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Resolution Enhancement Based Image Compression Technique Using Singular Value Decomposition and Wavelet Transforms Data-Driven Science and Engineering Homological and Combinatorial Methods in Algebra Grokking Machine Learning Proceedings of Fifth International Conference on Soft Computing for Problem Solving Wavelet Transform and Some of Its Real-World Applications Wireless Algorithms, Systems, and Applications Monitoring and Control of Electrical Power Systems using Machine Learning Techniques Modern Mathematical Methods for Physicists and Engineers Hybrid and Advanced Compression Techniques for Medical Images Face Image Compression Using Sparse and Redundant Representations and the K-SVD Algorithm Proceedings of the 4th International Conference on Frontiers in Intelligent Computing: Theory and Applications (FICTA) 2015 Advances in Information and Communication Numerical Linear Algebra with Applications 2019 IEEE Student Conference on Research and Development (SCOREd) ICT Systems and Sustainability Communications and Information Processing Data Science Advances in Information and Communication Numerical Linear Algebra: Theory and Applications Advanced Techniques in Multimedia Watermarking: Image, Video and Audio Applications Digital Rights Management: Concepts, Methodologies, Tools, and Applications Analysis and Linear Algebra: The Singular Value Decomposition and Applications Advanced Field-Solver Techniques for RC Extraction of Integrated Circuits Image Representation Made Easy Systems Biology and Synthetic Biology Computational Intelligence and Multimedia Applications; Proceedings: 2007: Tamil Nadu, India. Vol. 4 Modeling, Simulation and Optimization Color Image Watermarking Advances in Information Technology Research and Application: 2011 Edition Numerical Linear Algebra Advances in Artificial Intelligence Artificial Intelligence in China Sparse representation of visual data for compression and compressed sensing Biomedical Signal Processing Hybrid Video Compression Standard Elementary Linear Algebra Image Processing & Communications Challenges 2 Math for Scientists Video Analytics. Face and Facial Expression Recognition

Image Representation Made Easy Jan 26 2021

Homological and Combinatorial Methods in Algebra Dec 17 2022 Based on the 4th Seminar on Algebra and its Applications organized by the University of Mohaghegh Ardabili, this volume highlights recent developments and trends in algebra and its applications. Selected and peer reviewed, the contributions in this volume cover areas that have flourished in the last few decades, including homological algebra, combinatorial algebra, module theory and linear algebra over rings, multiplicative ideal theory, and integer-valued polynomials. Held biennially since 2010, SAA introduces Iranian faculty and graduate students to important ideas in the mainstream of algebra and opens channels of communication between Iranian mathematicians and algebraists from around the globe to facilitate collaborative research. Ideal for graduate students and researchers in the field, these proceedings present the best of the seminar's research achievements and new contributions to the field.

Elementary Linear Algebra Jan 14 2020 When it comes to learning linear algebra, engineers trust Anton. The tenth edition presents the key concepts and topics along with engaging and contemporary applications. The chapters have been reorganized to bring up some of the more abstract topics and make the material more accessible. More theoretical exercises at all levels of difficulty are integrated throughout the pages, including true/false questions that address conceptual ideas. New marginal notes provide a fuller explanation when new methods and complex logical

steps are included in proofs. Small-scale applications also show how concepts are applied to help engineers develop their mathematical reasoning.

Data-Driven Science and Engineering Jan 18 2023 A textbook covering data-science and machine learning methods for modelling and control in engineering and science, with Python and MATLAB®.

Wavelet Transform and Some of Its Real-World Applications Sep 14 2022 The book contains six chapters. The use of the progressive regressive strategy for biometrical authentication through the use of human gait and face images was investigated. A new lossy image compression technique that uses singular value decomposition and wavelet difference reduction technique was proposed. The best wavelet packet based selection algorithm and its application in image denoising was discussed. The scaling factor threshold estimator in different color models using a discrete wavelet transform for steganographic algorithms was presented. The extraction of features appearing in current signal using wavelet analysis when there is rotor fault of eccentricity and broken rotor bar was debated. The application of the empirical wavelet transform for seismic anomalies detection in ultralow-frequency geomagnetic signals was illustrated.

