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Signal Processing Algorithms Digital Image Processing Algorithms Digital Signal Processing Algorithms
Parallel Processing and Parallel Algorithms Algorithms for Statistical Signal Processing Algorithms for
Visual Design Using the Processing Language Introduction to Parallel Processing Algorithms for
Parallel Processing Parallel Processing from Applications to Systems Algorithms for Graphics and
Image Processing Algorithms for Image Processing and Computer Vision Fast Algorithms for Digital
Signal Processing Learning Algorithms Modern Algorithms for Image Processing Fast Algorithms for
Signal Processing C Algorithms for Real-time DSP Digital Signal Processing Algorithms Algorithms for
Parallel Processing Applications of Hybrid Metaheuristic Algorithms for Image Processing Algorithms
and Architectures for Parallel Processing Computational Mathematics, Algorithms, and Data
Processing Graph Theory for Programmers Parallel Computing for Real-time Signal Processing and
Control Verified Signal Processing Algorithms in MATLAB and C Adaptive Image Processing
Algorithms for Printing Algorithms for Graphics and Image Processing Fuzzy Algorithms: With
Applications To Image Processing And Pattern Recognition Data-Intensive Text Processing with
MapReduce Principles of Digital Image Processing Algorithm Collections for Digital Signal Processing
Applications Using Matlab Parallel Processing Algorithms For GIS Recent Advances on Memetic
Algorithms and its Applications in Image Processing Soft Computing Approach to Pattern Recognition
and Image Processing Advances in Signal Processing Parallel Algorithms Hyperspectral Data
Processing Computer Techniques and Algorithms in Digital Signal Processing Image Processing
Technologies Advances and Applications of Optimised Algorithms in Image Processing DIGITAL
SIGNAL PROCESSING: PRINCIPLES ALGORITHMS AND APPLICATIONS

Signal Processing Algorithms

1991-01

presents the basic algorithms of signal processing and includes subprograms which implement them the book emphasizes the applications of these algorithms and the interpretation of the practice as well as containing examples of the use of every algorithm

Digital Image Processing Algorithms

1993

provides an overview of various digital image processing algorithms in c code a programming tool for students engineers and scientists in the field of digital image processing and computer vision this book aimed at an advanced level and is accompanied by a demo disk

Digital Signal Processing Algorithms

1998-03-25

digital signal processing algorithms describes computational number theory and its applications to deriving fast algorithms for digital signal processing it demonstrates the importance of computational number theory in the design of digital signal processing algorithms and clearly describes the nature and structure of the algorithms themselves the book has two primary focuses first it establishes the properties of discrete time sequence indices and their corresponding fast algorithms and second it investigates the properties of the discrete time sequences and the corresponding fast algorithms for processing these sequences digital signal processing algorithms examines three of the most common computational tasks that occur in digital signal processing namely cyclic convolution acyclic convolution and discrete fourier transformation the application of number theory to deriving fast and efficient algorithms for these three and related computationally intensive tasks is clearly discussed and illustrated with examples its comprehensive coverage of digital signal processing computer arithmetic and coding theory makes digital signal processing algorithms an excellent reference for practicing engineers the authors intent to demystify the abstract nature of number theory and the related algebra is evident throughout the text providing clear and precise coverage of the quickly evolving field of

Parallel Processing and Parallel Algorithms

2012-12-06

motivation it is now possible to build powerful single processor and multiprocessor systems and use them efficiently for data processing which has seen an explosive expansion in many areas of computer science and engineering one approach to meeting the performance requirements of the applications has been to utilize the most powerful single processor system that is available when such a system does not provide the performance requirements pipelined and parallel processing structures can be employed the concept of parallel processing is a departure from sequential processing in sequential computation one processor is involved and performs one operation at a time on the other hand in parallel computation several processors cooperate to solve a problem which reduces computing time because several operations can be carried out simultaneously using several processors that work together on a given computation illustrates a new paradigm in computer problem solving which is completely different from sequential processing from the practical point of view this provides sufficient justification to investigate the concept of parallel processing and related issues such as parallel algorithms parallel processing involves utilizing several factors such as parallel architectures parallel algorithms parallel programming languages and performance analysis which are strongly interrelated in general four steps are involved in performing a computational problem in parallel the first step is to understand the nature of computations in the specific application domain

