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Inspired Computation and Applications in Image Processing Fundamentals of Adaptive Signal Processing

Biologically Inspired Signal Processing for Chemical Sensing

2009-05-11

biologically inspired approaches for artificial sensing have been extensively applied to different sensory modalities over the last decades and chemical senses have been no exception the olfactory system and the gustatory system to a minor extent has been regarded as a model for the development of new artificial chemical sensing s tems one of the main contributions to this field was done by persaud and dodd in 1982 when they proposed a system based on an array of broad selective chemical sensors coupled with a pattern recognition engine the array aimed at mimicking the sensing strategy followed by the olfactory system where a population of bro selective olfactory receptor neurons encodes for chemical information as patterns of activity across the neuron population the pattern recognition engine proposed was not based on bio inspired but on statistical methods this influential work gave rise to a new line of research where this paradigm has been used to build chemical sensing instruments applied to a wide range of odor detection problems more recently some researchers have proposed to extend the biological inspiration of this system also to the processing of the sensor array signals this has been mo vated in part by the increasing body of knowledge available on biological olfaction which has become in the last decade a focus of attention of the experimental neu science community

Signals and Images

2018-09-03

signals and images advances and results in speech estimation compression recognition filtering and processing cohesively combines contributions from field experts to deliver a comprehensive account of the latest developments in signal processing these experts detail the results of their research related to audio and speech enhancement acoustic image estimation video compression biometric recognition hyperspectral image

analysis tensor decomposition with applications in communications adaptive sparse interpolated filtering signal processing for power line communications bio inspired signal processing seismic data processing arithmetic transforms for spectrum computation particle filtering in cooperative networks three dimensional television and more this book not only shows how signal processing theory is applied in current and emerging technologies but also demonstrates how to tackle key problems such as how to enhance speech in the time domain improve audio quality and meet the desired electrical consumption target for controlling carbon emissions signals and images advances and results in speech estimation compression recognition filtering and processing serves as a guide to the next generation of signal processing solutions for speech and video coding hearing aid devices big data processing smartphones smart digital communications acoustic sensors and beyond

Recent Advances in Intelligent Information Hiding and Multimedia Signal Processing

2018-11-10

this book features papers presented at iih msp 2018 the 14th international conference on intelligent information hiding and multimedia signal processing the scope of iih msp included information hiding and security multimedia signal processing and networking and bio inspired multimedia technologies and systems the book discusses subjects related to massive image video compression and transmission for emerging networks advances in speech and language processing recent advances in information hiding and signal processing for audio and speech signals intelligent distribution systems and applications recent advances in security and privacy for multimodal network environments multimedia signal processing and machine learning presenting the latest research outcomes and findings it is suitable for researchers and students who are interested in the corresponding fields iih msp 2018 was held in sendai japan on 26 28 november 2018 it was hosted by tohoku university and was co sponsored by the fujian university of technology in china the taiwan

association for intelligence consortium in taiwan and the swinburne university of technology in australia as well as the fujian provincial key laboratory of big data mining and applications fujian university of technology and the harbin institute of technology shenzhen graduate school in china

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Biologically Inspired Signal Processing for Chemical Sensing

2009-08-29

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Advances in Intelligent Information Hiding and Multimedia Signal Processing

2017-07-15

this volume includes papers presented at iih msp 2017 the 13th international conference on intelligent information hiding and multimedia signal processing held from 12 to 15 august 2017 in matsue shimane japan the conference addresses topics ranging from information hiding and security and multimedia signal processing and networking to bio inspired multimedia technologies and systems this volume of smart innovation systems and technologies focuses on subjects related to massive image video compression and transmission for emerging networks advances in speech and language processing information hiding and

signal processing for audio and speech signals intelligent distribution systems and applications recent advances in security and privacy for multimodal network environments multimedia signal processing and machine learning updated with the latest research outcomes and findings the papers presented appeal to researchers and students who are interested in the corresponding fields

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2010 International Conference on Bio-Inspired Systems and Signal Processing

