

# 2013 IEEE BASE PAPER ON IMAGE PROCESSING

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## **Data Mining and Big Data** - Ying Tan 2021-10-29

This two-volume set, CCIS 1453 and CCIS 1454, constitutes refereed proceedings of the 6th International Conference on Data Mining and Big Data, DMBD 2021, held in Guangzhou, China, in October 2021. The 57 full papers and 28 short papers presented in this two-volume set were carefully reviewed and selected from 258 submissions. The papers present the latest research on advantages in theories, technologies, and applications in data mining and big data. The volume covers many aspects of data mining and big data as well as intelligent computing methods applied to all fields of computer science, machine learning, data mining and knowledge discovery, data science, etc.

## **Dermoscopy Image Analysis** - M. Emre Celebi 2015-10-16

Dermoscopy is a noninvasive skin imaging technique that uses optical magnification and either liquid immersion or cross-polarized lighting to make subsurface structures more easily visible when compared to conventional clinical images. It allows for the identification of dozens of morphological features that are particularly important in identifying malignant melanoma. *Dermoscopy Image Analysis* summarizes the state of the art of the computerized analysis of dermoscopy images. The book begins by discussing the influence of color normalization on classification accuracy and then: Investigates gray-world, max-RGB, and shades-of-gray color constancy algorithms, showing significant gains in sensitivity and specificity on a heterogeneous set of images Proposes a new color space that highlights the distribution of underlying melanin and hemoglobin color pigments, leading to more accurate classification and border detection results Determines that the latest border detection algorithms can achieve a level of agreement that is only slightly lower than the level of agreement among experienced dermatologists Provides a comprehensive review of various methods for border detection, pigment network extraction, global pattern extraction, streak detection, and perceptually significant color detection Details a computer-aided diagnosis (CAD) system for melanomas that features an inexpensive acquisition tool, clinically meaningful features, and interpretable classification feedback Presents a highly scalable CAD system implemented in the MapReduce framework, a novel CAD system for melanomas, and an overview of dermatological image databases Describes projects that made use of a publicly available database of dermoscopy images, which contains 200 high-quality images along with their medical annotations *Dermoscopy Image Analysis* not only showcases recent advances but also explores future directions for this exciting subfield of medical image analysis, covering dermoscopy image analysis from preprocessing to classification.

## **Computer Vision and Image Processing** - Neeta Nain 2020-03-28

This two-volume set (CCIS 1147, CCIS 1148) constitutes the refereed proceedings of the 4th International Conference on Computer Vision and Image Processing. held in Jaipur, India, in September 2019. The 73 full papers and 10 short papers were carefully reviewed and selected from 202 submissions. The papers are organized by the topical headings in two parts. Part I: Biometrics; Computer Forensic; Computer Vision; Dimension Reduction; Healthcare Information Systems; Image Processing; Image segmentation; Information Retrieval; Instance based learning; Machine Learning. Part II: Neural Network; Object Detection; Object Recognition; Online Handwriting Recognition; Optical Character Recognition; Security and Privacy; Unsupervised Clustering.

## *Intelligent Communication, Control and Devices* - Sushabhan Choudhury 2019-08-28

The book focuses on the integration of intelligent communication systems, control systems, and devices related to all aspects of engineering and sciences. It includes high-quality research papers from the 3rd international conference, ICICCD 2018, organized by the Department of Electronics, Instrumentation and Control Engineering at the University of Petroleum and Energy Studies, Dehradun on 21-22 December 2018. Covering a range of recent advances in intelligent communication, intelligent control and intelligent devices., the book presents original research and findings as well as researchers' and industrial practitioners' practical development experiences of.

## Image Analysis and Processing - ICIAP 2015 - Vittorio Murino 2015-08-20

The two-volume set LNCS 9279 and 9280 constitutes the refereed proceedings of the 18th International Conference on Image Analysis and Processing, ICIAP 2015, held in Genoa, Italy, in September 2015. The 129 papers presented were carefully reviewed and selected from 231 submissions. The papers are organized in the following seven topical sections: video analysis and understanding, multiview geometry and 3D computer vision, pattern recognition and machine learning, image analysis, detection and recognition, shape analysis and modeling, multimedia, and biomedical applications.

