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Graph Algorithms and Applications 3 Algorithms in C++ Part 5 Graph Algorithms and Applications 2 Graphs Graph Algorithms And Applications 4 Algorithms in C, Part 5: Graph Algorithms, Third Edition Algorithms in Java, Part 5 Algorithms in Modula-3 Graph Algorithms and Applications I Graph Algorithms and Applications I Graphs, Algorithms, and Optimization Graph Algorithms and Applications 5 A Guide to Graph Algorithms Algorithms in C Graph Algorithms Graph Algorithms for Data Science Graph Algorithms in the Language of Linear Algebra Graph Algorithms advanced graph algorithms Graph Algorithms for the Day Before Your Coding Interview Guide to Graph Algorithms Graphs and Networks Algebraic Graph Algorithms Distributed Graph Analytics Algorithms in C++. Graph-Theoretic Concepts in Computer Science Algorithms on Trees and Graphs Graph-Theoretic Concepts in Computer Science Algorithms in C Graphs, Algorithms, and Optimization, Second Edition Graph-Powered Machine Learning Distributed Graph Algorithms for Computer Networks Data Structures and Algorithms 2 Graphs, Networks and Algorithms Algorithms in C, Parts 1-4 Graph-Theoretic Concepts in Computer Science Graph Algorithms and Applications 3 Algorithms on Trees and Graphs 4 Large-scale Graph Analysis: System, Algorithm and Optimization

Graph Algorithms and Applications 3

2004-01-01

this book contains volume 6 of the journal of graph algorithms and applications jgaa jgaa is a peer reviewed scientific journal devoted to the publication of high quality research papers on the analysis design implementation and applications of graph algorithms areas of interest include computational biology computational geometry computer graphics computer aided design computer and interconnection networks constraint systems databases graph drawing graph embedding and layout knowledge representation multimedia software engineering telecommunications networks user interfaces and visualization and vlsi circuit design graph algorithms and applications 3 presents contributions from prominent authors and includes selected papers from the symposium on graph drawing 1999 and 2000 all papers in the book have extensive diagrams and offer a unique treatment of graph algorithms focusing on the important applications contents triangle free planar graphs and segment intersection graphs n de castro et al traversing directed eulerian mazes s bhatt et al a fast multi scale method for drawing large graphs d harel y koren grip graph drawing with intelligent placement p gajer s g kobourov graph drawing in motion c friedrich p eades a 6 regular torus graph family with applications to cellular and interconnection networks m iridon d w matula and other papers readership researchers and practitioners in theoretical computer science computer engineering and combinatorics and graph theory

Algorithms in C++ Part 5

2001-12

describes the most important known methods for solving the graph processing problems that arise in computing applications the algorithms address diagraphs minimum spanning trees shortest paths and network flow a new emphasis on abstract data types makes the third edition more relevant to object oriented programming c book news inc

Graph Algorithms and Applications 2

2004

this book contains volumes 4 and 5 of the journal of graph algorithms and applications jgaa the first book of this series graph algorithms and applications 1 published in march 2002 contains volumes 1oco3 of jgaa jgaa is a peer reviewed scientific journal devoted to the publication of high quality research papers on the analysis design implementation and applications of graph algorithms areas of interest include computational biology computational geometry computer graphics computer aided design computer and interconnection networks constraint systems databases graph drawing graph embedding and layout knowledge representation multimedia software engineering telecommunications networks user interfaces and visualization and vlsi circuit design the journal is supported by distinguished advisory and editorial boards has high scientific standards and takes advantage of current electronic document technology the electronic version of jgaa is available on the at jgaa info graph algorithms and applications 2 presents contributions from prominent authors and includes selected papers from the dagstuhl seminar on graph algorithms and applications and the symposium on graph drawing in 1998 all papers in the book have extensive diagrams and offer a unique treatment of graph algorithms focusing

on the important applications contents approximations of weighted independent set and hereditary subset problems m m halldrsson approximation algorithms for some graph partitioning problems g he et al geometric thickness of complete graphs m b dillencourt et al techniques for the refinement of orthogonal graph drawings j m six et al navigating clustered graphs using force directed methods p eades m l huang clustering in trees optimizing cluster sizes and number of subtrees s e hambrusch et al planarizing graphs oco a survey and annotated bibliography a liebers fully dynamic 3 dimensional orthogonal graph drawing m closson et al 1 bend 3 d orthogonal box drawings two open problems solved t biedl computing an optimal orientation of a balanced decomposition tree for linear arrangement problems r bar yehuda et al new bounds for oblivious mesh routing k iwama et al connectivity of planar graphs h de fraysseix p o de mendez and other papers readership researchers and practitioners in theoretical computer science computer engineering and combinatorics and graph theory