2010

unsupervised signal processing channel equalization and source separation provides a unified systematic and

synthetic presentation of the theory of unsupervised signal processing always maintaining the focus on a signal processing oriented approach this book describes how the subject has evolved and assumed a wider scope that covers several topics from well established blind equalization and source separation methods to novel approaches based on machine learning and bio inspired algorithms from the foundations of statistical and adaptive signal processing the authors explore and elaborate on emerging tools such as machine learning based solutions and bio inspired methods with a fresh take on this exciting area of study this book provides a solid background on the statistical characterization of signals and systems and on linear filtering theory emphasizes the link between supervised and unsupervised processing from the perspective of linear prediction and constrained filtering theory addresses key issues concerning equilibrium solutions and equivalence relationships in the context of unsupervised equalization criteria provides a systematic presentation of source separation and independent component analysis discusses some instigating connections between the filtering problem and computational intelligence approaches building on more than a decade of the authors work at dspcom laboratory this book applies a fresh conceptual treatment and mathematical formalism to important existing topics the result is perhaps the first unified presentation of unsupervised signal processing techniques one that addresses areas including digital filters adaptive methods and statistical signal processing with its remarkable synthesis of the field this book provides a new vision to stimulate progress and contribute to the advent of more useful efficient and friendly intelligent systems

Unsupervised Signal Processing

2018-09-03

in the current age of information explosion newly invented technological sensors and software are now tightly integrated with our everyday lives many sensor processing algorithms have incorporated some forms of computational intelligence as part of their core framework in problem solving these algorithms have the capacity to generalize and discover knowledge for themselves and to learn new information whenever unseen data are captured the primary aim of sensor processing is to develop techniques to interpret understand and

act on information contained in the data the interest of this book is in developing intelligent signal processing in order to pave the way for smart sensors this involves the mathematical advancement of nonlinear signal processing theory and its applications that extend far beyond traditional techniques it bridges the boundary between theory and application developing novel theoretically inspired methodologies targeting both longstanding and emergent signal processing applications the topics range from phishing detection to integration of terrestrial laser scanning and from fault diagnosis to bio inspired filtering the book will appeal to established practitioners along with researchers and students in the emerging field of smart sensor signal processing

Perceptually Inspired Signal-processing Strategies for Robust Speech Recognition in Reverberant Environments

1998

the book presents some of the most efficient statistical and deterministic methods for information processing and applications in order to extract targeted information and find hidden patterns the techniques presented range from bayesian approaches and their variations such as sequential monte carlo methods markov chain monte carlo filters rao blackwellization to the biologically inspired paradigm of neural networks and decomposition techniques such as empirical mode decomposition independent component analysis and singular spectrum analysis the book is directed to the research students professors researchers and practitioners interested in exploring the advanced techniques in intelligent signal processing and data mining paradigms

Bio-inspired Physiological Signal(s) and Medical Image(s) Neural

Processing Systems Based on Deep Learning and Mathematical Modeling for Implementing Bio-Engineering Applications in Medical and Industrial Fields

2021-12-31

this book discusses in depth role of optimization to optimize the controller parameters with reference to bio inspired algorithms comparative studies to evaluate the performance of different optimization techniques in terms of the settling time overshoot and undershoot responses of the frequency deviations tie line power flow deviations and the area control error are included supported by examples the book also includes different scenarios of the load frequency controller for single area as well as multi area thermal power generating unit considering different algorithms key features highlights the importance of tuning the power system controller parameters with emphasis on bio inspiration algorithms provides some applied applications examples of the thermal power system focusses on power system applications based on the optimization algorithms with different single area and multi area thermal power systems reports different cases on the interconnected power systems with providing optimal performance by optimizing the controller s parameters

Sensor Signal and Information Processing III

2021-02-05

this book provides signal processing exercises and can with advantage be used together with the text book signal processing by fredrik gustafsson lennart ljung and mille millnert the chapters of the books are aligned which means that there are matching exercises to each theory chapter the first part of the book treats classical digital signal processing based on transforms and filters while model based digital processing is in focus in the second part some exercises are more theoretical and solved by hand while others are intended for

matlab on a computer the book material is inspired by real problems and so are the exercises this is emphasised by the use of data sets both simulated and real most exercises have complete solutions and a section with hints provides guidance to some exercises selected exercises also result in a matlab function corresponding to specific signal processing algorithms these functions are used to solve other exercises thereby the reader gradually build up a signal processing toolbox during the studies of the material

Advances in Intelligent Signal Processing and Data Mining

2012-07-27

this highly experienced author sets out to build a bridge between two inter disciplinary power engineering practices the book looks into two major fields used in modern power systems intelligent systems and the signal processing the intelligent systems section comprises fuzzy logic neural network and support vector machine the author looks at relevant theories on the topics without assuming much particular background following the theoretical basics he studies their applications in various problems in power engineering like load forecasting phase balancing or disturbance analysis