## Signal and Image Processing Techniques for the Development of Intelligent Healthcare Systems - E. Priya 2020-09-21

This book comprehensively reviews the various automated and semi-automated signal and image processing techniques, as well as deep-learning-based image analysis techniques, used in healthcare diagnostics. It highlights a range of data pre-processing methods used in signal processing for effective data mining in remote healthcare, and discusses pre-processing using filter techniques, noise removal, and contrast-enhanced methods for improving image quality. The book discusses the status quo of artificial intelligence in medical applications, as well as its future. Further, it offers a glimpse of feature extraction methods for reducing dimensionality and extracting discriminatory information hidden in biomedical signals. Given its scope, the book is intended for academics, researchers and practitioners interested in the latest real-world technological innovations.

## **Pattern Recognition and Computer Vision** - Yuxin Peng 2020-10-11

The three-volume set LNCS 12305, 12306, and 12307 constitutes the refereed proceedings of the Third Chinese Conference on Pattern Recognition and Computer Vision, PRCV 2020, held virtually in Nanjing, China, in October 2020. The 158 full papers presented were carefully reviewed and selected from 402 submissions. The papers have been organized in the following topical sections: Part I: Computer Vision and Application, Part II: Pattern Recognition and Application, Part III: Machine Learning.

## Computer Vision, Pattern Recognition, Image Processing, and Graphics - R. Venkatesh Babu 2020-11-16

This book constitutes the refereed proceedings of the 7th National Conference on Computer Vision, Pattern Recognition, Image Processing, and Graphics, NCVPRIPG 2019, held in Hubballi, India, in December 2019. The 55 revised full papers 3 short papers presented in this volume were carefully reviewed and selected from 210 submissions. The papers are organized in topical sections on vision and geometry, learning and vision, image processing and document analysis, detection

and recognition.

**Machine Vision Inspection Systems, Machine Learning-Based Approaches -**

Muthukumaran Malarvel 2021-01-14

Machine Vision Inspection Systems (MVIS) is a multidisciplinary research field that emphasizes image processing, machine vision and, pattern recognition for industrial applications. Inspection techniques are generally used in destructive and non-destructive evaluation industry. Now a day's the current research on machine inspection gained more popularity among various researchers, because the manual assessment of the inspection may fail and turn into false assessment due to a large number of examining while inspection process. This volume 2 covers machine learning-based approaches in MVIS applications and it can be employed to a wide diversity of problems particularly in Non-Destructive testing (NDT), presence/absence detection, defect/fault detection (weld, textile, tiles, wood, etc.), automated vision test & measurement, pattern matching, optical character recognition & verification (OCR/OCV), natural language processing, medical diagnosis, etc. This edited book is designed to address various aspects of recent methodologies, concepts, and research plan out to the readers for giving more depth insights for perusing research on machine vision using machine learning-based approaches.

Computer Vision Systems - Ming Liu 2017-10-10

This book constitutes the refereed proceedings of the 11th International Conference on Computer Vision Systems, ICVS 2017, held in Shenzhen, China, in July 2017. The 61 papers presented were carefully reviewed and selected from 92 submissions. The papers are organized in topical sections on visual control, visual navigation, visual inspection, image processing, human robot interaction, stereo system, image retrieval, visual detection, visual recognition, system design, and 3D vision / fusion.

**Document Image Processing** - Ergina Kavallieratou 2018-10-03

This book is a printed edition of the Special Issue "Document Image Processing" that was published in J. Imaging

**Applied Video Processing in Surveillance and Monitoring Systems** - Dey, Nilanjan 2016-10-11

Video monitoring has become a vital aspect within the global society as it helps prevent crime, promote safety, and track daily activities such as traffic. As technology in the area continues to improve, it is necessary to evaluate how video is being processed to improve the quality of images. Applied Video Processing in Surveillance and Monitoring Systems investigates emergent techniques in video and image processing by evaluating such topics as segmentation, noise elimination, encryption, and classification. Featuring real-time applications, empirical research, and vital frameworks within the field, this publication is a critical reference source for researchers, professionals, engineers, academicians, advanced-level students, and technology developers.