Graphs

2011-03-29

this adaptation of an earlier work by the authors is a graduate text and professional reference on the fundamentals of graph theory it covers the theory of graphs its applications to computer networks and the theory of graph algorithms also includes exercises and an updated bibliography

Graph Algorithms And Applications 4

2006-05-19

this book contains volume 7 of the journal of graph algorithms and applications jgaa jgaa is a peer reviewed scientific journal devoted to the publication of high quality research papers on the analysis design implementation and applications of graph algorithms areas of interest include computational biology computational geometry computer graphics computer aided design computer and interconnection networks constraint systems databases graph drawing graph embedding and layout knowledge representation multimedia software engineering telecommunications networks user interfaces and visualization and vlsi circuit design graph algorithms and applications 4 presents contributions from prominent authors and includes selected papers from a the seventh international workshop on algorithms and data structures wads 2001 and b the 2001 symposium on graph drawing gd 2001 all papers in the book have extensive diagrams and offer a unique treatment of graph algorithms focusing on the important applications

Algorithms in C, Part 5: Graph Algorithms, Third Edition

2001

once again robert sedgewick provides a current and comprehensive introduction to important algorithms the focus this time is on graph algorithms which are increasingly critical for a wide range of applications such as network connectivity circuit design scheduling transaction processing and resource allocation in this book sedgewick offers the same successful blend of theory and practice that has made his work popular with programmers for many years michael schidlowky and sedgewick have developed concise new java implementations that both express the methods in a natural

and direct manner and also can be used in real applications algorithms in java third edition part 5 graph algorithms is the second book in sedgewick's thoroughly revised and rewritten series the first book parts 1-4 addresses fundamental algorithms data structures sorting and searching a forthcoming third book will focus on strings geometry and a range of advanced algorithms each book's expanded coverage features new algorithms and implementations enhanced descriptions and diagrams and a wealth of new exercises for polishing skills the natural match between java classes and abstract data type adt implementations makes the code more broadly useful and relevant for the modern object oriented programming environment the site for this book cs.princeton.edu/rs provides additional source code for programmers along with a variety of academic support materials for educators coverage includes a complete overview of graph properties and types diagraphs and dags minimum spanning trees shortest paths network flows diagrams sample java code and detailed algorithm descriptions a landmark revision algorithms in java third edition part 5 provides a complete tool set for programmers to implement debug and use graph algorithms across a wide range of computer applications

Algorithms in Java, Part 5

2003-07-16

this latest version of sedgewick's well known book provides a comprehensive collection of algorithms implemented in the modula-3 programming language readers will see how key algorithms can be implemented run debugged and used in real applications

Algorithms in Modula-3

1993

this book contains volumes 1-3 of the journal of graph algorithms and applications jgaa topics of interest include design and analysis of graph algorithms experiences with graph algorithms and applications of graph algorithms jgaa is supported by distinguished advisory and editorial boards has high scientific standards and takes advantage of current electronic document technology the electronic version of jgaa is available on the at cs.brown.edu publications/jgaa contents volume 1-2 layer straightline crossing minimization performance of exact and heuristic algorithms mutzel optimal algorithms to embed trees in a point set p.bose et al low degree graph partitioning via local search with applications to constraint satisfaction max cut and coloring m.m.halldrsson h.c.lau volume 2 algorithms for cluster busting in anchored graph drawing k.a.lyons et al a broadcasting algorithm with time and message optimum on arrangement graphs l.bai et al a visibility representation for graphs in three dimensions p.bose et al scheduled hot potato routing j.naor et al treewidth and minimum fill in on d trapezoid graphs h.l.bodlaender et al memory paging for connectivity and path problems in graphs e.feuerstein a.marchetti spaccamela new lower bounds for orthogonal drawings t.c.biedl rectangle visibility layouts of unions and products of trees a.m.dean j.p.hutchinson volume 3 edge coloring and f coloring for various classes of graphs x.zhou t.nishizeki experimental comparison of graph drawing algorithms for cubic graphs t.calamoneri et al subgraph isomorphism in planar graphs and related problems d.eppstein guest editors introduction g.di.battista p.mutzel drawing clustered graphs on an orthogonal grid p.eades et al a linear algorithm for bend optimal orthogonal drawings of triconnected cubic plane graphs m.s.rahman et al bounds for orthogonal 3-d graph drawing t.biedl et al algorithms for incremental orthogonal graph drawing in three dimensions a.papakostas i.g.tollis readership researchers and professionals in theoretical computer science computer engineering and combinatorics graph theory