Algorithms for Statistical Signal Processing

2002

keeping pace with the expanding ever more complex applications of dsp this authoritative presentation of computational algorithms for statistical signal processing focuses on advanced topics ignored by other books on the subject algorithms for convolution and dft linear prediction and optimum linear filters least squares methods for system modeling and filter design adaptive filters recursive least squares algorithms for array signal processing qrd based fast adaptive filter algorithms power spectrum estimation signal analysis with higher order spectra for electrical engineers computer engineers

computer scientists and applied mathematicians

Algorithms for Visual Design Using the Processing Language

2009-04-08

as the first book to share the necessary algorithms for creating code to experiment with design problems in the processing language this book offers a series of generic procedures that can function as building blocks and encourages you to then use those building blocks to experiment explore and channel your thoughts ideas and principles into potential solutions the book covers such topics as structured shapes solid geometry networking and databases physical computing image processing graphic user interfaces and more

Introduction to Parallel Processing

1999-01-31

this original text provides comprehensive coverage of parallel algorithms and architectures beginning with fundamental concepts and continuing through architectural variations and aspects of implementation unlike the authors of similar texts professor parhami reviews the circuit model and problem driven parallel machines variants of mesh architectures and composite and hierarchical systems among other subjects with its balanced treatment of theory and practical designs classtested lecture material and problems and helpful case studies the book is suited to graduate and upperlevel undergraduate students of advanced architecture or parallel processing

Algorithms for Parallel Processing

1998-12-01

this text provides one of the broadest presentations of parallel processing available including the structure of parallel processors and parallel algorithms the emphasis is on mapping algorithms to highly parallel computers with extensive coverage of array and multiprocessor architectures early chapters provide insightful coverage on the analysis of parallel algorithms and program transformations effectively integrating a variety of material previously scattered throughout the literature theory and

practice are well balanced across diverse topics in this concise presentation for exceptional clarity and comprehension the author presents complex material in geometric graphs as well as algebraic notation each chapter includes well chosen examples tables summarizing related key concepts and definitions and a broad range of worked exercises overview of common hardware and theoretical models including algorithm characteristics and impediments to fast performance analysis of data dependencies and inherent parallelism through program examples building from simple to complex graphic and explanatory coverage of program transformations easy to follow presentation of parallel processor structures and interconnection networks including parallelizing and restructuring compilers parallel synchronization methods and types of parallel operating systems detailed descriptions of hypercube systems specialized chapters on dataflow and on ai architectures

Parallel Processing from Applications to Systems

2014-06-28

offers a treatment of pictorial information processing by computer including computer graphics computer image processing pictorial pattern recognition

Algorithms for Graphics and Image Processing

1982-01-01

a cookbook of the hottest new algorithms and cutting edge techniques in image processing and computer vision this amazing book cd package puts the power of all the hottest new image processing techniques and algorithms in your hands based on j r parker s exhaustive survey of internet newsgroups worldwide algorithms for image processing and computer vision answers the most frequently asked questions with practical solutions parker uses dozens of real life examples taken from fields such as robotics space exploration forensic analysis cartography and medical diagnostics to clearly describe the latest techniques for morphing advanced edge detection wavelets texture classification image restoration symbol recognition and genetic algorithms to name just a few and best of all he implements each method covered in c and provides all the source code on the cd for the first time you re rescued from the hours of mind numbing mathematical calculations it would ordinarily take to program these state of the art image processing capabilities into software at last nonmathematicians

get all the shortcuts they need for sophisticated image recognition and processing applications on the cd rom you ll find complete code for examples in the book a gallery of images illustrating the results of advanced techniques a free gnu compiler that lets you run source code on any platform a system for restoring damaged or blurred images a genetic algorithms package