**New Trends in Image Analysis and Processing -- ICIAP 2015 Workshops** - Vittorio Murino 2015-08-20

This book constitutes the refereed proceedings of seven workshops held at the 18th International Conference on Image Analysis and Processing, ICIAP 2015, in Genoa, Italy, in September 2015: International Workshop on Recent Advances in Digital Security: Biometrics and Forensics, BioFor 2015; International Workshop on Color in Texture and Material Recognition, CTMR 2015; International Workshop on Medical Imaging in Rheumatology: Advanced applications for the analysis of inflammation and damage in the rheumatoid Joint, RHEUMA 2015; International Workshop on Image-Based Smart City Application, ISCA 2015; International Workshop on Multimedia Assisted Dietary Management, MADiMa 2015; International Workshop on Scene Background Modeling and Initialization, SBMI 2015; and International Workshop on Image and Video Processing for Quality of Multimedia Experience, QoEM 2015.

**Image Analysis** - Rasmus R. Paulsen 2015-06-08

This book constitutes the refereed proceedings of the 19th Scandinavian Conference on Image Analysis, SCIA 2015, held in Copenhagen, Denmark, in June 2015. The 45 revised papers presented were carefully reviewed and selected from 67 submissions.

The contributions are structured in topical sections on novel applications of vision systems, pattern recognition, machine learning, feature extraction, segmentation, 3D vision to medical and biomedical image analysis.

*Recent Trends in Image Processing and Pattern Recognition* - K. C. Santosh 2019-07-19

This three-volume set constitutes the refereed proceedings of the Second International Conference on Recent Trends in Image Processing and Pattern Recognition (RTIP2R) 2018, held in Solapur, India, in December 2018. The 173 revised full papers presented were carefully reviewed and selected from 374 submissions. The papers are organized in topical sections in the three volumes. Part I: computer vision and pattern recognition; machine learning and applications; and image processing. Part II: healthcare and medical imaging; biometrics and applications. Part III: document image analysis; image analysis in agriculture; and data mining, information retrieval and applications.

**Emerging Trends in Image Processing, Computer Vision and Pattern Recognition** - Leonidas Deligiannidis 2014-12-09

Emerging Trends in Image Processing, Computer Vision, and Pattern Recognition discusses the latest in trends in imaging science which at its core consists of three intertwined computer science fields, namely: Image Processing, Computer Vision, and Pattern Recognition. There is significant renewed interest in each of these three fields fueled by Big Data and Data Analytic initiatives including but not limited to; applications as diverse as computational biology, biometrics, biomedical imaging, robotics, security, and knowledge engineering. These three core topics discussed here provide a solid introduction to image processing along with low-level processing techniques, computer vision fundamentals along with examples of applied applications and pattern recognition algorithms and methodologies that will be of value to the image processing and computer vision research communities. Drawing upon the knowledge of recognized experts with years of practical experience and discussing new and novel applications Editors' Leonidas Deligiannidis and Hamid Arabnia cover; Many perspectives of image processing spanning from fundamental mathematical theory and sampling, to image representation and reconstruction, filtering in spatial and frequency domain, geometrical transformations, and image restoration and segmentation Key application techniques in computer vision some of which are camera networks and vision, image feature extraction, face and gesture recognition and biometric authentication Pattern recognition algorithms including but not limited to; Supervised and unsupervised classification algorithms, Ensemble learning algorithms, and parsing algorithms. How to use image processing and visualization to analyze big data. Discusses novel applications that can benefit from image processing, computer vision and pattern recognition such as computational biology, biometrics, biomedical imaging, robotics, security, and knowledge engineering. Covers key application techniques in computer vision from fundamentals to mid to high level processing some of which are camera networks and vision, image feature extraction, face and gesture recognition and biometric authentication. Presents a number of pattern recognition algorithms and methodologies including but not limited to; supervised and unsupervised classification algorithms, Ensemble learning algorithms, and parsing algorithms. Explains how to use image processing and visualization to analyze big data.