Bio-Inspired Algorithms in PID Controller Optimization

2018-06-12

neurophysiology and biology provide useful starting points to help us understand and build better audio processing systems the papers in this special issue address hardware implementations spiking networks sound identification and attention decoding

Signal Processing

2013-05

what is this sound what does that sound indicate these are two questions frequently heard in daily conversation sound results from the vibrations of elastic media and in daily life provides informative signals of events happening in the surrounding environment in interpreting auditory sensations the human ear seems particularly good at extracting the signal signatures from sound waves although exploring auditory processing schemes may be beyond our capabilities source signature analysis is a very attractive area in which signal processing schemes can be developed using mathematical expressions this book is inspired by such processing schemes and is oriented to signature analysis of waveforms most of the examples in the book are taken from data of sound and vibrations however the methods and theories are mostly formulated using mathematical expressions rather than by acoustical interpretation this book might therefore be attractive and informative for scientists engineers researchers and graduate students who are interested in the mathematical representation of signals and the applications of fourier analysis the book can be described as being practically self contained but does assume readers are familiar with introductory topics in discrete signal processing as in the discrete fourier transform hence this book might be also usable as a textbook in graduate courses in applied mathematics on topics such as complex functions almost all scientific phenomena are sensed as waves propagating in some space over the years waveform analysis has therefore been one of the resilient academic areas of study and still is seen as fertile ground for development in particular waveform analysis based on the theory of linear systems would be a good example where a physical interpretation can be given to the mathematical theory of complex functions in terms of magnitude angle poles and zeros of complex functions for readers who are interested in the physical aspects of sound and vibration data or elementary formulation of wave equations and their solutions the book sound and signals by m tohyama springer 2011 is recommended it can serve as a complementary companion to this present volume or independently as a good reference

Intelligent Systems and Signal Processing in Power Engineering

2010-11-25

the following topics are dealt with biologically inspired radar biologically inspired sonar biosonar inspired signal processing acoustic imaging matched filter air coupled sonar systems cognitive sensor target tracking human echolocation polarization tensors and object recognition

Bio-inspired Audio Processing, Models and Systems

2019-12-05

when speech and audio signal processing published in 1999 it stood out from its competition in its breadth of coverage and its accessible intutiont based style this book was aimed at individual students and engineers excited about the broad span of audio processing and curious to understand the available techniques since then with the advent of the ipod in 2001 the field of digital audio and music has exploded leading to a much greater interest in the technical aspects of audio processing this second edition will update and revise the original book to augment it with new material describing both the enabling technologies of digital music distribution most significantly the mp3 and a range of exciting new research areas in automatic music content processing such as automatic transcription music similarity etc that have emerged in the past five years driven by the digital music revolution new chapter topics include psychoacoustic audio coding describing mp3 and related audio coding schemes based on psychoacoustic masking of quantization noise music transcription including automatically deriving notes beats and chords from music signals music information retrieval primarily focusing on audio based genre classification artist style identification and similarity estimation audio source separation including multi microphone beamforming blind source separation and the perception inspired techniques usually referred to as computational auditory scene analysis casa

Waveform Analysis of Sound

2015-01-10

during the past few years we have been witnessing the rapid growth of the ap plications of interactive digital video multimedia computing desktop video teleconferencing virtual reality and high definition television hdtv an other information revolution which is tied to cyberspace is almost within reach the information data text graphics video sound etc in the form of multi media can be requested accessed distributed and transmitted to potentially every household this is changing and will continue to change the way of people doing business functioning in the society and entertaining in the foreseeable future many personalized portable information terminals which can be car ried while traveling will provide the link to central computer network to allow information exchange including videos from a node to node from a center to a node or nodes facing this opportunity the question is what are the major significant technical challenges that people have to solve to push the state of the art for the realiza tion of the above mentioned technology advancement from our professional judgement we feel that one of the major technical challenges is in video data compression video communications in the form of desktop teleconferencing videophone network video delivery on demand even games are going to be major media traveling in the information super highway hopping from one node in the cyberspace to the other

Biologically-Inspired Radar and Sonar

2017

this book is a collection of selected peer reviewed papers presented at the international conference on signal processing and communication icsc 2018 it covers current research and developments in the fields of communications signal processing vlsi circuits and systems and embedded systems the book offers in depth discussions and analyses of latest problems across different sub fields of signal processing and

communications the contents of this book will prove to be useful for students researchers and professionals working in electronics and electrical engineering as well as other allied fields