Modeling, Simulation and Optimization Oct 23 2020 This book includes selected peer-reviewed papers presented at the International Conference on Modeling, Simulation and Optimization (CoMSO 2021), organized by National Institute of Technology, Silchar, Assam, India, during December 16–18, 2021. The book covers topics of modeling, simulation and optimization, including computational modeling and simulation, system modeling and simulation, device/VLSI modeling and simulation, control theory and applications, modeling and simulation of energy systems and optimization. The book disseminates various models of diverse systems and includes solutions of emerging challenges of diverse scientific fields.

Advanced Techniques in Multimedia Watermarking: Image, Video and Audio Applications May 30 2021 "This book introduces readers to state-of-art research in multimedia watermarking in the different disciplines of watermarking, addressing the different aspects of advanced watermarking research; modeling and theoretical analysis, advanced embedding and extraction techniques, software and hardware implementations, and performance evaluations of watermarking systems"--Provided by publisher.

Hybrid Video Compression Standard Feb 13 2020 The book presents compression techniques for digital video stream, describing their design using various image transforms, such as discrete cosine transform (DCT), discrete wavelet transform (DWT), and singular value decomposition (SVD). It first discusses the basic requirements and applications of video compression techniques. The book then addresses video compression using DCT as well as the hybrid compression technique, designed and implemented using DCT, DWT and SVD, demonstrating the simulation results for both. Lastly, it proposes future research directions in the field.

Communications and Information Processing Oct 03 2021 The two volume set, CCIS 288 and 289, constitutes the thoroughly refereed post-conference proceedings of the First International Conference on Communications and Information Processing, ICCIP 2012, held in Aveiro, Portugal, in March 2012. The 168 revised full papers of both volumes were carefully reviewed and selected from numerous submissions. The papers present the state-of-the-art in communications and information processing and feature current research on the theory, analysis, design, test and deployment related to communications and information processing systems.

Color Image Watermarking Sep 21 2020 This book presents watermarking algorithms derived from signal processing methods such as wavelet transform, matrix decomposition and cosine transform to address the limitations of current technologies. For each algorithm, mathematical foundations are explained with analysis conducted to evaluate performances on robustness and efficiency. Combining theories and practice, it is suitable for information security researchers and

industrial engineers.

Numerical Linear Algebra: Theory and Applications Jun 30 2021 This book combines a solid theoretical background in linear algebra with practical algorithms for numerical solution of linear algebra problems. Developed from a number of courses taught repeatedly by the authors, the material covers topics like matrix algebra, theory for linear systems of equations, spectral theory, vector and matrix norms combined with main direct and iterative numerical methods, least squares problems, and eigenproblems. Numerical algorithms illustrated by computer programs written in MATLAB® are also provided as supplementary material on SpringerLink to give the reader a better understanding of professional numerical software for the solution of real-life problems. Perfect for a one- or two-semester course on numerical linear algebra, matrix computation, and large sparse matrices, this text will interest students at the advanced undergraduate or graduate level.

Numerical Linear Algebra Jul 20 2020 This well-organized text provides a clear analysis of the fundamental concepts of numerical linear algebra. It presents various numerical methods for the basic topics of linear algebra with a detailed discussion on theory, algorithms, and MATLAB implementation. The book provides a review of matrix algebra and its important results in the opening chapter and examines these results in the subsequent chapters. With clear explanations, the book analyzes different kinds of numerical algorithms for solving linear algebra such as the elimination and iterative methods for linear systems, the condition number of a matrix, singular value decomposition (SVD) of a matrix, and linear least-squares problem. In addition, it describes the Householder and Givens matrices and their applications, and the basic numerical methods for solving the matrix eigenvalue problem. Finally, the text reviews the numerical methods for systems and control. Key Features Includes numerous worked-out examples to help students grasp the concepts easily. □ Provides chapter-end exercises to enable students to check their comprehension of the topics discussed. □ Gives answers to exercises with hints at the end of the book. □ Uses MATLAB software for problem-solving. Primarily designed as a textbook for postgraduate students of Mathematics, this book would also serve as a handbook on matrix computations for scientists and engineers.