*Image Segmentation* - Tao Lei 2022-09-26

Image Segmentation Summarizes and improves new theory, methods, and applications of current image segmentation approaches, written by leaders in the field The process of image segmentation divides an image into different regions based on the characteristics of pixels, resulting in a simplified image that can be more efficiently analyzed. Image segmentation has wide applications in numerous fields ranging from industry detection and bio-medicine to intelligent transportation and architecture. Image Segmentation: Principles, Techniques, and Applications is an up-to-date collection of recent techniques and methods devoted to the field of computer vision. Covering fundamental concepts, new theories and approaches, and a variety of practical applications including medical imaging, remote sensing, fuzzy

clustering, and watershed transform. In-depth chapters present innovative methods developed by the authors—such as convolutional neural networks, graph convolutional networks, deformable convolution, and model compression—to assist graduate students and researchers apply and improve image segmentation in their work. Describes basic principles of image segmentation and related mathematical methods such as clustering, neural networks, and mathematical morphology. Introduces new methods for achieving rapid and accurate image segmentation based on classic image processing and machine learning theory. Presents techniques for improved convolutional neural networks for scene segmentation, object recognition, and change detection, etc. Highlights the effect of image segmentation in various application scenarios such as traffic image analysis, medical image analysis, remote sensing applications, and material analysis, etc. Image Segmentation: Principles, Techniques, and Applications is an essential resource for undergraduate and graduate courses such as image and video processing, computer vision, and digital signal processing, as well as researchers working in computer vision and image analysis looking to improve their techniques and methods.

Advance Concepts of Image Processing and Pattern Recognition - Narendra Kumar 2022-02-21

The book explains the important concepts and principles of image processing to implement the algorithms and techniques to discover new problems and applications. It contains numerous fundamental and advanced image processing algorithms and pattern recognition techniques to illustrate the framework. It presents essential background theory, shape methods, texture about new methods, and techniques for image processing and pattern recognition. It maintains a good balance between a mathematical background and practical implementation. This book also contains the comparison table and images that are used to show the results of enhanced techniques. This book consists of novel concepts and hybrid methods for providing effective solutions for society. It also includes a detailed explanation of algorithms in various programming languages like MATLAB, Python, etc. The security features of image processing like image watermarking and image encryption etc. are also discussed in this book. This book will be useful for those who are working in the field of image processing, pattern recognition, and security for digital images. This book targets researchers, academicians, industry, and professionals from R&D organizations, and students, healthcare professionals working in the field of medical imaging, telemedicine, cybersecurity, data scientist, artificial intelligence, image processing, digital hospital, intelligent medicine.

**Machine Learning, Image Processing, Network Security and Data Sciences** - Arup Bhattacharjee 2020-06-23

This two-volume set (CCIS 1240-1241) constitutes the refereed proceedings of the Second International Conference on Machine Learning, Image Processing, Network Security and Data Sciences, MIND 2020, held in Silchar, India. Due to the COVID-19 pandemic the conference has been postponed to July 2020. The 79 full papers and 4 short papers were thoroughly reviewed and selected from 219 submissions. The papers are organized according to the following topical sections: data science and big data; image processing and computer vision; machine learning and computational intelligence; network and cyber security.

**Deep Learning for Image Processing Applications** - D.J. Hemant 2017-12

Deep learning and image processing are two areas of great interest to academics and industry professionals alike. The areas of application of these two disciplines range widely, encompassing fields such as medicine, robotics, and security and surveillance. The aim of this book, 'Deep Learning for Image Processing Applications', is to offer concepts from these two areas in the same platform, and the book brings together the shared ideas of professionals from academia and research about problems and solutions relating to the multifaceted aspects of the two disciplines. The first chapter provides an introduction to deep learning, and serves as the basis for much of what follows in the subsequent chapters, which cover subjects including: the application of deep neural networks for image classification; hand gesture recognition in robotics; deep learning techniques for image retrieval; disease detection using deep learning techniques;

and the comparative analysis of deep data and big data. The book will be of interest to all those whose work involves the use of deep learning and image processing techniques.

**Image and Signal Processing** - Abderrahim Elmoataz 2014-06-04

This book constitutes the refereed proceedings of the 6th International Conference, ICISP 2014, held in June/July 2014 in Cherbourg, France. The 76 revised full papers were carefully reviewed and selected from 164 submissions. The contributions are organized in topical sections on multispectral colour science, color imaging and applications, digital cultural heritage, document image analysis, graph-based representations, image filtering and representation, computer vision and pattern recognition, computer graphics, biomedical, and signal processing.

Pattern Recognition - Tieniu Tan 2016-10-21

The two-volume set CCIS 662 and CCIS 663 constitutes the refereed proceedings of the 7th Chinese Conference on Pattern Recognition, CCPR 2016, held in Chengdu, China, in November 2016. The 121 revised papers presented in two volumes were carefully reviewed and selected from 199 submissions. The papers are organized in topical sections on robotics; computer vision; basic theory of pattern recognition; image and video processing; speech and language; emotion recognition.

