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Beginning Game Development with Python and Pygame - Will McGugan 2007-12-22

This book provides readers with an introductory resource for learning how to create compelling games using the open source Python programming language and Pygame games development library. Authored by industry veteran and Python expert Will McGugan, readers are treated to a comprehensive, practical introduction to games development using these popular technologies. They can also capitalize upon numerous tips and tricks the author has accumulated over his career creating games for some of the world's largest gaming developers.

VLSI Design - Debaprasad Das 2016-01-15

The second edition of VLSI Design is a comprehensive textbook designed for undergraduate students of electrical, electronics, and electronics and communication engineering. It provides a thorough understanding of the fundamental concepts and design of VLSI systems.

Deep Learning Applications - M. Arif Wani 2020-02-29

This book presents a compilation of selected papers from the 17th IEEE International Conference on Machine Learning and Applications (IEEE ICMLA 2018), focusing on use of deep learning technology in application like game playing, medical applications, video analytics, regression/classification, object detection/recognition and robotic control in industrial environments. It highlights novel ways of using deep neural

networks to solve real-world problems, and also offers insights into deep learning architectures and algorithms, making it an essential reference guide for academic researchers, professionals, software engineers in industry, and innovative product developers.

MATLAB for Machine Learning - Giuseppe Ciaburro 2017-08-28

Extract patterns and knowledge from your data in easy way using MATLAB About This Book Get your first steps into machine learning with the help of this easy-to-follow guide Learn regression, clustering, classification, predictive analytics, artificial neural networks and more with MATLAB Understand how your data works and identify hidden layers in the data with the power of machine learning. Who This Book Is For This book is for data analysts, data scientists, students, or anyone who is looking to get started with machine learning and want to build efficient data processing and predicting applications. A mathematical and statistical background will really help in following this book well. What You Will Learn Learn the introductory concepts of machine learning. Discover different ways to transform data using SAS XPORT, import and export tools, Explore the different types of regression techniques such as simple & multiple linear regression, ordinary least squares estimation, correlations and how to apply them to your data. Discover the basics of classification methods and how to implement Naive Bayes algorithm and Decision Trees in the Matlab environment. Uncover how to use clustering methods like hierarchical clustering to

grouping data using the similarity measures. Know how to perform data fitting, pattern recognition, and clustering analysis with the help of MATLAB Neural Network Toolbox. Learn feature selection and extraction for dimensionality reduction leading to improved performance. In Detail MATLAB is the language of choice for many researchers and mathematics experts for machine learning. This book will help you build a foundation in machine learning using MATLAB for beginners. You'll start by getting your system ready with the MATLAB environment for machine learning and you'll see how to easily interact with the Matlab workspace. We'll then move on to data cleansing, mining and analyzing various data types in machine learning and you'll see how to display data values on a plot. Next, you'll get to know about the different types of regression techniques and how to apply them to your data using the MATLAB functions. You'll understand the basic concepts of neural networks and perform data fitting, pattern recognition, and clustering analysis. Finally, you'll explore feature selection and extraction techniques for dimensionality reduction for performance improvement. At the end of the book, you will learn to put it all together into real-world cases covering major machine learning algorithms and be comfortable in performing machine learning with MATLAB. Style and approach The book takes a very comprehensive approach to enhance your understanding of machine learning using MATLAB. Sufficient real-world examples and use cases are included in the book to help you grasp the concepts quickly and apply them easily in your day-to-day work.

Cross-Platform GUI Programming with wxWidgets - Julian Smart
2005-07-26

"This book is the best way for beginning developers to learn wxWidgets programming in C++. It is a must-have for programmers thinking of using wxWidgets and those already using it." -Mitch Kapor, founder of Lotus Software and the Open Source Applications Foundation Build advanced cross-platform applications that support native look-and-feel on Windows, Linux, Unix, Mac OS X, and even Pocket PC Master wxWidgets from start to finish—even if you've never built GUI applications before Leverage advanced wxWidgets capabilities: networking, multithreading,

streaming, and more Foreword by Mitch Kapor, founder, Lotus Development and Open Source Application Foundation wxWidgets is an easy-to-use, open source C++ API for writing GUI applications that run on Windows, Linux, Unix, Mac OS X, and even Pocket PC—supporting each platform's native look and feel with virtually no additional coding. Now, its creator and two leading developers teach you all you need to know to write robust cross-platform software with wxWidgets. This book covers everything from dialog boxes to drag-and-drop, from networking to multithreading. It includes all the tools and code you need to get great results, fast. From AMD to AOL, Lockheed Martin to Xerox, world-class developers are using wxWidgets to save money, increase efficiency, and reach new markets. With this book, you can, too. wxWidgets quickstart: event/input handling, window layouts, drawing, printing, dialogs, and more Working with window classes, from simple to advanced Memory management, debugging, error checking, internationalization, and other advanced topics Includes extensive code samples for Windows, Linux (GTK+), and Mac OS X

