

Brain Cancer Detection Using Matlab

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Artificial Intelligence and Evolutionary Computations in Engineering Systems Frontiers Media SA

Machine Learning for Healthcare: Handling and Managing Data provides in-depth information about handling and managing healthcare data through machine learning methods. This book expresses the long-standing challenges in healthcare informatics and provides rational explanations of how to deal with them. Machine Learning for Healthcare: Handling and Managing Data provides techniques on how to apply machine learning within your organization and evaluate the efficacy, suitability, and efficiency of machine learning applications. These are illustrated in a case study which examines how chronic disease is being redefined through patient-led data learning and the Internet of Things. This text offers a guided tour of machine learning algorithms, architecture design, and applications of learning in healthcare. Readers will discover the ethical implications of machine learning in healthcare and the future of machine learning in population and patient health optimization. This book can also help assist in the creation of a machine learning model, performance evaluation, and the operationalization of its outcomes within organizations. It may appeal to computer science/information technology professionals and researchers working in the area of machine learning, and is especially applicable to the healthcare sector. The features of this book include: A unique and complete focus on applications of machine learning in the healthcare sector. An examination of how data analysis can be done using healthcare data and bioinformatics. An investigation of how healthcare companies can leverage the tapestry of big data to discover new business values. An exploration of the concepts of machine learning, along with recent research developments in healthcare sectors.

Computational Molecular Magnetic Resonance Imaging for Neuro-oncology PHI Learning Pvt. Ltd.

Group method of data handling (GMDH) is a typical inductive modeling method built on the principles of self-organization. Since its introduction, inductive modelling has been developed to support complex systems in prediction, clusterization, system identification, as well as data mining and knowledge extraction technologies in social science, science, engineering, and medicine. This is the first book to explore GMDH using MATLAB (matrix laboratory) language. Readers will learn how to implement GMDH in MATLAB as a method of dealing with big data analytics. Error-free source codes in MATLAB have been included in supplementary material (accessible online) to assist users in their understanding in GMDH and to make it easy for users to further develop variations of GMDH algorithms.

Contents: Basic/Standard GMDH: Introduction (Godfrey C Onwubolu) GMDH Multilayered Algorithm

(Godfrey C Onwubolu) GMDH Multilayered Algorithm in MATLAB (Mohammed Abdalla Ayoub

Mohammed) Hybrid GMDH System: GMDH-Based Polynomial Neural Network Algorithm in MATLAB (Elaine

Inácio Bueno, Iraci Martinez Pereira and Antonio Teixeira e Silva) Designing GMDH Model Using

Modified Levenberg Marquardt Technique in Matlab (Maryam Pournasir Roudbaneh) Group Method of

Data Handling Using Discrete Differential Evolution in Matlab (Donald Davendra, Godfrey

Onwubolu and Ivan Zelinka) Readership: Professionals and students interested in data mining

and analytics.

Integrated Intelligent Computing, Communication and Security IGI Global

The international conference on Advances in Computing and Information technology (ACITY 2012) provides an excellent international forum for both

academics and professionals for sharing knowledge and results in theory, methodology and applications of Computer Science and Information Technology.

The Second International Conference on Advances in Computing and Information technology (ACITY 2012), held in Chennai, India, during July 13-15,

2012, covered a number of topics in all major fields of Computer Science and Information Technology including: networking and communications, network security and applications, web and internet computing, ubiquitous computing, algorithms, bioinformatics, digital image processing and pattern recognition, artificial intelligence, soft computing and applications. Upon a strength review process, a number of high-quality, presenting not only innovative ideas but also a founded evaluation and a strong argumentation of the same, were selected and collected in the present proceedings, that is composed of three different volumes.

2021 12th International Conference on Computing Communication and Networking Technologies (ICCCNT) Springer

Nature

Thanks to rapid technological developments in terms of Computational Intelligence, smart tools have been playing active roles in daily life. It is clear that the 21st century has brought about many advantages in using high-level computation and communication solutions to deal with real-world problems; however, more technologies bring more changes to society. In this sense, the concept of smart cities has been a widely discussed topic in terms of society and Artificial Intelligence-oriented research efforts. The rise of smart cities is a transformation of both community and technology use habits, and there are many different research orientations to shape a better future. The objective of this book is to focus on Explainable Artificial Intelligence (XAI) in smart city development. As recently designed, advanced smart systems require intense use of complex computational

solutions (i.e., Deep Learning, Big Data, IoT architectures), the mechanisms of these systems become 'black-box' to users. As this means that there is no clear clue about what is going on within these systems, anxieties regarding ensuring trustworthy tools also rise. In recent years, attempts have been made to solve this issue with the additional use of XAI methods to improve transparency levels. This book provides a timely, global reference source about cutting-edge research efforts to ensure the XAI factor in smart city-oriented developments. The book includes both positive and negative outcomes, as well as future insights and the societal and technical aspects of XAI-based smart city research efforts. This book contains nineteen contributions beginning with a presentation of the background of XAI techniques and sustainable smart-city applications. It then continues with chapters discussing XAI for Smart Healthcare, Smart Education, Smart Transportation, Smart Environment, Smart Urbanization and Governance, and Cyber Security for Smart Cities.