Modern Mathematical Methods for Physicists and Engineers Jun 11 2022 A mathematical and computational education for students, researchers, and practising engineers.

Face Image Compression Using Sparse and Redundant Representations and the K-SVD Algorithm Apr 09 2022

Proceedings of Fifth International Conference on Soft Computing for Problem Solving Oct 15 2022 The proceedings of SocProS 2015 will serve as an academic bonanza for scientists and researchers working in the field of Soft Computing. This book contains theoretical as well as practical aspects using fuzzy logic, neural networks, evolutionary algorithms, swarm intelligence algorithms, etc., with many applications under the umbrella of 'Soft Computing'. The book will be beneficial for young as well as experienced researchers dealing across complex and intricate real world problems for which finding a solution by traditional methods is a difficult task. The different application areas covered in the proceedings are: Image Processing, Cryptanalysis, Industrial Optimization, Supply Chain Management, Newly Proposed Nature Inspired Algorithms, Signal Processing, Problems related to Medical and Health Care, Networking Optimization Problems, etc.

Monitoring and Control of Electrical Power Systems using Machine Learning Techniques Jul 12 2022 Monitoring and Control of Electrical Power Systems using Machine Learning Techniques bridges the gap between advanced machine learning techniques and their application in the control and monitoring of electrical power systems, particularly relevant for heavily distributed energy systems and real-time application. The book reviews key applications of deep learning, spatio-temporal,

and advanced signal processing methods for monitoring power quality. This reference introduces guiding principles for the monitoring and control of power quality disturbances arising from integration of power electronic devices and discusses monitoring and control of electrical power systems using benchmark test systems for the creation of bespoke advanced data analytic algorithms. Covers advanced applications and solutions for monitoring and control of electrical power systems using machine learning techniques for transmission and distribution systems Provides deep insight into power quality disturbance detection and classification through machine learning, deep learning, and spatio-temporal algorithms Includes substantial online supplementary components focusing on dataset generation for machine learning training processes and open-source microgrid model simulators on GitHub

Data Science Sep 02 2021 This two volume set (CCIS 1451 and 1452) constitutes the refereed proceedings of the 7th International Conference of Pioneering Computer Scientists, Engineers and Educators, ICPCSEE 2021 held in Taiyuan, China, in September 2021. The 81 papers presented in these two volumes were carefully reviewed and selected from 256 submissions. The papers are organized in topical sections on big data management and applications; social media and recommendation systems; infrastructure for data science; basic theory and techniques for data science; machine learning for data science; multimedia data management and analysis; social media and recommendation systems; data security and privacy; applications of data science; education research, methods and materials for data science and engineering; research demo.

Resolution Enhancement Based Image Compression Technique Using Singular Value Decomposition and Wavelet Transforms Feb 19 2023 In this chapter, we propose a new lossy image compression technique that uses singular value decomposition (SVD) and wavelet difference reduction (WDR) technique followed by resolution enhancement using discrete wavelet transform (DWT) and stationary wavelet transform (SWT). The input image is decomposed into four different frequency subbands by using DWT. The low-frequency subband is the being compressed by using DWR and in parallel the high-frequency subbands are being compressed by using SVD which reduces the rank by ignoring small singular values. The compression ratio is obtained by dividing the total number of bits required to represent the input image over the total bit numbers obtain by WDR and SVD. Reconstruction is carried out by using inverse of WDR to obtained low-frequency subband and reconstructing the high-frequency subbands by using matrix multiplications. The high-frequency subbands are being enhanced by incorporating the high-frequency subbands obtained by applying SWT on the reconstructed low-frequency subband. The reconstructed low-frequency subband and enhanced high-frequency subbands are being used to generate the reconstructed image by using inverse DWT. The visual and quantitative experimental results of the proposed image compression technique are shown and also compared with those of the WDR with arithmetic coding technique and JPEG2000. From the results of the comparison, the proposed image compression technique outperforms the WDR-AC and JPEG2000 techniques.