Speech and Audio Signal Processing

2011-08-23

this book brings together papers presented at the 2020 international conference on communications signal processing and systems which provides a venue to disseminate the latest developments and to discuss the interactions and links between these multidisciplinary fields spanning topics ranging from communications signal processing and systems this book is aimed at undergraduate and graduate students in electrical engineering computer science and mathematics researchers and engineers from academia and industry as well as government employees such as nsf dod and doe

Video Data Compression for Multimedia Computing

2012-12-06

this text reviews the field of digital image processing from the different perspectives offered by the separate domains of signal processing and pattern recognition the book describes a rich array of applications representing the latest trends in industry and academic research to inspire further interest in the field a selection of worked out numerical problems is also included in the text the content is presented in an accessible manner examining each topic in depth without assuming any prior knowledge from the reader and providing additional background material in the appendices features covers image enhancement techniques in the spatial domain the frequency domain and the wavelet domain reviews compression methods and formats for encoding images discusses morphology based image processing investigates the modeling of object recognition in the human visual system provides supplementary material including matlab and c code and

interactive gui based modules at an associated website

Advances in Signal Processing and Communication

2018-11-19

compressive sensing in healthcare part of the advances in ubiquitous sensing applications for healthcare series gives a review on compressive sensing techniques in a practical way also presenting deterministic compressive sensing techniques that can be used in the field the focus of the book is on healthcare applications for this technology it is intended for both the creators of this technology and the end users of these products the content includes the use of eeg and ecg plus hardware and software requirements for building projects body area networks and body sensor networks are explored provides a toolbox for compressive sensing in health presenting both mathematical and coding information presents an intuitive introduction to compressive sensing including matlab tutorials covers applications of compressive sensing in health care

Communications, Signal Processing, and Systems

2021-06-07

in the current age of information explosion newly invented technological sensors and software are now tightly integrated with our everyday lives many sensor processing algorithms have incorporated some forms of computational intelligence as part of their core framework in problem solving these algorithms have the capacity to generalize and discover knowledge for themselves and learn new information whenever unseen data are captured the primary aim of sensor processing is to develop techniques to interpret understand and act on information contained in the data the interest of this book is in developing intelligent signal processing in order to pave the way for smart sensors this involves mathematical advancement of nonlinear signal

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Guide to Signals and Patterns in Image Processing

2015-04-22

some applications of digital signal processing in telecommunications digital processing in audio signals digital processing of speech digital image processing applications of digital signal processing to radar sonar signal processing digital signal processing in geophysics

Compressive Sensing in Healthcare

2020-05-18

every day millions of people are unaware of the amazing processes that take place when using their phones connecting to broadband internet watching television or even the most basic action of flipping on a light switch advances are being continually made in not only the transmission of this data but also in the new methods of receiving it these advancements come from many different sources and from engineers who have engaged in research design development and implementation of electronic equipment used in communications systems this volume addresses a selection of important current advancements in the electronics and communications engineering fields focusing on signal processing chip design and networking technology the sections in the book cover microwave and antennas communications systems very large scale integration

embedded systems intelligent control and signal processing systems

Sensor Signal and Information Processing II

2020-12-29

this second volume edited and authored by world leading experts gives a review of the principles methods and techniques of important and emerging research topics and technologies in communications and radar engineering with this reference source you will quickly grasp a new area of research understand the underlying principles of a topic and its application ascertain how a topic relates to other areas and learn of the research issues yet to be resolved quick tutorial reviews of important and emerging topics of research in array and statistical signal processing presents core principles and shows their application reference content on core principles technologies algorithms and applications comprehensive references to journal articles and other literature on which to build further more specific and detailed knowledge edited by leading people in the field who through their reputation have been able to commission experts to write on a particular topic

Applications of Digital Signal Processing

1978

the book covers all the emerging paradigms of machine learning and bio inspired algorithms and their synergies with communication networks which may prove as a core 5g and 6g enablers it consists of 16 chapters divided into three fields section 1 introduces the fundamentals of broadband wireless networks and issues related to energy efficiency and optimization section 2 discusses the efficient bio inspired algorithms and their utility in wireless networks for 5g b5g and iot different fitness functions for different bio inspired and other artificial intelligence algorithms are described in the book section 3 introduces the concept implementation and technological challenges of efficient wireless energy harvesting methods the book

discusses different methodologies for efficient antenna designs it also covers real time applications on the internet of medical things iomt the book helps the readers to understand the subject and solve many real time issues it proves a ready reference to the researchers working in rf artificial intelligence machine learning and communication networks