**Computing and Network Sustainability** - Sheng-Lung Peng 2019-05-02

This book offers a compilation of technical papers presented at the International Research Symposium on Computing and Network Sustainability (IRSCNS 2018) held in Goa, India on 30-31st August 2018. It covers areas such as sustainable computing and security, sustainable systems and technologies, sustainable methodologies and applications, sustainable networks applications and solutions, user-centered services and systems and mobile data management. Presenting novel and recent technologies, it is a valuable resource for researchers and industry professionals alike.

*Proceedings of 3rd International Conference on Computer Vision and Image Processing* - Bidyut B. Chaudhuri 2019-10-31

This book is a collection of carefully selected works presented at the Third International Conference on Computer Vision & Image Processing (CVIP 2018). The conference was organized by the Department of Computer Science and Engineering of PDPM Indian Institute of Information Technology, Design & Manufacturing, Jabalpur, India during September 29-October 01, 2018. All the papers have been rigorously reviewed by the experts from the domain. This 2 volume proceedings include technical contributions in the areas of Image/Video Processing and Analysis; Image/Video Formation and Display; Image/Video Filtering, Restoration, Enhancement and Super-resolution; Image/Video Coding and Transmission; Image/Video Storage, Retrieval and Authentication; Image/Video Quality; Transform-based and Multi-resolution Image/Video Analysis; Biological and Perceptual Models for Image/Video Processing; Machine Learning in Image/Video Analysis; Probability and uncertainty handling for Image/Video Processing; and Motion and Tracking.

**Genetic and Evolutionary Computing** - Jeng-Shyang Pan 2020-03-12

This book gathers papers presented at the 13th International Conference on Genetic and Evolutionary Computing (ICGEC 2019), which was held in Qingdao, China, from 1st to 3rd, November 2019. Since it was established, in 2006, the ICGEC conference series has been devoted to new approaches with a focus on evolutionary computing. Today, it is a forum for the researchers and professionals in all areas of computational intelligence including evolutionary computing, machine learning, soft computing, data mining, multimedia and signal processing, swarm intelligence and security. The book appeals to policymakers, academics, educators, researchers in pedagogy and learning theory, school teachers, and other professionals in the learning industry, and further and continuing education.

Computer Vision, Pattern Recognition, Image Processing, and Graphics - Renu Rameshan 2018-04-25

This book constitutes the refereed proceedings of the 6th National Conference on Computer Vision, Pattern Recognition, Image Processing, and Graphics, NCVPRIPG 2017, held in Mandi, India, in December 2017. The 48 revised full papers presented

in this volume were carefully reviewed and selected from 147 submissions. The papers are organized in topical sections on video processing; image and signal processing; segmentation, retrieval, captioning; pattern recognition applications. *Encyclopedia of Image Processing* - Phillip A. Laplante 2018-11-08

The Encyclopedia of Image Processing presents a vast collection of well-written articles covering image processing fundamentals (e.g. color theory, fuzzy sets, cryptography) and applications (e.g. geographic information systems, traffic analysis, forgery detection). Image processing advances have enabled many applications in healthcare, avionics, robotics, natural resource discovery, and defense, which makes this text a key asset for both academic and industrial libraries and applied scientists and engineers working in any field that utilizes image processing. Written by experts from both academia and industry, it is structured using the ACM Computing Classification System (CCS) first published in 1988, but most recently updated in 2012.

**Computer Vision and Image Processing** - Satish Kumar Singh 2021-03-27

This three-volume set (CCIS 1367-1368) constitutes the refereed proceedings of the 5th International Conference on Computer Vision and Image Processing, CVIP 2020, held in Prayagraj, India, in December 2020. Due to the COVID-19 pandemic the conference was partially held online. The 134 papers were carefully reviewed and selected from 352 submissions. The papers present recent research on such topics as biometrics, forensics, content protection, image enhancement/super-resolution/restoration, motion and tracking, image or video retrieval, image, image/video processing for autonomous vehicles, video scene understanding, human-computer interaction, document image analysis, face, iris, emotion, sign language and gesture recognition, 3D image/video processing, action and event detection/recognition, medical image and video analysis, vision-based human GAIT analysis, remote sensing, and more.