Proceedings of 2nd International Conference on Communication, Computing and Networking Springer Nature

This book highlights the latest research presented at the International Conference on Translational Medicine and Imaging (ICTMI) 2017. This event brought together the world's leading scientists, engineers and clinicians from a wide range of disciplines in the field of medical imaging. Bioimaging has continued to evolve across a wide spectrum of applications from diagnostics and personalized therapy to the mechanistic understanding of biological processes, and as a result there is ever-increasing demand for more robust methods and their integration with clinical and molecular data.

This book presents a number of these methods.

Proceedings of Integrated Intelligence Enable Networks and Computing CRC Press

This book covers diverse aspects of advanced computer and communication engineering, focusing specifically on industrial and manufacturing theory and applications of electronics, communications, computing and information technology. Experts in research, industry, and academia present the latest developments in technology, describe applications involving cutting-edge communication and computer systems, and explore likely future trends. In addition, a wealth of new algorithms that assist in solving computer and communication engineering problems are presented. The book is based on presentations given at ICOCOE 2015, the 2nd International Conference on Communication and Computer Engineering. It will appeal to a wide range of professionals in the field, including telecommunication engineers, computer engineers and scientists, researchers, academics and students.

Deep Neural Networks for Multimodal Imaging and Biomedical Applications IOS Press

Brain Tumor MRI Image Segmentation Using Deep Learning Techniques offers a description of deep learning approaches used for the segmentation of brain tumors. The book demonstrates core concepts of deep learning algorithms by using diagrams, data tables and examples to illustrate brain tumor segmentation. After introducing basic concepts of deep learning-based brain tumor segmentation, sections cover techniques for modeling, segmentation and properties. A focus is placed on the application of different types of convolutional neural networks, like single path, multi path, fully convolutional network, cascade convolutional neural networks, Long Short-Term Memory - Recurrent Neural Network and Gated Recurrent Units, and more. The book also highlights how the use of deep neural networks can address new questions and protocols, as well as improve upon existing challenges in brain tumor segmentation. Provides readers with an understanding of deep learning-based approaches in the field of brain tumor segmentation, including preprocessing techniques Integrates recent advancements in the field, including the transformation of low-resolution brain tumor images into super-resolution images using deep learning-based methods, single path Convolutional Neural Network based brain tumor segmentation, and much more Includes coverage of Long Short-Term Memory (LSTM) based Recurrent Neural Network (RNN), Gated Recurrent Units (GRU) based Recurrent Neural Network (RNN), Generative Adversarial Networks (GAN), Auto Encoder based brain tumor segmentation, and Ensemble deep learning Model based brain tumor segmentation Covers research Issues and the future of deep learning-based brain tumor segmentation

Networking Technologies in Smart Healthcare BoD – Books on Demand

Advances in graph-based natural language processing (NLP) and information retrieval tasks have shown the importance of processing using the Graph of Words method. This book covers recent concrete information, from the basics to advanced level, about graph-based learning, such as neural network-based approaches, computational intelligence for learning parameters and feature reduction, and network science for graph-based NLP. It also contains information about language generation based on graphical theories and language models. Features: -Presents a comprehensive study of the interdisciplinary graphical approach to NLP -Covers recent computational intelligence techniques for graph-based neural network models -Discusses advances in random walk-based techniques, semantic webs, and lexical networks -Explores recent research into NLP for graph-based streaming data -Reviews advances in knowledge graph embedding and ontologies for NLP approaches This book is aimed at researchers and graduate students in computer science, natural language processing, and deep and machine learning.

Graph Learning and Network Science for Natural Language Processing CRC Press

Based on the analytical methods and the computer programs presented in this book, all that may be needed to perform MRI tissue diagnosis is the availability of relaxometric data and simple computer program proficiency. These programs are easy to use, highly interactive and the data processing is fast and unambiguous. Laboratories (with or without sophisticated facilities) can perform computational magnetic resonance diagnosis with only T1 and T2 relaxation data. The results have motivated the use of data to produce data-driven predictions required for machine learning, artificial intelligence (AI) and deep learning for multidisciplinary and interdisciplinary research. Consequently, this book is intended to be very useful for students, scientists, engineers, the medical personnel and researchers who are interested in developing new concepts for deeper appreciation of computational magnetic resonance imaging for medical diagnosis, prognosis, therapy and management of tissue diseases.