Grokking Machine Learning Nov 16 2022 Grokking Machine Learning presents machine learning algorithms and techniques in a way that anyone can understand. This book skips the confused academic jargon and offers clear explanations that require only basic algebra. As you go, you'll build interesting projects with Python, including models for spam detection and image recognition. You'll also pick up practical skills for cleaning and preparing data.

Sparse representation of visual data for compression and compressed sensing Apr 16 2020 The ongoing advances in computational photography have introduced a range of new imaging techniques for capturing multidimensional visual data such as light fields, BRDFs, BTFs, and more. A key challenge inherent to such imaging techniques is the large amount of high dimensional visual data that is produced, often

requiring GBs, or even TBs, of storage. Moreover, the utilization of these datasets in real time applications poses many difficulties due to the large memory footprint. Furthermore, the acquisition of large-scale visual data is very challenging and expensive in most cases. This thesis makes several contributions with regards to acquisition, compression, and real time rendering of high dimensional visual data in computer graphics and imaging applications. Contributions of this thesis reside on the strong foundation of sparse representations. Numerous applications are presented that utilize sparse representations for compression and compressed sensing of visual data. Specifically, we present a single sensor light field camera design, a compressive rendering method, a real time precomputed photorealistic rendering technique, light field (video) compression and real time rendering, compressive BRDF capture, and more. Another key contribution of this thesis is a general framework for compression and compressed sensing of visual data, regardless of the dimensionality. As a result, any type of discrete visual data with arbitrary dimensionality can be captured, compressed, and rendered in real time. This thesis makes two theoretical contributions. In particular, uniqueness conditions for recovering a sparse signal under an ensemble of multidimensional dictionaries is presented. The theoretical results discussed here are useful for designing efficient capturing devices for multidimensional visual data. Moreover, we derive the probability of successful recovery of a noisy sparse signal using OMP, one of the most widely used algorithms for solving compressed sensing problems.

Computational Intelligence and Multimedia Applications; Proceedings: 2007: Tamil Nadu, India. Vol. 4 Nov 23 2020

Numerical Linear Algebra with Applications Jan 06 2022 Numerical Linear Algebra with Applications is designed for those who want to gain a practical knowledge of modern computational techniques for the numerical solution of linear algebra problems, using MATLAB as the vehicle for computation. The book contains all the material necessary for a first year graduate or advanced undergraduate course on numerical linear algebra with numerous applications to engineering and science. With a unified presentation of computation, basic algorithm analysis, and numerical methods to compute solutions, this book is ideal for solving real-world problems. The text consists of six introductory chapters that thoroughly provide the required background for those who have not taken a course in applied or theoretical linear algebra. It explains in great detail the algorithms necessary for the accurate computation of the solution to the most frequently occurring problems in numerical linear algebra. In addition to examples from engineering and science applications, proofs of required results are provided without leaving out critical details. The Preface suggests ways in which the book can be used with or without an intensive study of proofs. This book will be a useful reference for graduate or advanced undergraduate students in engineering, science, and mathematics. It will also appeal to professionals in engineering and science, such as practicing engineers who want to see how numerical linear algebra problems can be solved using a programming language such as MATLAB, MAPLE, or Mathematica. Six introductory chapters that thoroughly provide the required background for those who have not taken a course in applied or theoretical linear algebra Detailed explanations and examples A through discussion of the algorithms necessary for the accurate computation of the solution to the most frequently occurring problems in numerical linear algebra Examples from engineering and science applications

Wireless Algorithms, Systems, and Applications Aug 13 2022 This book constitutes the refereed proceedings of the 5th Annual International Conference on Wireless Algorithms, Systems, and Applications, WASA 2010, held in Beijing, China, in August 2010. The 19 revised full papers and 10 revised short papers presented together with 18 papers from 4 workshops were carefully reviewed and selected from numerous submissions. The papers are organized in topical sections on topology control and

coverage, theoretical foundations, energy-aware algorithms and protocol design, wireless sensor networks and applications, applications and experimentation, scheduling and channel assignment, coding, information theory and security, security of wireless and ad-hoc networks, data management and network control in wireless networks, radar and sonar sensor networks, as well as compressive sensing for communications and networking.