**Computer Vision, Graphics, and Image Processing** - Snehasis Mukherjee 2017-10-19

This book constitutes the refereed conference proceedings of the ICVGIP 2016 Satellite Workshops, WCVA, DAR, and MedImage, held in Guwahati, India, in December 2016. The papers presented are extended versions of the papers of three of the four workshops: Computer Vision Applications, Document Analysis and Recognition and Medical Image Processing. The Computer Vision Application track received 52 submissions and after a rigorous review process, 18 papers were presented. The focus is mainly on industrial applications of computer vision and related technologies. The Document Analysis and Recognition track received 10 submissions from which 7 papers were selected. The MedImage workshops focuses on problems in medical image computing and received 14 papers from which 9 were accepted for presentation in this book.

**Sensors and Image Processing** - Shabana Urooj 2017-10-03

This volume comprises the select proceedings of the annual convention of the Computer Society of India. Divided into 10 topical volumes, the proceedings present papers on state-of-the-art research, surveys, and succinct reviews. The volumes cover diverse topics ranging from communications networks to big data analytics, and from system architecture to cyber security. This volume focuses on Sensors and Image Processing. The contents of this book will be useful to researchers and students alike.

**Advanced Image Processing Techniques and Applications** - Kumar, N. Suresh 2017-02-10

Today, the scope of image processing and recognition has broadened due to the gap in scientific visualization. Thus, new imaging techniques have developed, and it is imperative to study this progression for optimal utilization. Advanced Image Processing Techniques and Applications is an essential reference publication for the latest research on digital image processing advancements. Featuring expansive coverage on a broad range of topics and perspectives, such as image and video steganography, pattern recognition, and artificial vision, this publication is ideally designed for scientists, professionals, researchers, and academicians seeking current research on solutions for new challenges in image processing. *Proceedings of 2nd International Conference on Computer Vision & Image Processing*

- Bidyut B. Chaudhuri 2018-05-04

The book provides insights into the Second International Conference on Computer Vision & Image Processing (CVIP-2017) organized by Department of Computer Science and Engineering of Indian Institute of Technology Roorkee. The book presents technological progress and research outcomes in the area of image processing and computer vision. The topics covered in this book are image/video processing and analysis; image/video formation and display; image/video filtering, restoration, enhancement and super-resolution; image/video coding and transmission; image/video storage, retrieval and authentication; image/video quality; transform-based and multi-resolution image/video analysis; biological and perceptual models for image/video processing; machine learning in image/video analysis; probability and uncertainty handling for image/video processing; motion and tracking; segmentation and recognition; shape, structure and stereo.

*Intelligent Systems in Cybernetics and Automation Control Theory* - Radek Silhavy 2018-08-28

This book presents real-world problems and pioneering research that reflect novel approaches to cybernetics, algorithms and software engineering in the context of intelligent systems. It gathers the peer-reviewed proceedings of the 2nd Computational Methods in Systems and Software 2018 (CoMeSySo 2018), a conference that broke down traditional barriers by being held online. The goal of the event was to provide an international forum for discussing the latest high-quality research results.

*Computer Vision and Image Processing* - Balasubramanian Raman 2022-08-24

This two-volume set (CCIS 1567-1568) constitutes the refereed proceedings of the 6th International Conference on Computer Vision and Image Processing, CVIP 2021, held in Rupnagar, India, in December 2021. The 70 full papers and 20 short papers were carefully reviewed and selected from the 260 submissions. The papers present recent research on such topics as biometrics, forensics, content protection, image enhancement/super-resolution/restoration, motion and tracking, image or video retrieval, image, image/video processing for autonomous vehicles, video scene understanding, human-computer interaction, document image analysis, face, iris, emotion, sign language and gesture recognition, 3D image/video processing, action and event detection/recognition, medical image and video analysis, vision-based human GAIT analysis, remote sensing, and more.