Algorithms for Image Processing and Computer Vision

1997

introduction to abstract algebra fast algorithms for short convolutions fast algorithms for the discrete fourier transform number theory and algebraic field theory computation in surrogate fields fast algorithms and multidimensional convolutions fast algorithms and multidimensional transforms architecture of filters and transforms fast algorithms based on doubling strategies fast algorithms for solving toeplitz systems fast algorithms for trellis and tree search a collection of cyclic convolution algorithms a collection of winograd small fft algorithms

Fast Algorithms for Digital Signal Processing

1985

over the past decade interest in computational or non symbolic artificial intelligence has grown the algorithms involved have the ability to learn from past experience and therefore have significant potential in the adaptive control of signals and systems this book focuses on the theory and applications of learning algorithms stochastic learning automata artificial neural networks and genetic algorithms evolutionary strategies and evolutionary programming hybrid combinations of various algorithms are also discussed chapter 1 provides a brief overview of the topics discussed and organization of the text the first half of the book chapters 2 through 4 discusses the basic theory of the learning algorithms with one chapter devoted to each type in the second half chapters 5 through 7 the emphasis is on a wide range of applications drawn from adaptive signal processing system identification and adaptive control problems in telecommunication networks learning algorithms theory and applications in signal processing control and communications is an excellent text for final year undergraduate and first year graduate students in engineering computer science and related areas professional engineers and everyone involved in the application of learning techniques in adaptive

signal processing control and communications will find this text a valuable synthesis of theory and practical application of the most useful algorithms

Learning Algorithms

2018-01-18

utilize modern methods for digital image processing and take advantage of the many time saving templates provided for all of the projects in this book modern algorithms for image processing approaches the topic of image processing through teaching by example throughout the book you will create projects that resolve typical problems that you might encounter in the world of digital image processing some projects teach you methods for addressing the quality of images such as reducing random errors or noise and suppressing pulse noise salt and pepper a method valuable for improving the quality of historical images other methods detail how to correct inhomogeneous illumination not by means of subtracting the mean illumination but through division a far more efficient method additional projects cover contrasting and a process for edge detection more efficient than canny s for detecting edges in color images directly without converting them into black and white images what you ll learn apply innovative methods for suppressing pulse noise enhancing contrast and edge detection know the pros and cons of enlisting a particular method use new approaches for image compression and recognizing circles in photos utilize a valuable method for straightening photos of paintings taken at an oblique angle a critical concept to understand when using flash at a right angle understand the problem statement of polygonal approximation of boundaries or edges and its solution use a new method for detecting bicycles in traffic access complete source code examples in c for all of the projects who this book is for c developers who work with digital image processing or are interested in informatics the reader should have programming experience and access to an integrated development environment ide ideally net this book does not prove or disprove theorems but suggests methods for learning valuable concepts that will enable you to customize your own image processing projects

Modern Algorithms for Image Processing

2018-12-10

efficient signal processing algorithms are important for embedded and power limited applications since

by reducing the number of computations power consumption can be reduced significantly similarly efficient algorithms are also critical to very large scale applications such as video processing and four dimensional medical imaging this self contained guide the only one of its kind enables engineers to find the optimum fast algorithm for a specific application it presents a broad range of computationally efficient algorithms describes their structure and implementation and compares their relative strengths for given problems all the necessary background mathematics is included and theorems are rigorously proved so all the information needed to learn and apply the techniques is provided in one convenient guide with this practical reference researchers and practitioners in electrical engineering applied mathematics and computer science can reduce power dissipation for low end applications of signal processing and extend the reach of high end applications