Proceedings of the 4th International Conference on Frontiers in Intelligent Computing: Theory and Applications (FICTA) 2015 Mar 08 2022 The proceedings of the 4th International Conference on Frontiers in Intelligent Computing: Theory and Applications 2015 (FICTA 2015) serves as the knowledge centre not only for scientists and researchers in the field of intelligent computing but also for students of post-graduate level in various engineering disciplines. The book covers a comprehensive overview of the theory, methods, applications and tools of Intelligent Computing. Researchers are now working in interdisciplinary areas and the proceedings of FICTA 2015 plays a major role to accumulate those significant works in one arena. The chapters included in the proceedings inculcates both theoretical as well as practical aspects of different areas like Nature Inspired Algorithms, Fuzzy Systems, Data Mining, Signal Processing, Image processing, Text Processing, Wireless Sensor Networks, Network Security and Cellular Automata.

Image Processing & Communications Challenges 2 Dec 13 2019 Image Processing and Communications represents an exciting and dynamic part of the information area. This book consists of 52 scientific and technical papers from 14 Nations, after a careful selection performed by many international reviewers. The papers are conveniently grouped into 6 chapters: - Computer Vision and Image Processing - Biometric - Recognition and Classification - Biomedical Image Processing - Applications - Communications. Each chapter focuses on a specific topic, presents results, and points out challenges and future directions.

Advances in Information and Communication Feb 07 2022 This book aims to provide an international forum for scholarly researchers, practitioners and academic communities to explore the role of information and communication technologies and its applications in technical and scholarly development. The conference attracted a total of 464 submissions, of which 152 submissions (including 4 poster papers) have been selected after a double-blind review process. Academic pioneering researchers, scientists, industrial engineers and students will find this series useful to gain insight into the current research and next-generation information science and communication technologies. This book discusses the aspects of communication, data science, ambient intelligence, networking, computing, security and Internet of things, from classical to intelligent scope. The authors hope that readers find the volume interesting and valuable; it gathers chapters addressing state-of-the-art intelligent methods and techniques for solving real-world problems along with a vision of the future research.

Systems Biology and Synthetic Biology Dec 25 2020 The genomic revolution has opened up systematic investigations and engineering designs for various life forms. Systems biology and synthetic biology are emerging as two complementary approaches, which embody the breakthrough in biology and invite application of engineering principles. Systems Biology and Synthetic Biology emphasizes the similarity between biology and engineering at the system level, which is important for applying systems and engineering theories to biology problems. This book demonstrates to students, researchers, and industry that systems biology relies on synthetic biology technologies to study biological systems, while synthetic biology depends on knowledge obtained from systems biology approaches.

2019 IEEE Student Conference on Research and Development (SCoReD) Dec 05 2021 2019 17th IEEE Student Conference on Research and Development (SCoReD) will be held at Universiti Teknologi PETRONAS (UTP), Malaysia from 14 16 Oct 2019 This flagship conference is organized by IEEE Malaysia Section and IEEE UTP Student Branch in

collaboration with Universiti Teknologi PETRONAS and IEEE Robotics and Automation Society Malaysia Chapter (IEEE RAS) The conference provides a platform for local and international researchers, engineers and scientists from academia and industry to present and discuss the latest technological advances and research progress in the fields of electrical, electronics, communication, biomedical engineering, materials and other related areas The previous IEEE SCORed flagship conferences were successful with more than 200 participants from all over the world