Proceedings of the Third International Afro-European Conference for Industrial Advancement — AECIA 2016 - Ajith Abraham
2017-08-15

The Afro-European Conference for Industrial Advancement (AECIA) brought together the foremost experts and excellent young researchers from Africa, Europe and the rest of the world to disseminate the latest results from various fields of engineering, information and communication technologies. This volume gathers the carefully selected papers from the third installment of the AECIA, which was held in Marrakech, Morocco from November 21 to 23, 2016. The papers address important topics like Automation Systems, Intelligent Techniques and Algorithms, Information and Communication Technology (ICT) Applications in Engineering, Control, Optimization and Processing, as well as manufacturing-related topics. As such, it offers a valuable reference guide for researchers, students and practitioners in the fields of computer science and engineering.

Digital Image Restoration - Aggelos K. Katsaggelos 2012-11-16

The field of image restoration is concerned with the estimation of uncorrupted images from noisy, blurred ones. These blurs might be caused by optical distortions, object motion during imaging, or atmospheric turbulence. In many scientific and engineering applications, such as aerial imaging, remote sensing, electron microscopy, and medical imaging, there is active or potential work in image restoration. The purpose of this book is to provide in-depth treatment of some recent advances in the field of image restoration. A survey of the field is provided in the introduction. Recent research results are presented, regarding the formulation of the restoration problem as a convex programming problem, the implementation of restoration algorithms using artificial neural networks, the derivation of non-stationary image models (compound random fields) and their application to image estimation and restoration, the development of algorithms for the simultaneous image and blur parameter identification and restoration, and the development of algorithms for restoring scanned photographic images. Special attention is directed to issues of numerical implementation. A large number of pictures demonstrate the performance of the restoration approaches. This book provides a clear understanding of the past achievements, a detailed description of the very important recent developments and the limitations of existing approaches, in the rapidly growing field of image restoration. It will be useful both as a reference book for working scientists and engineers and as a supplementary textbook in courses on image processing.

The Fourth Industrial Revolution - Klaus Schwab 2017-01-03

World-renowned economist Klaus Schwab, Founder and Executive Chairman of the World Economic Forum, explains that we have an opportunity to shape the fourth industrial revolution, which will fundamentally alter how we live and work. Schwab argues that this revolution is different in scale, scope and complexity from any that have come before. Characterized by a range of new technologies that are fusing the physical, digital and biological worlds, the developments are affecting all disciplines, economies, industries and governments, and even challenging ideas about what it means to be human. Artificial

intelligence is already all around us, from supercomputers, drones and virtual assistants to 3D printing, DNA sequencing, smart thermostats, wearable sensors and microchips smaller than a grain of sand. But this is just the beginning: nanomaterials 200 times stronger than steel and a million times thinner than a strand of hair and the first transplant of a 3D printed liver are already in development. Imagine “smart factories” in which global systems of manufacturing are coordinated virtually, or implantable mobile phones made of biosynthetic materials. The fourth industrial revolution, says Schwab, is more significant, and its ramifications more profound, than in any prior period of human history. He outlines the key technologies driving this revolution and discusses the major impacts expected on government, business, civil society and individuals. Schwab also offers bold ideas on how to harness these changes and shape a better future—one in which technology empowers people rather than replaces them; progress serves society rather than disrupts it; and in which innovators respect moral and ethical boundaries rather than cross them. We all have the opportunity to contribute to developing new frameworks that advance progress.

4th Kuala Lumpur International Conference on Biomedical Engineering 2008 - Noor Azuan Abu Osman 2008-07-30

It is with great pleasure that we present to you a collection of over 200 high quality technical papers from more than 10 countries that were presented at the Biomed 2008. The papers cover almost every aspect of Biomedical Engineering, from artificial intelligence to biomechanics, from medical informatics to tissue engineering. They also come from almost all parts of the globe, from America to Europe, from the Middle East to the Asia-Pacific. This set of papers presents to you the current research work being carried out in various disciplines of Biomedical Engineering, including new and innovative researches in emerging areas. As the organizers of Biomed 2008, we are very proud to be able to come-up with this publication. We owe the success to many individuals who worked very hard to achieve this: members of the Technical Committee, the Editors, and the International Advisory Committee. We would like to take this opportunity to record our thanks and appreciation to each and

every one of them. We are pretty sure that you will find many of the papers illuminating and useful for your own research and study. We hope that you will enjoy yourselves going through them as much as we had enjoyed compiling them into the proceedings. Assoc. Prof. Dr. Noor Azuan Abu Osman Chairperson, Organising Committee, Biomed 2008