Fast Algorithms for Signal Processing

2010-06-24

digital signal processing techniques have become the method of choice in signal processing as digital computers have increased in speed convenience and availability at the same time the c language is proving itself to be a valuable programming tool for real time computationally intensive software tasks this book is a complete guide to digital signal processing techniques in the c language covers the basic principles of digital signal processing and c programming introduces the basic real time dsp programming techniques and typical programming environments which are used with dsp microprocessors covers the basic real time filtering techniques which are the cornerstone of one dimensional real time digital signal processing for electrical engineers and computer scientists the cd contents are on the book s main web page informit.com title 0133373533

C Algorithms for Real-time DSP

1995

digital signal processing algorithms describes computational number theory and its applications to deriving fast algorithms for digital signal processing it demonstrates the importance of computational number theory in the design of digital signal processing algorithms and clearly describes the nature and structure of the algorithms themselves the book has two primary focuses first it establishes the

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Digital Signal Processing Algorithms

2017

this ima volume in mathematics and its applications algorithms for parallel processing is based on the proceedings of a workshop that was an integral part of the 1996 97 ima program on mathematics in high performance computing the workshop brought together algorithm developers from theory combinatorics and scientific computing the topics ranged over models linear algebra sorting randomization and graph algorithms and their analysis we thank michael t heath of university of illinois at urbana computer science abhiram ranade of the indian institute of technology computer science and engineering and robert s schreiber of hewlett packard laboratories for their excellent work in organizing the workshop and editing the proceedings we also take this opportunity to thank the national science foundation nsf and the army research office aro whose financial support made the workshop possible a vner friedman robert gulliver v preface the workshop on algorithms for parallel processing was held at the ima september 16 20 1996 it was the first workshop of the ima year dedicated to the mathematics of high performance computing the work shop organizers were abhiram ranade of the indian institute of technology bombay michael heath of the university of illinois and robert schreiber of hewlett packard laboratories our idea was to bring together researchers who do innovative exciting parallel algorithms research on a wide range of topics and by sharing insights problems tools and methods to learn something of value from one another

Algorithms for Parallel Processing

1998-12-14

this book presents a collection of the most recent hybrid methods for image processing the algorithms included consider evolutionary swarm machine learning and deep learning the respective chapters explore different areas of image processing from image segmentation to the recognition of objects using complex approaches and medical applications the book also discusses the theory of the methodologies used to provide an overview of the applications of these tools in image processing the book is primarily intended for undergraduate and postgraduate students of science engineering and computational mathematics and can also be used for courses on artificial intelligence advanced image processing and computational intelligence further it is a valuable resource for researchers from the evolutionary computation artificial intelligence and image processing communities

Applications of Hybrid Metaheuristic Algorithms for Image Processing

2020-03-27

the two volume set Incs 11944 11945 constitutes the proceedings of the 19th international conference on algorithms and architectures for parallel processing ica3pp 2019 held in melbourne australia in december 2019 the 73 full and 29 short papers presented were carefully reviewed and selected from 251 submissions the papers are organized in topical sections on parallel and distributed architectures software systems and programming models distributed and parallel and network based computing big data and its applications distributed and parallel algorithms applications of distributed and parallel computing service dependability and security iot and cps computing performance modelling and evaluation

Algorithms and Architectures for Parallel Processing

2020-01-21

computational mathematics algorithms and data processing of mdpi consists of articles on new

mathematical tools and numerical methods for computational problems topics covered include numerical stability interpolation approximation complexity numerical linear algebra differential equations ordinary partial optimization integral equations systems of nonlinear equations compression or distillation and active learning

Computational Mathematics, Algorithms, and Data Processing

2020-12-07

this introductory book treats algorithmic graph theory specifically for programmers it explores some key ideas and basic algorithms in this large and rapidly growing field and contains high level and language independent descriptions of methods and algorithms on trees the most important type of graphs in programming and informatics readers are assumed to be familiar with the basics of graph theory and programming audience this volume will be of interest to researchers and specialists in programming software engineering data structure and information retrieval and to mathematicians whose work involves algorithms combinatorics graph theory operations research and discrete optimization the book can also be recommended as a text for graduate courses in computer science electronics telecommunications and control engineering