Analysis and Linear Algebra: The Singular Value Decomposition and Applications Mar 28 2021 This book provides an elementary analytically inclined journey to a fundamental result of linear algebra: the Singular Value Decomposition (SVD). SVD is a workhorse in many applications of linear algebra to data science. Four important applications relevant to data science are considered throughout the book: determining the subspace that "best" approximates a given set (dimension reduction of a data set); finding the "best" lower rank approximation of a given matrix (compression and general approximation problems); the Moore-Penrose pseudo-inverse (relevant to solving least squares problems); and the orthogonal Procrustes problem (finding the orthogonal transformation that most closely transforms a given collection to a given configuration), as well as its orientation-preserving version. The point of view throughout is analytic. Readers are assumed to have had a rigorous introduction to sequences and continuity. These are generalized and applied to linear algebraic ideas. Along the way to the SVD, several important results relevant to a wide variety of fields (including random matrices and spectral graph theory) are explored: the Spectral Theorem; minimax characterizations of eigenvalues; and eigenvalue inequalities. By combining analytic and linear algebraic ideas, readers see seemingly disparate areas interacting in beautiful and applicable ways.

Advanced Field-Solver Techniques for RC Extraction of Integrated Circuits Feb 24 2021 Resistance and capacitance (RC) extraction is an essential step in modeling the interconnection wires and substrate coupling effect in nanometer-technology integrated circuits (IC). The field-solver techniques for RC extraction guarantee the accuracy of modeling, and are becoming increasingly important in meeting the demand for accurate modeling and simulation of VLSI designs. *Advanced Field-Solver Techniques for RC Extraction of Integrated Circuits* presents a systematic introduction to, and treatment of, the key field-solver methods for RC extraction of VLSI interconnects and substrate coupling in mixed-signal ICs. Various field-solver techniques are explained in detail, with real-world examples to illustrate the advantages and disadvantages of each algorithm. This book will benefit graduate students and researchers in the field of electrical and computer engineering as well as engineers working in the IC design and design automation industries. Dr. Wenjian Yu is an Associate Professor at the Department of Computer Science and Technology at Tsinghua University in China; Dr. Xiren Wang is a R&D Engineer at Cadence Design Systems in the USA.

Advances in Information and Communication Aug 01 2021 This book aims to provide an international forum for scholarly researchers, practitioners and academic communities to explore the role of information and communication technologies and its applications in technical and scholarly development. The conference attracted a total of 464 submissions, of which 152 submissions (including 4 poster papers) have been selected after a double-blind review process. Academic pioneering researchers, scientists, industrial engineers and students will find this series useful to gain insight into the current research and next-generation information science and communication technologies. This book discusses the aspects of communication, data science, ambient intelligence, networking, computing, security and Internet of things, from classical to intelligent scope. The authors hope that readers find the volume interesting and valuable; it gathers chapters addressing state-of-the-art intelligent methods and techniques for solving real-world problems along with a

vision of the future research.

Hybrid and Advanced Compression Techniques for Medical Images May 10 2022 This book introduces advanced and hybrid compression techniques specifically used for medical images. The book discusses conventional compression and compressive sensing (CS) theory based approaches that are designed and implemented using various image transforms, such as: Discrete Fourier Transform (DFT), Discrete Cosine Transform (DCT), Discrete Wavelet Transform (DWT), and Singular Value Decomposition (SVD) and greedy based recovery algorithm. The authors show how these techniques provide simulation results of various compression techniques for different types of medical images, such as MRI, CT, US, and x-ray images. Future research directions are provided for medical imaging science. The book will be a welcomed reference for engineers, clinicians, and research students working with medical image compression in the biomedical imaging field. Covers various algorithms for data compression and medical image compression; Provides simulation results of compression algorithms for different types of medical images; Provides study of compressive sensing theory for compression of medical images.

Advances in Artificial Intelligence Jun 18 2020 This book constitutes the refereed proceedings of the 32nd Canadian Conference on Artificial Intelligence, Canadian AI 2019, held in Kingston, ON, Canada, in May 2019. The 27 regular papers and 34 short papers presented together with 8 Graduate Student Symposium papers and 4 Industry Track papers were carefully reviewed and selected from 132 submissions. The focus of the conference was on artificial intelligence research and advanced information and communications technology.

