can be built and run by a small team. Following a realistic example, this book guides readers through the theory of big data systems, how to implement them in practice, and how to deploy and operate them once they're built. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the Book Web-scale applications like social networks, real-time analytics, or e-commerce sites deal with a lot of data, whose volume and velocity exceed the limits of traditional database systems. These applications require architectures built around clusters of machines to store and process data of any size, or speed. Fortunately, scale and simplicity are not mutually exclusive. Big Data teaches you to build big data systems using an architecture designed specifically to capture and analyze web-scale data. This book presents the Lambda Architecture, a scalable, easy-to-understand approach that can be built and run by a small team. You'll explore the theory of big data systems and how to implement them in practice. In addition to discovering a general framework for processing big data, you'll learn specific technologies like Hadoop, Storm, and NoSQL databases. This book requires no previous

exposure to large-scale data analysis or NoSQL tools. Familiarity with traditional databases is helpful. What's Inside Introduction to big data systems Real-time processing of web-scale data Tools like Hadoop, Cassandra, and Storm Extensions to traditional database skills About the Authors Nathan Marz is the creator of Apache Storm and the originator of the Lambda Architecture for big data systems. James Warren is an analytics architect with a background in machine learning and scientific computing. Table of Contents A new paradigm for Big Data PART 1 BATCH LAYER Data model for Big Data Data model for Big Data: Illustration Data storage on the batch layer Data storage on the batch layer: Illustration Batch layer Batch layer: Illustration An example batch layer: Architecture and algorithms An example batch layer: Implementation PART 2 SERVING LAYER Serving layer Serving layer: Illustration PART 3 SPEED LAYER Realtime views Realtime views: Illustration Queuing and stream processing Queuing and stream processing: Illustration Micro-batch stream processing Micro-batch stream processing: Illustration Lambda Architecture in depth

Kingmaker: Winter Pilgrims Sep 19 2021 _____ 'An enthralling adventure story, honest and powerful. The Wars of the Roses are imagined here with energy, with ferocity, with hunger to engage the reader.' Hilary Mantel FEBRUARY 1460 In the bitter dawn of a winter's morning, a young man and a woman escape from a priory. Fearing for their lives, they are forced to flee across a land ravaged by conflict. For this England, torn apart by the infamous Wars of the Roses, one of the most savage and bloody civil wars in history. Brother confronts brother. King faces king, And Thomas and Katherine, two seemingly unimportant figures in the midst of chaos and bloodshed, must fight just to stay alive ... **Domination in Graphs** Jun 28 2022 ""Presents the latest in graph domination by leading researchers from around the world-furnishing known results, open research problems, and proof techniques. Maintains standardized terminology and notation throughout for greater accessibility. Covers recent developments in domination in graphs and digraphs, dominating functions, combinatorial problems on

chessboards, and more.

Guide to Competitive Programming Jan 24 2022

This invaluable textbook presents a comprehensive introduction to modern competitive programming. The text highlights how competitive programming has proven to be an excellent way to learn algorithms, by encouraging the design of algorithms that actually work, stimulating the improvement of programming and debugging skills, and reinforcing the type of thinking required to solve problems in a competitive setting. The book contains many "folklore" algorithm design tricks that are known by experienced competitive programmers, yet which have previously only been formally discussed in online forums and blog posts. Topics and features: reviews the features of the C++ programming language, and describes how to create efficient algorithms that can quickly process large data sets; discusses sorting algorithms and binary search, and examines a selection of data structures of the C++ standard library; introduces the algorithm

design technique of dynamic programming, and investigates elementary graph algorithms; covers such advanced algorithm design topics as bit-parallelism and amortized analysis, and presents a focus on efficiently processing array range queries; surveys specialized algorithms for trees, and discusses the mathematical topics that are relevant in competitive programming; examines advanced graph techniques, geometric algorithms, and string techniques; describes a selection of more advanced topics, including square root algorithms and dynamic programming optimization. This easy-to-follow guide is an ideal reference for all students wishing to learn algorithms, and practice for programming contests. Knowledge of the basics of programming is assumed, but previous background in algorithm design or programming contests is not necessary. Due to the broad range of topics covered at various levels of difficulty, this book is suitable for both beginners and more experienced readers.

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