Soft Computing Based Medical Image Analysis - Nilanjan Dey 2018-01-18

Soft Computing Based Medical Image Analysis presents the foremost techniques of soft computing in medical image analysis and processing. It includes image enhancement, segmentation, classification-based soft computing, and their application in diagnostic imaging, as well as an extensive background for the development of intelligent systems based on soft computing used in medical image analysis and processing. The book introduces the theory and concepts of digital image analysis and processing based on soft computing with real-world medical imaging applications. Comparative studies for soft computing based medical imaging techniques and traditional approaches in medicine are addressed, providing flexible and sophisticated application-oriented solutions. Covers numerous soft computing approaches, including fuzzy logic, neural networks, evolutionary computing, rough sets and Swarm intelligence Presents transverse research in soft computing formation from various engineering and industrial sectors in the medical domain Highlights challenges and the future scope for soft computing based medical analysis and processing techniques

**Computational Intelligence Methods for Super-Resolution in Image Processing Applications** - Anand Deshpande 2021-05-28

This book explores the application of deep learning techniques within a particularly difficult computational type of computer vision (CV) problem – super-resolution (SR). The authors present and discuss ways to apply computational intelligence (CI) methods to SR. The volume also explores the possibility of using different kinds of CV techniques to develop and enhance the tools/processes related to SR. The application areas covered include biomedical engineering, healthcare applications, medicine, histology, and material science. The book will

be a valuable reference for anyone concerned with multiple multimodal images, especially professionals working in remote sensing, nanotechnology and immunology at research institutes, healthcare facilities, biotechnology institutions, agribusiness services, veterinary facilities, and universities.

*Pattern Recognition and Image Analysis* - Aythami Morales 2019-09-21

This 2-volume set constitutes the refereed proceedings of the 9th Iberian Conference on Pattern Recognition and Image Analysis, IbPRIA 2019, held in Madrid, Spain, in July 2019. The 99 papers in these volumes were carefully reviewed and selected from 137 submissions. They are organized in topical sections named: Part I: best ranked papers; machine learning; pattern recognition; image processing and representation. Part II: biometrics; handwriting and document analysis; other applications.

**Foundations and Frontiers in Computer, Communication and Electrical Engineering** - Aritra Acharyya 2016-05-05

The 3rd International Conference on Foundations and Frontiers in Computer, Communication and Electrical Engineering is a notable event which brings together academia, researchers, engineers and students in the fields of Electronics and Communication, Computer and Electrical Engineering making the conference a perfect platform to share experience, f

*Image Analysis and Processing. ICIAP 2022 Workshops* - Pier Luigi Mazzeo 2022-08-06

The two-volume set LNCS 13373 and 13374 constitutes the papers of several workshops which were held in conjunction with the 21st International Conference on Image Analysis and Processing, ICIAP 2022, held in Lecce, Italy, in May 2022. The 96 revised full papers presented in the proceedings set were carefully reviewed

and selected from 157 submissions. ICIAP 2022 presents the following Sixteen workshops: Volume I: GoodBrother workshop on visual intelligence for active and assisted livingParts can worth like the Whole - PART 2022Workshop on Fine Art Pattern Extraction and Recognition - FAPERWorkshop on Intelligent Systems in Human and Artificial Perception - ISHAPE 2022Artificial Intelligence and Radiomics in Computer-Aided Diagnosis - AIRCADDeep-Learning and High Performance Computing to Boost Biomedical Applications - DeepHealth Volume II: Human Behaviour Analysis for Smart City Environment Safety - HBAXSCESBinary is the new Black (and White): Recent Advances on Binary Image ProcessingArtificial Intelligence for preterm infants' healthCare - AI-careTowards a Complete Analysis of People: From Face and Body to Clothes - T-CAPArtificial Intelligence for Digital Humanities - AI4DHMedical Transformers - MEDXFLearning in Precision Livestock Farming - LPLFWorkshop on Small-Drone Surveillance, Detection and Counteraction Techniques - WOSDETCMedical Imaging Analysis For Covid-19 - MIACOVID 2022Novel Benchmarks and Approaches for Real-World Continual Learning - CL4REAL

**Progress in Pattern Recognition, Image Analysis, Computer Vision, and Applications** - César Beltrán-Castañón 2017-02-14

This book constitutes the refereed post-conference proceedings of the 21st Iberoamerican Congress on Pattern Recognition, CIARP 2016, held in Lima, Peru, in November 2016. The 69 papers presented were carefully reviewed and selected from 131 submissions. The papers feature research results in the areas of pattern recognition, biometrics, image processing, computer vision, speech recognition, and remote sensing. They constitute theoretical as well as applied contributions in many fields related to the main topics of the conference.