Graph Theory for Programmers

2000-08-31

this book introduces the advantages of parallel processing and details how to use it to deal with common signal processing and control algorithms the text includes examples and end of chapter exercises and case studies to put theoretical concepts into a practical context

Parallel Computing for Real-time Signal Processing and Control

2012-12-06

this book is written for engineers who need to develop algorithms used for signal processing and or implement algorithms using the c programming language or matlab the book features a rich collection of recipes for applied signal processing such as fir iir fft correlation complex fir adaptive filters and

others the book applies to those who want to implement in the shortest time to market working systems that are built from a collection of building blocks implemented in an fpga firmware or c language software running on an sbc or dsp structured as an instantly applicable guide the author covers a wide collection of required solutions to common encountered problems with a software guide all codes in the book are verified and processing times for all c codes are specified enabling the reader to estimate processing time on his own target by comparing it to the i5 2 9 ghz cpu used here endorsements your book bridges a gap between theory and implementation on hardware which is a topic relevant to many in industry and many students who are targeting the digital signal processing industry including communications and robotics professor alfred hero university of michigan ann arbor usa i believe you that for many engineers the book will be practical professor anthony j weiss tel aviv university israel

Verified Signal Processing Algorithms in MATLAB and C

2022-03-31

this book presents essential algorithms for the image processing pipeline of photo printers and accompanying software tools offering an exposition of multiple image enhancement algorithms smart aspect ratio changing techniques for borderless printing and approaches for non standard printing modes all the techniques described are content adaptive and operate in an automatic mode thanks to machine learning reasoning or ingenious heuristics the first part includes algorithms for example red eye correction and compression artefacts reduction that can be applied in any photo processing application while the second part focuses specifically on printing devices e g eco friendly and anaglyph printing the majority of the techniques presented have a low computational complexity because they were initially designed for integration in system on chip the book reflects the authors practical experience in algorithm development for industrial r d

Adaptive Image Processing Algorithms for Printing

2017-10-31

the technological developments of the last ten years have made computer graphics and image processing by computer popular pictorial pattern recognition has also shown significant progress

clearly there exist overlapping interests among the three areas of research graphic displays are of concern to anyone involved in image processing or pictorial pattern recognition and many problems in graphics require methodologies from image processing for their solutions the data structures used in all three areas are similar it seems that there is a common body of knowledge underlying all three areas pictorial information processing by computer the novelty of these fields makes it difficult to design a course or to write a book covering their basic concepts some of the treatises on graphics focus on the hardware and methods of current interest while treatises on image processing often emphasize applications and classical signal processing the fast evolution of technology causes such material to lose its relevance for example the development of optical fibers has reduced the importance of bandwidth compression

Algorithms for Graphics and Image Processing

2012-04-07

contents introduction basic concepts of fuzzy sets fuzzy relations fuzzy models for image processing and pattern recognition membership functions introduction heuristic selections clustering approach tuning of membership functions concluding remarks optimal image thresholding introduction threshold selection based on statistical decision theory non fuzzy thresholding algorithms fuzzy thresholding algorithm unified formulation of three thresholding algorithms multilevel thresholding applications concluding remarks fuzzy clustering introduction c means algorithm fuzzy c means algorithm comparison between hard and fuzzy clustering algorithms cluster validity applications concluding remarks line pattern matching introduction similarity measures between line segments basic matching algorithm dealing with noisy patterns dealing with rotated patterns applications concluding remarks fuzzy rule based systems introduction learning from examples decision tree approach fuzzy aggregation network approach minimization of fuzzy rules defuzzification and optimization applications concluding remarks combined classifiers introduction voting schemes maximum posteriori probability multilayer perceptron approach fuzzy measures and fuzzy integrals applications concluding remarks readership engineers and computer scientists keywords