Graph Algorithms and Applications I

2002

this book contains volumes 1 3 of the journal of graph algorithms and applications jgaa topics of interest include design and analysis of graph algorithms experiences with graph algorithms and applications of graph algorithms jgaa is supported by distinguished advisory and editorial boards has high scientific standards and takes advantage of current electronic document technology the electronic version of jgaa is available on the at cs brown edu publications jgaa

Graph Algorithms and Applications I

2002

graph theory offers a rich source of problems and techniques for programming and data structure development as well as for understanding computing theory including np completeness and polynomial reduction a comprehensive text graphs algorithms and optimization features clear exposition on modern algorithmic graph theory presented in a rigorous yet approachable way the book covers major areas of graph theory including discrete optimization and its connection to graph algorithms the authors explore surface topology from an intuitive point of view and include detailed discussions on linear programming that emphasize graph theory problems useful in mathematics and computer science many algorithms are provided along with the data structure needed to program the algorithms efficiently the book also provides coverage on algorithm complexity and efficiency np completeness linear optimization and linear programming and its relationship to graph algorithms written in an accessible and informal style this work covers nearly all areas of graph theory graphs algorithms and optimization provides a modern discussion of graph theory applicable to mathematics computer science and crossover applications

Graphs, Algorithms, and Optimization

2017-09-20

this book contains volume 8 of the journal of graph algorithms and applications jgaa jgaa is a peer reviewed scientific journal devoted to the publication of high quality research papers on the analysis design implementation and applications of graph algorithms areas of interest include computational biology computational geometry computer graphics computer aided design computer and interconnection networks constraint systems databases graph drawing graph embedding and layout knowledge representation multimedia software engineering telecommunications networks user interfaces and visualization and vlsi circuit design graph algorithms and applications 5 presents contributions from prominent authors and includes selected papers from the tenth international symposium on graph drawing gd 2002 all papers in the book have extensive diagrams and offer a unique treatment of graph algorithms focusing on the important applications contents drawing planar graphs with large vertices and thick edges g barequet et al fast approximation of centrality d eppstein j wang simple and efficient bilayer cross counting w barth et al algorithms for single link failure recovery and related problems a m bhosle t f gonzalez and other papers readership researchers and practitioners in theoretical computer science computer engineering and combinatorics and graph theory

Graph Algorithms and Applications 5

2006

this book a guide to graph algorithms offers high quality content in the research area of graph algorithms and explores the latest developments in graph algorithmics the reader will gain a comprehensive understanding of how to use algorithms to explore graphs it is a collection of texts that have proved to be trend setters and good examples of that the book aims at providing the reader with a deep understanding of the structural properties of graphs that are useful for the design of efficient algorithms these algorithms have applications in finite state machine modelling social network theory biology and mathematics the book contains many exercises some up at present day research level the exercises encourage the reader to discover new techniques by putting things in a clear perspective a study of this book will provide the reader with many powerful tools to model and tackle problems in real world scenarios

A Guide to Graph Algorithms

2022-02-22

shimon even's graph algorithms published in 1979 was a seminal introductory book on algorithms read by everyone engaged in the field this thoroughly revised second edition with a foreword by richard m karp and notes by andrew v goldberg continues the exceptional presentation from the first edition and explains algorithms in a formal but simple language with a direct and intuitive presentation the book begins by covering basic material including graphs and shortest paths trees depth first search and breadth first search the main part of the book is devoted to network flows and applications of network flows and it ends with chapters on planar graphs and testing graph planarity