Electronics and Communications Engineering

2019-06-07

this book addresses the issues of the rapidly changing field of wireless wearable and implantable sensors it also discusses the latest technological developments and clinical applications of body sensor networks bsn bsn is a new area of research and the last decade has seen a rapid surge of interest the book also provides a review of current wireless sensor development platforms and a guide to developing your own bsn applications

Academic Press Library in Signal Processing

2013-09-10

digital signal processing is ubiquitous it is an essential ingredient in many of today s electronic devices ranging from medical equipment to weapon systems it makes the difference between dumb and intelligent systems this book is organized into five parts 1 introduction which contains an account of prof constantinides contribution to the field and brief summaries of the remaining chapters of this festschrift 2 digital filters and transforms which covers efficient digital filtering techniques for improving signal quality 3 signal processing which provides an insight into fundamental theories 4 communications which deals with some important applications of signal processing techniques and 5 finale which contains a discussion on the impact of digital signal processing on our society and the closing remarks on this festschrift

Intelligent Signal Processing and RF Energy Harvesting for state of art 5G and B5G Networks

2024-03-09

this book presents worldwide outstanding research and recent progress in the applications of neural networks fuzzy logic chaos independent component analysis etc to fields related to speech recognition enhancement supervised fourier demixing noise elimination acoustic databases the human hearing system cancer detection image processing and visual communications contents speech hyphenation segmentation by means of blind source separation h szu c hsu higher order moments based synthesis of supervised fourier demixing filter e uchino et al design and application of an acoustic database navigator for the interactive analysis of psychoacoustic sound archives and sound engineering a konig et al multilayer perception networks with adaptive centroid transformation m lehtokangas identification and analysis for transiently evoked otoacoustic emission l m li et al new reliability models based on imprecise probabilities l v utkin s v gurov multi modular neural network for breast cancer detection h li k j r liu advanced neural nets for visual image communication h szu c hsu continuous valued techniques based on the lagrangian method for the wire routing problem s ismail et al chaotic neural networks for information processing c hsu h szu wavelet encoding for interactive genetic algorithm in emotional image retrieval j y lee s b cho a call admission control using interval arithmetic coulomb energy network w d lee et al readership upper level undergraduates graduate students researchers academic lecturers and senior engineers in fuzzy logic machine perception and pattern recognition keywords neural networks artificial intelligence fuzzy logic soft computing chaos speech signal processing independent component analysis information processing hebbain learning nonlinear dynamics adaptive wavelet transforms blind source separation genetic algorithm emotional information processing statistical analysis principle component analysis multilayer perception networks

Body Sensor Networks

2007-12-05

good no highlights no markup all pages are intact slight shelfwear may have the corners slightly dented may have slight color changes slightly damaged spine

Trends in Digital Signal Processing

2015-07-24

a valuable introduction to the fundamentals of continuous and discrete time signal processing this book is intended for the reader with little or no background in this subject the emphasis is on development from basic principles with this book the reader can become knowledgeable about both the theoretical and practical aspects of digital signal processing some special features of this book are 1 gradual and step by step development of the mathematics for signal processing 2 numerous examples and homework problems 3 evolutionary development of fourier series discrete fourier transform fourier transform laplace transform and z transform 4 emphasis on the relationship between continuous and discrete time signal processing 5 many examples of using the computer for applying the theory 6 computer based assignments to gain practical insight 7 a set of computer programs to aid the reader in applying the theory

Advanced Signal Processing Technology by Soft Computing

2000-11-07

intelligent speech signal processing investigates the utilization of speech analytics across several systems and real world activities including sharing data analytics creating collaboration networks between several

participants and implementing video conferencing in different application areas chapters focus on the latest applications of speech data analysis and management tools across different recording systems the book emphasizes the multidisciplinary nature of the field presenting different applications and challenges with extensive studies on the design development and management of intelligent systems neural networks and related machine learning techniques for speech signal processing highlights different data analytics techniques in speech signal processing including machine learning and data mining illustrates different applications and challenges across the design implementation and management of intelligent systems and neural networks techniques for speech signal processing includes coverage of biomodal speech recognition voice activity detection spoken language and speech disorder identification automatic speech to speech summarization and convolutional neural networks