Fuzzy Algorithms: With Applications To Image Processing And Pattern Recognition

1996-10-04

our world is being revolutionized by data driven methods access to large amounts of data has generated new insights and opened exciting new opportunities in commerce science and computing applications processing the enormous quantities of data necessary for these advances requires large clusters making distributed computing paradigms more crucial than ever mapreduce is a programming model for expressing distributed computations on massive datasets and an execution framework for large scale data processing on clusters of commodity servers the programming model provides an easy to understand abstraction for designing scalable algorithms while the execution framework transparently handles many system level details ranging from scheduling to synchronization to fault tolerance this book focuses on mapreduce algorithm design with an emphasis on text processing algorithms common in natural language processing information retrieval and machine learning we introduce the notion of mapreduce design patterns which represent general reusable solutions to commonly occurring problems across a variety of problem domains this book not only intends to help the reader think in mapreduce but also discusses limitations of the programming model as well

table of contents introduction mapreduce basics mapreduce algorithm design inverted indexing for text retrieval graph algorithms em algorithms for text processing closing remarks

Data-Intensive Text Processing with MapReduce

2010-10-10

this textbook is the third of three volumes which provide a modern algorithmic introduction to digital image processing designed to be used both by learners desiring a firm foundation on which to build and practitioners in search of critical analysis and concrete implementations of the most important techniques this volume builds upon the introductory material presented in the first two volumes with additional key concepts and methods in image processing features practical examples and carefully constructed chapter ending exercises real implementations concise mathematical notation and precise algorithmic descriptions designed for programmers and practitioners easily adaptable java code and

completely worked out examples for easy inclusion in existing applications uses imagej provides a supplementary website with the complete java source code test images and corrections additional presentation tools for instructors including a complete set of figures tables and mathematical elements

Principles of Digital Image Processing

2013-11-18

the algorithms such as svd eigen decomposition gaussian mixture model hmm etc are presently scattered in different fields there remains a need to collect all such algorithms for quick reference also there is the need to view such algorithms in application point of view this book attempts to satisfy the above requirement the algorithms are made clear using matlab programs

Algorithm Collections for Digital Signal Processing Applications

Using Matlab

2007-09-20

over the last fifteen years gis has become a fully fledged technology deployed across a range of application areas however although computer advances in performance appear to continue unhindered data volumes and the growing sophistication of analysis procedures mean that performance will increasingly become a serious concern in gis parallel computing offers a potential solution however traditional algorithms may not run effectively in a parallel environment so utilization of parallel technology is not entirely straightforward this groundbreaking book examines some of the current strategies facing scientists and engineers at this crucial interface of parallel computing and gis the book begins with an introduction to the concepts terminology and techniques of parallel processing with particular reference to gis high level programming paradigms and software engineering issues underlying parallel software developments are considered and emphasis is given to designing modular reusable software libraries the book continues with problems in designing parallel software for gis applications potential vector and raster data structures and details the algorithmic design for some major gis operations an implementation case study is included based around a raster generalization problem which illustrates some of the principles involved subsequent chapters review progress in parallel database technology in a gis environment and the use of parallel techniques in various

application areas dealing with both algorithmic and implementation issues parallel processing algorithms for gis should be a useful text for a new generation of gis professionals whose principal concern is the challenge of embracing major computer performance enhancements via parallel computing similarly it should be an important volume for parallel computing professionals who are increasingly aware that gis offers a major application domain for their technology

Parallel Processing Algorithms For GIS

2020-11-25

this book includes original research findings in the field of memetic algorithms for image processing applications it gathers contributions on theory case studies and design methods pertaining to memetic algorithms for image processing applications ranging from defence medical image processing and surveillance to computer vision robotics etc the content presented here provides new directions for future research from both theoretical and practical viewpoints and will spur further advances in the field