Algorithms in C

1998

practical methods for analyzing your data with graphs revealing hidden connections and new insights graphs are the natural way to represent and understand connected data this book explores the most important algorithms and techniques for graphs in data science with concrete advice on implementation and deployment you don't need any graph experience to start benefiting from this insightful guide these powerful graph algorithms are explained in clear jargon free text and illustrations that makes them easy to apply to your own projects in graph algorithms for data science you will learn labeled property graph modeling constructing a graph from structured data such as csv or sql nlp techniques to construct a graph from unstructured data cypher query language syntax to manipulate data and extract insights social network analysis algorithms like pagerank and community detection how to translate graph structure to a ml model input with node embedding models using graph features in node classification and link prediction workflows graph algorithms for data science is a hands on guide to working with graph based data in applications like machine learning fraud detection and business data analysis it's filled with fascinating and fun projects demonstrating the ins and outs of graphs you'll gain practical skills by analyzing twitter building graphs with nlp techniques and much more foreword by michael hunger about the technology a graph put simply is a network of connected data graphs are an efficient way to identify and explore the significant relationships naturally occurring within a

dataset this book presents the most important algorithms for graph data science with examples from machine learning business applications natural language processing and more about the book graph algorithms for data science shows you how to construct and analyze graphs from structured and unstructured data in it you ll learn to apply graph algorithms like pagerank community detection clustering and knowledge graph models by putting each new algorithm to work in a hands on data project this cutting edge book also demonstrates how you can create graphs that optimize input for ai models using node embedding what s inside creating knowledge graphs node classification and link prediction workflows nlp techniques for graph construction about the reader for data scientists who know machine learning basics examples use the cypher query language which is explained in the book about the author tomaž bratanic works at the intersection of graphs and machine learning arturo geigel was the technical editor for this book table of contents part 1 introduction to graphs 1 graphs and network science an introduction 2 representing network structure designing your first graph model part 2 social network analysis 3 your first steps with cypher query language 4 exploratory graph analysis 5 introduction to social network analysis 6 projecting monopartite networks 7 inferring co occurrence networks based on bipartite networks 8 constructing a nearest neighbor similarity network part 3 graph machine learning 9 node embeddings and classification 10 link prediction 11 knowledge graph completion 12 constructing a graph using natural language processing technique

Graph Algorithms

2011-09-19

the current exponential growth in graph data has forced a shift to parallel computing for executing graph algorithms implementing parallel graph algorithms and achieving good parallel performance have proven difficult this book addresses these challenges by exploiting the well known duality between a canonical representation of graphs as abstract collections of vertices and edges and a sparse adjacency matrix representation this linear algebraic approach is widely accessible to scientists and engineers who may not be formally trained in computer science the authors show how to leverage existing parallel matrix computation techniques and the large amount of software infrastructure that exists for these computations to implement efficient and scalable parallel graph algorithms the benefits of this approach are reduced algorithmic complexity ease of implementation and improved performance

Graph Algorithms for Data Science

2024-03-12

discover how graph algorithms can help you leverage the relationships within your data to develop more intelligent solutions and enhance your machine learning models you ll learn how graph analytics are uniquely suited to unfold complex structures and reveal difficult to find patterns lurking in your data whether you are trying to build dynamic network models or forecast real world behavior this book illustrates how graph algorithms deliver value from finding vulnerabilities and bottlenecks to detecting communities and improving machine learning predictions this practical book walks you through hands on examples of how to use graph algorithms in apache spark and neo4j two of the most common choices for graph analytics also included sample code and tips for over 20 practical graph algorithms that cover optimal pathfinding importance through centrality and community detection learn how graph analytics vary from conventional statistical analysis understand how classic graph algorithms work and how they are applied get guidance on which algorithms to use for different types of questions explore algorithm examples with working code and sample

datasets from spark and neo4j see how connected feature extraction can increase machine learning accuracy and precision walk through creating an ml workflow for link prediction combining neo4j and spark