Smart Technologies, Systems and Applications Springer

In a world where computer science is now an essential element in all of our lives, a new opportunity to disseminate the latest research and trends is always welcome. This book presents the proceedings of the first International Conference on Recent Trends in Computing (ICRTC 2021), which was held as a virtual event on 21 – 22 May 2021 at Sanjivani College of Engineering, Kopargaon, India due to the restrictions of the COVID-19 pandemic. This online conference, aimed at facilitating academic exchange among researchers, enabled experts and scholars around from around the globe to gather for the discussion of the latest advanced research in the field despite the extensive travel restrictions still in place. The book contains 134 papers selected from 329 submitted papers after a rigorous peer-review process, and topics

covered include advanced computing, networking, informatics, security and privacy, and other related fields. The book will be of interest to all those eager to find the latest trends and most recent developments in computer science.

[Recent Trends in Intensive Computing](#) Springer Science & Business Media

THE 12th INTERNATIONAL CONFERENCE ON COMPUTING, COMMUNICATION AND NETWORKING TECHNOLOGIES (ICCCNT) aims to provide a forum that brings together International researchers from academia and practitioners in the industry to meet and exchange ideas and recent research work on all aspects of Information and Communication Technologies

[Advances in Computing and Information Technology](#) CRC Press

This book presents the proceedings of the International Conference on Computer Networks, Big Data and IoT (ICCBI-2018), held on December 19–20, 2018 in Madurai, India. In recent years, advances in information and communication technologies [ICT] have collectively aimed to streamline the evolution of internet applications. In this context, increasing the ubiquity of emerging internet applications with an enhanced capability to communicate in a distributed environment has become a major need for existing networking models and applications. To achieve this, Internet of Things [IoT] models have been developed to facilitate a smart interconnection and information exchange among modern objects – which plays an essential role in every aspect of our lives. Due to their pervasive nature, computer networks and IoT can easily connect and engage effectively with their network users. This vast network continuously generates data from heterogeneous devices, creating a need to utilize big data, which provides new and unprecedented opportunities to process these huge volumes of data. This International Conference on Computer Networks, Big Data, and Internet of Things [ICCBI] brings together state-of-the-art research work, which briefly describes advanced IoT applications in the era of big data. As such, it offers valuable insights for researchers and scientists involved in developing next-generation, big-data-driven IoT applications to address the real-world challenges in building a smartly connected environment.

[Emerging Electronics and Automation](#) CRC Press

The two-volume set CCIS 827 and 828 constitutes the thoroughly refereed proceedings of the Third International Conference on Next Generation Computing Technologies, NGCT 2017, held in Dehradun, India, in October 2017. The 135 full papers presented were carefully reviewed and selected from 948 submissions. There were organized in topical sections named: Smart and Innovative Trends in Communication Protocols and Standards; Smart and Innovative Trends in Computational Intelligence and Data Science; Smart and Innovative Trends in Image Processing and Machine Vision; Smart Innovative Trends in Natural Language Processing for Indian Languages; Smart Innovative Trends in Security and Privacy.

[State-of-the-Art Sensors Technology in Spain 2017 Volume 2](#) Springer

Improve the Accurate Detection and Diagnosis of Cancer and Other Diseases Despite the expansion of the CAD field in recent decades, there is currently no single book dedicated to the development and use of CAD systems. Filling this need, Computer-Aided Detection and Diagnosis in Medical Imaging covers the major technical advances and methodologies shaping the development and clinical utility of CAD systems in breast imaging, chest imaging, abdominal imaging, and other emerging applications. After a historical overview of CAD, the book is divided into four sections. The first section presents CAD technologies in breast imaging, which is the most advanced area of CAD application. The second section discusses CAD technologies in chest and abdominal imaging. The third section explores emerging CAD technologies in a wide range of imaging modalities designed to address a variety of diseases. The final section describes the current use of CAD systems in clinical practice as well as how CAD will play an important role in quantitative image biomarkers and imaging genomics research. This book brings together existing and emerging CAD approaches at a level understandable to students, CAD system developers, basic scientists, and physician scientists. Newcomers to CAD research will learn about fundamental aspects in the process of CAD system development. Developers of CAD systems will gain insight on designing new or improved CAD systems. Experienced researchers will get up-to-date information on the latest CAD technologies.

[High-Performance Medical Image Processing](#) Springer

"Provides a current review of computer processing algorithms for the identification of lesions, abnormal masses, cancer, and disease in medical images. Presents useful examples from numerous imaging modalities for increased recognition of anomalies in MRI, CT, SPECT and digital/film X-Ray."