Recent Advances on Memetic Algorithms and its Applications in Image Processing

2019-12-07

this volume provides a collection of sixteen articles containing review and new material in a unified way they describe the recent development of theories and methodologies in pattern recognition image processing and vision using fuzzy logic artificial neural networks genetic algorithms rough sets and wavelets with significant real life applications the book details the theory of granular computing and the role of a rough neuro approach as a way of computing with words and designing intelligent recognition systems it also demonstrates applications of the soft computing paradigm to case based reasoning data mining and bio informatics with a scope for future research the contributors from around the world present a balanced mixture of current theory algorithms and applications making the book an extremely useful resource for students and researchers alike contents pattern recognition multiple classifier systems building decision trees from the fourier spectrum of a tree ensemble clustering large data sets multi objective variable string genetic classifier application to remote sensing imagery image processing and vision dissimilarity measures between fuzzy sets or fuzzy structures early vision

concepts and algorithms self organizing neural network for multi level image segmentation geometric transformation by moment method with wavelet matrix new computationally efficient algorithms for video coding soft computing for computational media aesthetics analyzing video content for meaning granular computing and case based reasoning towards granular multi agent systems granular computing and pattern recognition case base maintenance a soft computing perspective real life applications autoassociative neural network models for pattern recognition tasks in speech and image protein structure prediction using soft computing pattern classification for biological data mining readership upper level undergraduates graduates researchers academics and industrialists

Soft Computing Approach to Pattern Recognition and Image Processing

2002

this book attempts to improve algorithms by novel theories and complex data analysis in different scopes including object detection remote sensing data transmission data fusion gesture recognition and medical image processing and analysis the book is directed to the ph d students professors researchers and software developers working in the areas of digital video processing and computer vision technologies

Advances in Signal Processing

2020-03-19

hyperspectral data processing algorithm design and analysis is a culmination of the research conducted in the remote sensing signal and image processing laboratory rssipl at the university of maryland baltimore county specifically it treats hyperspectral image processing and hyperspectral signal processing as separate subjects in two different categories most materials covered in this book can be used in conjunction with the author s first book hyperspectral imaging techniques for spectral detection and classification without much overlap many results in this book are either new or have not been explored presented or published in the public domain these include various aspects of endmember extraction unsupervised linear spectral mixture analysis hyperspectral information compression hyperspectral signal coding and characterization as well as applications to conceal target

detection multispectral imaging and magnetic resonance imaging hyperspectral data processing contains eight major sections part i provides fundamentals of hyperspectral data processing part ii offers various algorithm designs for endmember extraction part iii derives theory for supervised linear spectral mixture analysis part iv designs unsupervised methods for hyperspectral image analysis part v explores new concepts on hyperspectral information compression parts vi vii develops techniques for hyperspectral signal coding and characterization part viii presents applications in multispectral imaging and magnetic resonance imaging hyperspectral data processing compiles an algorithm compendium with matlab codes in an appendix to help readers implement many important algorithms developed in this book and write their own program codes without relying on software packages hyperspectral data processing is a valuable reference for those who have been involved with hyperspectral imaging and its techniques as well those who are new to the subject

Parallel Algorithms

1993

covers advances in the field of computer techniques and algorithms in digital signal processing

Hyperspectral Data Processing

2013-04-08

showcasing the most influential developments experiments and architectures impacting the digital surveillance automotive industrial and medical sciences this text reference tracks the evolution and advancement of cvip technologies examining methods and algorithms for image analysis optimization segmentation and restoration

Computer Techniques and Algorithms in Digital Signal Processing

1996-03-18

this book presents a study of the use of optimization algorithms in complex image processing problems the problems selected explore areas ranging from the theory of image segmentation to the detection of complex objects in medical images furthermore the concepts of machine learning and optimization are

analyzed to provide an overview of the application of these tools in image processing the material has been compiled from a teaching perspective accordingly the book is primarily intended for undergraduate and postgraduate students of science engineering and computational mathematics and can be used for courses on artificial intelligence advanced image processing computational intelligence etc likewise the material can be useful for research from the evolutionary computation artificial intelligence and image processing communities

Image Processing Technologies

2004-03

Advances and Applications of Optimised Algorithms in Image Processing

2018-07-05

DIGITAL SIGNAL PROCESSING: PRINCIPLES ALGORITHMS AND APPLICATIONS

2001

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