Graph Algorithms in the Language of Linear Algebra

2011-01-01

graph algorithms are fundamentally important and different than other algorithmic domains as it gives an inherent structure to the data and we operate on it this is one of the most important domains for coding interviews focused on problem solving following are some of the problems we have explored which involve ideas to solve a wider range of problems all paths between two vertices this is a fundamental problem as modifications to it results in solving a wide range of problems in the process of formulating a solution we have explored core ideas like graph traversal techniques like depth first search and graph representation like adjacency list mother vertex this is an important problem as it highlights two key ideas of graph problems that is connectivity and importance of specific vertices we have solved this problem using two approaches where the efficient approach is a modification of depth first search and takes $O(V^2)$ time complexity paths with k edges this is an important problem as it demonstrates how we can utilize ideas from dynamic programming and divide and conquer to solve graph problems we have demonstrated four approaches where the brute force approach takes $O(V \times V)$ time improving it with a structure we get to $O(V \cdot k)$ time further applying dynamic programming to it we get to $O(V \cdot 3 \cdot k)$ time and finally using divide and conquer to optimize calculation we arrive at $O(V \cdot 3 \cdot \log k)$ time this is a perfect graph algorithm problem we have covered more variants of the problems and ideas in our conclusion to give a bigger picture and better equip you to solve any problem with these problems and the thought process to solve them you will be fully prepared this book has been carefully prepared and reviewed by top programmers and algorithmic researchers and members of opengenius we would like to thank aditya chatterjee and ue kiao for their expertise in this domain and reviews from professors at the university of tokyo and tokyo institute of technology read this book now and ace your upcoming coding interview this is a must read for everyone preparing for coding interviews at top companies books in this series day before coding interview problems for the day before your coding interview greedy algorithms for the day before your coding interview dynamic programming for the day before your coding interview string algorithms for the day before your coding interview mathematical algorithms for the day before your coding interview graph algorithms for the day before your coding interview

Graph Algorithms

2019-05-16

this clearly structured textbook reference presents a detailed and comprehensive review of the fundamental principles of sequential graph algorithms approaches for np hard graph problems and approximation algorithms and heuristics for such problems the work also provides a comparative analysis of sequential parallel and distributed graph algorithms including algorithms for big data and an investigation into the conversion principles between the three algorithmic methods topics and features presents a comprehensive analysis of sequential graph algorithms offers a unifying view by examining the same graph problem from each of the three paradigms of sequential parallel and distributed algorithms describes methods for the conversion between sequential parallel and distributed graph algorithms surveys methods for the analysis of large graphs and complex network applications includes full implementation details for the problems presented throughout the text provides additional supporting material at an

accompanying website this practical guide to the design and analysis of graph algorithms is ideal for advanced and graduate students of computer science electrical and electronic engineering and bioinformatics the material covered will also be of value to any researcher familiar with the basics of discrete mathematics graph theory and algorithms

advanced graph algorithms

2020-06-07

graphs and networks a unique blend of graph theory and network science for mathematicians and data science professionals alike featuring topics such as minors connectomes trees distance spectral graph theory similarity centrality small world networks scale free networks graph algorithms eulerian circuits hamiltonian cycles coloring higher connectivity planar graphs flows matchings and coverings graphs and networks contains modern applications for graph theorists and a host of useful theorems for network scientists the book begins with applications to biology and the social and political sciences and gradually takes a more theoretical direction toward graph structure theory and combinatorial optimization a background in linear algebra probability and statistics provides the proper frame of reference graphs and networks also features applications to neuroscience climate science and the social and political sciences a research outlook integrated directly into the narrative with ideas for students interested in pursuing research projects at all levels a large selection of primary and secondary sources for further reading historical notes that hint at the passion and excitement behind the discoveries practice problems that reinforce the concepts and encourage further investigation and independent work

Graph Algorithms for the Day Before Your Coding Interview

2018-04-13

this textbook discusses the design and implementation of basic algebraic graph algorithms and algebraic graph algorithms for complex networks employing matroids whenever possible the text describes the design of a simple parallel matrix algorithm kernel that can be used for parallel processing of algebraic graph algorithms example code is presented in pseudocode together with case studies in python and mpi the text assumes readers have a background in graph theory and or graph algorithms

Guide to Graph Algorithms

2022-05-03

this book brings together two important trends graph algorithms and high performance computing efficient and scalable execution of graph processing applications in data or network analysis requires innovations at multiple levels algorithms associated data structures their implementation and tuning to a particular hardware further programming languages and the associated compilers play a crucial role when it comes to automating efficient code generation for various architectures this book discusses the essentials of all these aspects the book is divided into three parts programming languages and their compilation the first part examines the manual parallelization of graph algorithms revealing various parallelization patterns encountered especially when dealing with graphs the second part uses these patterns to provide language constructs that allow a graph

algorithm to be specified programmers can work with these language constructs without worrying about their implementation which is the focus of the third part implementation is handled by a compiler which can specialize code generation for a backend device the book also includes suggestive results on different platforms which illustrate and justify the theory and practice covered together the three parts provide the essential ingredients for creating a high performance graph application the book ends with a section on future directions which offers several pointers to promising topics for future research this book is intended for new researchers as well as graduate and advanced undergraduate students most of the chapters can be read independently by those familiar with the basics of parallel programming and graph algorithms however to make the material more accessible the book includes a brief background on elementary graph algorithms parallel computing and gpus moreover it presents a case study using falcon a domain specific language for graph algorithms to illustrate the concepts