[Smart Innovations in Communication and Computational Sciences](#) Springer

Dr. Ahmet Mesur Halefo?lu mostly deals with research fields in body imaging and neuroradiology with multidetector computed tomography and high-resolution magnetic resonance imaging. He has served as postdoctoral research fellow at Johns Hopkins Hospital. Currently, he is working as an associate professor of radiology in Istanbul, Turkey. He has more than 50 high-impact-factor publications and has written 3 book chapters. He is a member of Turkish Society of Radiology and European Society of Radiology. During the recent years, there have been major breakthroughs in MRI due to developments in scanner technology and pulse sequencing. These important achievements have led to remarkable improvements in neuroimaging and advanced techniques, including diffusion imaging, diffusion tensor imaging, perfusion imaging, magnetic resonance spectroscopy, and functional MRI. These advanced neuroimaging techniques have enabled us to achieve invaluable insights into tissue microstructure, microvasculature, metabolism, and brain connectivity.

[Advances in Computerized Analysis in Clinical and Medical Imaging](#) Springer

This book is a collection of papers presented at the International Workshop on New Approaches for Multidimensional Signal Processing (NAMSP 2020), held at Technical University of Sofia, Sofia, Bulgaria, during 09–11 July 2020. The book covers research papers in the field of N-dimensional multicomponent image processing, multidimensional image representation and super-resolution, 3D image processing and reconstruction, MD computer vision systems, multidimensional multimedia systems, neural networks for MD image processing, data-based MD image retrieval and knowledge data mining, watermarking, hiding and encryption of MD images, MD image processing in robot systems, tensor-based data processing, 3D and multi-view visualization, forensic analysis systems for MD images and many more.

[Advanced Computer and Communication Engineering Technology](#) Academic Press

This book is a compilation of research work in the interdisciplinary areas of electronics, communication, and computing. This book is specifically targeted at students, research scholars and academicians. The book covers the different approaches and techniques for specific applications, such as particle-swarm optimization, Otsu's function and harmony search optimization algorithm, triple gate silicon on insulator (SOI)MOSFET, micro-Raman and Fourier Transform Infrared Spectroscopy (FTIR) analysis, high-k dielectric gate oxide, spectrum sensing in cognitive radio, microstrip antenna, Ground-penetrating radar (GPR) with conducting surfaces, and digital image forgery detection. The contents of the book will be useful to academic and professional researchers alike.

[Explainable Artificial Intelligence for Smart Cities](#) World Scientific

Fourth International Conference on Computing Methodologies and Communication (ICCMC 2020) is being organized on 11-13, March 2020 by Surya Engineering College (SEC), Erode, India. Computing Methodologies 2020 will provide an outstanding international forum for scientists from all over the world to share ideas and achievements in the theory and practice of all areas of inventive systems which includes artificial intelligence, automation systems, computing systems, electronics systems, electrical and informative systems etc. Presentations should highlight computing methodologies as a

concept that combines theoretical research and applications in automation, information and computing technologies. All aspects of inventive systems are of interest: theory, algorithms, tools, applications, etc.

[Multimodal Brain Tumor Segmentation and Beyond](#) Springer Nature

The processing of medical images in a reasonable timeframe and with high definition is very challenging. This volume helps to meet that challenge by presenting a thorough overview of medical imaging modalities, its processing, high-performance computing, and the need to embed parallelism in medical image processing techniques to achieve efficient and fast results. With contributions from researchers from prestigious laboratories and educational institutions, High-Performance Medical Image Processing provides important information on medical image processing techniques, parallel computing techniques, and embedding parallelism in different image processing techniques. A comprehensive review of parallel algorithms in medical image processing problems is a key feature of this book. The volume presents the relevant theoretical frameworks and the latest empirical research findings in the area and provides detailed descriptions about the diverse high-performance techniques. Topics discussed include parallel computing, multicore architectures and their applications in image processing, machine learning applications, conventional and advanced magnetic resonance imaging methods, hyperspectral image processing, algorithms for segmenting 2D slices for 3D viewing, and more. Case studies, such as on the detection of cancer tumors, expound on the information presented. Key features: Provides descriptions of different medical imaging modalities and their applications. Discusses the basics and advanced aspects of parallel computing with different multicore architectures. Expounds on the need for embedding data and task parallelism in different medical image processing techniques. Presents helpful examples and case studies of the discussed methods. This book will be valuable for professionals, researchers, and students working in the field of healthcare engineering, medical imaging technology, applications in machine and deep learning, and more. It is also appropriate for courses in computer engineering, biomedical engineering and electrical engineering based on artificial intelligence, parallel computing, high performance computing, and machine learning and its applications in medical imaging.