Digital Rights Management: Concepts, Methodologies, Tools, and Applications Apr 28 2021 "This reference is a comprehensive collection of recent case studies, theories, research on digital rights management, and its place in the world today" --

ICT Systems and Sustainability Nov 04 2021 This book proposes new technologies and discusses future solutions for ICT design infrastructures, as reflected in high-quality papers presented at the 6th International Conference on ICT for Sustainable Development (ICT4SD 2021), held in Goa, India, on 5–6 August 2021. The book covers the topics such as big data and data mining, data fusion, IoT programming toolkits and frameworks, green communication systems and network, use of ICT in smart cities, sensor networks and embedded system, network and information security, wireless and optical networks, security, trust, and privacy, routing and control protocols, cognitive radio and networks, and natural language processing. Bringing together experts from different countries, the book explores a range of central issues from an international perspective.

Artificial Intelligence in China May 18 2020 This book brings together papers presented at the 3rd International Conference on Artificial Intelligence in China (ChinaAI), which provides a venue to disseminate the latest developments and to discuss the interactions and links between these multidisciplinary fields. Spanning topics covering all topics in Artificial Intelligence with new development in China, 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, DOE, etc).

Video Analytics. Face and Facial Expression Recognition Oct 11 2019 This book constitutes the proceedings of the Third Workshop on Face and Facial Expression Recognition from Real World Videos, FFER 2018, and the Second International Workshop on Deep Learning for Pattern Recognition, DLPR 2018, held at the 24th International Conference on Pattern Recognition, ICPR 2018, in Beijing, China, in August 2018. The 7 papers presented in this volume were carefully reviewed and selected from 9 submissions. They deal with topics such as histopathological images, action recognition, scene text detection, speech recognition, object classification, presentation attack detection, and driver drowsiness detection.

Advances in Information Technology Research and Application: 2011 Edition Aug 21 2020 *Advances in Information Technology Research and Application: 2011 Edition* is a ScholarlyEditions™ eBook that delivers timely, authoritative, and comprehensive information about Information Technology. The editors have built *Advances in Information Technology Research and Application: 2011 Edition* on the vast information databases of ScholarlyNews.™ You can expect the information about Information Technology in this eBook to be deeper than what you can access anywhere else, as well as consistently reliable, authoritative, informed, and relevant. The content of *Advances in Information Technology Research and Application: 2011 Edition* has been produced by the world's leading scientists, engineers, analysts, research institutions, and companies. All of the content is from peer-reviewed sources, and all of it is written, assembled, and edited by the editors at ScholarlyEditions™ and available exclusively from us. You now have a source you can cite with authority, confidence, and credibility. More information is available at <http://www.ScholarlyEditions.com/>.

Math for Scientists Nov 11 2019 This book reviews math topics relevant to non-mathematics students and scientists, but which they may not have seen or studied for a while. These math issues can range from reading mathematical symbols, to using complex numbers, dealing with equations involved in calculating medication equivalents, the General Linear Model (GLM) used in e.g. neuroimaging analysis, finding the minimum of a function, independent component analysis, or filtering approaches. Almost every student or scientist, will at some point run into mathematical formulas or ideas in scientific papers that may be hard to understand, given that formal math education may be some years ago. In this book we will explain the theory behind many of these mathematical ideas and expressions and provide readers with the tools to better understand them. We will revisit high school mathematics and extend and relate this to the mathematics you need to understand the math you may encounter in the course of your research. This book will help you understand the math and formulas in the scientific papers you read. To achieve this goal, each chapter mixes theory with practical pen-and-paper exercises such that you (re)gain experience with solving math problems yourself. Mnemonics will be taught whenever possible. To clarify the math and help readers apply it, each chapter provides real-world and scientific examples.

Biomedical Signal Processing Mar 16 2020 This book reports on the latest advances in the study of biomedical signal processing, and discusses in detail a number of open problems concerning clinical, biomedical and neural signals. It methodically collects and presents in a unified form the research findings previously scattered throughout various scientific journals and conference proceedings. In addition, the chapters are self-contained and can be read independently. Accordingly, the book will be of interest to university researchers, R&D engineers and graduate students who wish to learn the core principles of biomedical signal analysis, algorithms, and applications, while also offering a valuable reference work for biomedical engineers and clinicians who wish to learn more about the theory and recent applications of neural engineering and biomedical signal processing.