Graphs and Networks

2021-11-17

this book constitutes the thoroughly refereed postproceedings of the 29th international workshop on graph theoretic concepts in computer science wg 2003 held in elspeet the netherlands in june 2003 the 30 revised full papers presented together with 2 invited papers were carefully reviewed improved and selected from 78 submissions the papers present a wealth of new results for various classes of graphs graph computations graph algorithms and graph theoretical applications in various fields

Algebraic Graph Algorithms

2020-04-17

graph algorithms is a well established subject in mathematics and computer science beyond classical application fields such as approximation combinatorial optimization graphics and operations research graph algorithms have recently attracted increased attention from computational molecular biology and computational chemistry centered around the fundamental issue of graph isomorphism this text goes beyond classical graph problems of shortest paths spanning trees flows in networks and matchings in bipartite graphs advanced algorithmic results and techniques of practical relevance are presented in a coherent and consolidated way this book introduces graph algorithms on an intuitive basis followed by a detailed exposition in a literate programming style with correctness proofs as well as worst case analyses furthermore full c implementations of all algorithms presented are given using the leda library of efficient data structures and algorithms

Distributed Graph Analytics

2002

this book constitutes the refereed proceedings of the 25th international workshop on graph theorie concepts in computer science wg 99 held at the centre stefano frascini on monte verita ascona switzerland in june 1999 the 33 revised full papers presented together with four invited contributions were carefully reviewed and selected from 64 papers submitted the papers provide a wealth of new results for various graph classes graph

computations graph algorithms and graph theoretical applications in a variety of fields

Algorithms in C++.

2003-10-29

sedgewick s bestselling book algorithms is now available for c programmers algorithms in c describes a variety of algorithms in a number of areas of interest including sorting searching string processing and geometric graph and mathematical algorithms the book emphasizes fundamental techniques providing readers with the tools to confidently implement run and debug useful algorithms

Graph-Theoretic Concepts in Computer Science

2002-09-05

the second edition of this popular book presents the theory of graphs from an algorithmic viewpoint the authors present the graph theory in a rigorous but informal style and cover most of the main areas of graph theory the ideas of surface topology are presented from an intuitive point of view we have also included a discussion on linear programming that emphasizes problems in graph theory the text is suitable for students in computer science or mathematics programs

Algorithms on Trees and Graphs

1999-10-27

upgrade your machine learning models with graph based algorithms the perfect structure for complex and interlinked data summary in graph powered machine learning you will learn the lifecycle of a machine learning project graphs in big data platforms data source modeling using graphs graph based natural language processing recommendations and fraud detection techniques graph algorithms working with neo4j graph powered machine learning teaches to use graph based algorithms and data organization strategies to develop superior machine learning applications you ll dive into the role of graphs in machine learning and big data platforms and take an in depth look at data source modeling algorithm design recommendations and fraud detection explore end to end projects that illustrate architectures and help you optimize with best design practices author alessandro negro s extensive experience shines through in every chapter as you learn from examples and concrete scenarios based on his work with real clients purchase of the print book includes a free ebook in pdf kindle and epub formats from manning publications about the technology identifying relationships is the foundation of machine learning by recognizing and analyzing the connections in your data graph centric algorithms like k nearest neighbor or pagerank radically improve the effectiveness of ml applications graph based machine learning techniques offer a powerful new perspective for machine learning in social networking fraud detection natural language processing and recommendation systems about the book graph powered machine learning teaches you how to exploit the natural relationships in structured and unstructured datasets using graph oriented machine learning algorithms and tools in this authoritative book you ll master the architectures and design practices of graphs and avoid common pitfalls author alessandro negro explores examples from real world applications that connect graphml concepts to real world tasks

what's inside graphs in big data platforms recommendations natural language processing fraud detection graph algorithms working with the neo4j graph database about the reader for readers comfortable with machine learning basics about the author alessandro negro is chief scientist at graphaware he has been a speaker at many conferences and holds a phd in computer science table of contents part 1 introduction 1 machine learning and graphs an introduction 2 graph data engineering 3 graphs in machine learning applications part 2 recommendations 4 content based recommendations 5 collaborative filtering 6 session based recommendations 7 context aware and hybrid recommendations part 3 fighting fraud 8 basic approaches to graph powered fraud detection 9 proximity based algorithms 10 social network analysis against fraud part 4 taming text with graphs 11 graph based natural language processing 12 knowledge graphs