Optimum Signal Processing

1985

cognitive systems and signal processing in image processing presents different frameworks and applications of cognitive signal processing methods in image processing this book provides an overview of recent applications in image processing by cognitive signal processing methods in the context of big data and cognitive ai it presents the amalgamation of cognitive systems and signal processing in the context of image processing approaches in solving various real word application domains this book reports the latest progress in cognitive big data and sustainable computing various real time case studies and implemented works are discussed for better understanding and more clarity to readers the combined model of cognitive data intelligence with learning methods can be used to analyze emerging patterns spot business opportunities and take care of critical process centric issues for computer vision in real time presents cognitive signal processing methodologies that are related to challenging image processing application domains provides the state of the art in cognitive signal processing approaches in the area of big data image processing focuses on other technical aspects and alternatives to traditional tools algorithms and methodologies discusses various real

time case studies and implemented works

Introductory Signal Processing

1991

this book is a result of author s thirty three years of experience in teaching and research in signal processing the book will guide you from a review of continuous time signals and systems through the world of digital signal processing up to some of the most advanced theory and techniques in adaptive systems time frequency analysis and sparse signal processing it provides simple examples and explanations for each including the most complex transform method algorithm or approach presented in the book the most sophisticated results in signal processing theory are illustrated on simple numerical examples the book is written for students learning digital signal processing and for engineers and researchers refreshing their knowledge in this area the selected topics are intended for advanced courses and for preparing the reader to solve problems in some of the state of art areas in signal processing the book consists of three parts after an introductory review part the basic principles of digital signal processing are presented within part two of the book this part starts with chapter two which deals with basic definitions transforms and properties of discrete time signals the sampling theorem providing the essential relation between continuous time and discrete time signals is presented in this chapter as well discrete fourier transform and its applications to signal processing are the topic of the third chapter other common discrete transforms like cosine sine walsh hadamard and haar are also presented in this chapter the z transform as a powerful tool for analysis of discrete time systems is the topic of chapter four various methods for transforming a continuous time system into a corresponding discrete time system are derived and illustrated in chapter five chapter six is dedicated to the forms of discrete time system realizations basic definitions and properties of random discrete time signals are given in chapter six systems to process random discrete time signals are considered in this chapter as well chapter six concludes with a short study of quantization effects the presentation is supported by numerous illustrations and examples chapters within part two are followed by a number of solved and unsolved problems for practice the theory is explained in a simple

way with a necessary mathematical rigor the book provides simple examples and explanations for each presented transform method algorithm or approach sophisticated results in signal processing theory are illustrated by simple numerical examples part three of the book contains few selected topics in digital signal processing adaptive discrete time systems time frequency signal analysis and processing of discrete time sparse signals this part could be studied within an advanced course in digital signal processing following the basic course some parts from the selected topics may be included in tailoring a more extensive first course in digital signal processing as well about the author ljubisa stankovic is a professor at the university of montenegro ieee fellow for contributions to the time frequency signal analysis a member of the montenegrin and european academy of sciences and arts he has been an associate editor of several world leading journals in signal processing

Intelligent Speech Signal Processing

2019-03-27

bio inspired computation and applications in image processing summarizes the latest developments in bio inspired computation in image processing focusing on nature inspired algorithms that are linked with deep learning such as ant colony optimization particle swarm optimization and bat and firefly algorithms that have recently emerged in the field in addition to documenting state of the art developments this book also discusses future research trends in bio inspired computation helping researchers establish new research avenues to pursue reviews the latest developments in bio inspired computation in image processing focuses on the introduction and analysis of the key bio inspired methods and techniques combines theory with real world applications in image processing helps solve complex problems in image and signal processing contains a diverse range of self contained case studies in real world applications

Cognitive Systems and Signal Processing in Image Processing

2021-11-28

this book is an accessible guide to adaptive signal processing methods that equips the reader with advanced theoretical and practical tools for the study and development of circuit structures and provides robust algorithms relevant to a wide variety of application scenarios examples include multimodal and multimedia communications the biological and biomedical fields economic models environmental sciences acoustics telecommunications remote sensing monitoring and in general the modeling and prediction of complex physical phenomena the reader will learn not only how to design and implement the algorithms but also how to evaluate their performance for specific applications utilizing the tools provided while using a simple mathematical language the employed approach is very rigorous the text will be of value both for research purposes and for courses of study

Digital Signal Processing

2015-11-04

Bio-Inspired Computation and Applications in Image Processing

2016-08-09

Fundamentals of Adaptive Signal Processing

2014-12-30

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