Graph-Theoretic Concepts in Computer Science

1990

this book presents a comprehensive review of key distributed graph algorithms for computer network applications with a particular emphasis on practical implementation topics and features introduces a range of fundamental graph algorithms covering spanning trees graph traversal algorithms routing algorithms and self stabilization reviews graph theoretical distributed approximation algorithms with applications in ad hoc wireless networks describes in detail the implementation of each algorithm with extensive use of supporting examples and discusses their concrete network applications examines key graph theoretical algorithm concepts such as dominating sets and parameters for mobility and energy levels of nodes in wireless ad hoc networks and provides a contemporary survey of each topic presents a simple simulator developed to run distributed algorithms provides practical exercises at the end of each chapter

Algorithms in C

2016-11-03

revised throughout includes new chapters on the network simplex algorithm and a section on the five color theorem recent developments are discussed

Graphs, Algorithms, and Optimization, Second Edition

2021-10-05

robert sedgwick has thoroughly rewritten and substantially expanded his popular work to provide current and comprehensive coverage of important algorithms and data structures many new algorithms are presented and the explanations of each algorithm are much more detailed than in previous editions a new text design and detailed innovative figures with accompanying commentary greatly enhance the presentation the third edition retains the successful blend of theory and practice that has made sedgwick's work an invaluable resource for more than 250 000 programmers this particular book parts 1-4 represents the essential first half of sedgwick's complete work it provides extensive coverage of fundamental data structures and algorithms for sorting searching and related applications the algorithms and data structures are expressed in concise implementations

in c so that you can both appreciate their fundamental properties and test them on real applications of course the substance of the book applies to programming in any language highlights expanded coverage of arrays linked lists strings trees and other basic data structures greater emphasis on abstract data types adts than in previous editions over 100 algorithms for sorting selection priority queue adt implementations and symbol table adt searching implementations new implementations of binomial queues multiway radix sorting batcher s sorting networks randomized bst s splay trees skip lists multiway tries and much more increased quantitative information about the algorithms including extensive empirical studies and basic analytic studies giving you a basis for comparing them over 1000 new exercises to help you learn the properties of algorithms whether you are a student learning the algorithms for the first time or a professional interested in having up to date reference material you will find a wealth of useful information in this book

Graph-Powered Machine Learning

2013-05-16

this volume contains the proceedings of the 19th international workshop on graph theoretic concepts in computer science wg 93 held near utrecht the netherlands in 1993 the papers are grouped into parts on hard problems on classes of graphs structural graph theory dynamic graph algorithms structure oriented graph algorithms graph coloring at free and chordal graphs circuits and nets graphs and interconnection networks routing and shortest paths and graph embedding and layout the 35 revised papers were chosen from 92 submissions after a careful refereeing process

Distributed Graph Algorithms for Computer Networks

2012-12-06

this book contains volume 6 of the journal of graph algorithms and applications jgaa jgaa is a peer reviewed scientific journal devoted to the publication of high quality research papers on the analysis design implementation and applications of graph algorithms areas of interest include computational biology computational geometry computer graphics computer aided design computer and interconnection networks constraint systems databases graph drawing graph embedding and layout knowledge representation multimedia software engineering telecommunications networks user interfaces and visualization and vlsi circuit design graph algorithms and applications 3 presents contributions from prominent authors and includes selected papers from the symposium on graph drawing 1999 and 2000 all papers in the book have extensive diagrams and offer a unique treatment of graph algorithms focusing on the important applications

Data Structures and Algorithms 2

2013-06-29

graph algorithms is a well established subject in mathematics and computer science beyond classical application fields such as approximation combinatorial optimization graphics and operations research graph algorithms have recently attracted increased attention from computational molecular biology and computational chemistry centered around the fundamental issue of graph isomorphism this text goes beyond classical graph

Algorithms on Trees and Graphs

2001-10

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2020-07-01

Large-scale Graph Analysis: System, Algorithm and Optimization

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