Digital Image Processing and Analysis - J.C. Simon 2014-08-23

A NATO advanced Study Institute took place at Bonas from June 14th to June 25th 1976 on "Digital Image Processing and Analysis". This book is the lasting result of a successful meeting, where the best specialists of the field could exchange their ideas and results. The papers are arranged so as to present first the more general and tutorial articles and then the more specific ones on applications. The general topics cover two dimensional transforms, techniques of image restoration, recursive filters, segmentation and analysis of image parts, some points of view from psychology and physiology, and problems of software and processing. The application fields concerned are remote sensing, medical applications, TV image compression, and optical character recognition. The editors wish to thank the Scientific Affairs Division of NATO for the edition of this book. Acknowledgment: This ASI has been made possible by the financial support of the NATO Scientific Affairs Division and D. R. M. E. and the material support of IRIA and the Institut de Programmation. VII TABLE OF CONTENTS William K. Pratt Two dimensional unitary transforms 1 T. S. Huang Two-dimensional Fourier transform 23 T. S. Huang Algebraic methods of image restoration 41 S. Castan Image enhancement and restoration 47 T. S. Huang Film grain noise 63 K. G. Beauchamp Two-dimensional recursive digital filtering 69 S. Attasi A new approach to 2D-recursive filtering 81 V. Cappellini Some efficient two-dimensional recursive digital filters 87 T. S. Durrani and C. E.

Prognostic Models in Healthcare: AI and Statistical Approaches - Tanzila Saba 2022-07-06

This book focuses on contemporary technologies and research in computational intelligence that has reached the practical level and is now accessible in preclinical and clinical settings. This book's principal

objective is to thoroughly understand significant technological breakthroughs and research results in predictive modeling in healthcare imaging and data analysis. Machine learning and deep learning could be used to fully automate the diagnosis and prognosis of patients in medical fields. The healthcare industry's emphasis has evolved from a clinical-centric to a patient-centric model. However, it is still facing several technical, computational, and ethical challenges. Big data analytics in health care is becoming a revolution in technical as well as societal well-being viewpoints. Moreover, in this age of big data, there is increased access to massive amounts of regularly gathered data from the healthcare industry that has necessitated the development of predictive models and automated solutions for the early identification of critical and chronic illnesses. The book contains high-quality, original work that will assist readers in realizing novel applications and contexts for deep learning architectures and algorithms, making it an indispensable reference guide for academic researchers, professionals, industrial software engineers, and innovative model developers in healthcare industry.

RTF Pocket Guide - Sean M. Burke 2003-07-22

Presents a guide to RTF, the internal document markup language that is used by Microsoft Word.

□□□□□□□□ - Alasdair McAndrew 2004

Is an introduction to digital image processing from an elementary perspective. The book covers topics that can be introduced with simple mathematics so students can learn the concepts without getting overwhelmed by mathematical detail.

Software Architecture with Python - Anand Balachandran Pillai 2017-04-28

Architect and design highly scalable, robust, clean, and highly performant applications in Python About This Book Identify design issues and make the necessary adjustments to achieve improved performance Understand practical architectural quality attributes from the perspective of a practicing engineer and architect using Python Gain knowledge of architectural principles and how they can be used to

provide accountability and rationale for architectural decisions Who This Book Is For This book is for experienced Python developers who are aspiring to become the architects of enterprise-grade applications or software architects who would like to leverage Python to create effective blueprints of applications. What You Will Learn Build programs with the right architectural attributes Use Enterprise Architectural Patterns to solve scalable problems on the Web Understand design patterns from a Python perspective Optimize the performance testing tools in Python Deploy code in remote environments or on the Cloud using Python Secure architecture applications in Python In Detail This book starts off by explaining how Python fits into an application architecture. As you move along, you will understand the architecturally significant demands and how to determine them. Later, you'll get a complete understanding of the different architectural quality requirements that help an architect to build a product that satisfies business needs, such as maintainability/reusability, testability, scalability, performance, usability, and security. You will use various techniques such as incorporating DevOps, Continuous Integration, and more to make your application robust. You will understand when and when not to use object orientation in your applications. You will be able to think of the future and design applications that can scale proportionally to the growing business. The focus is on building the business logic based on the business process documentation and which frameworks are to be used when. We also cover some important patterns that are to be taken into account while solving design problems as well as those in relatively new domains such as the Cloud. This book will help you understand the ins and outs of Python so that you can make those critical design decisions that not just live up to but also surpass the expectations of your clients. Style and approach Filled with examples and use cases, this guide takes a no-nonsense approach to help you with everything it takes to become a successful software architect.

Biomedical Signal Processing and Artificial Intelligence in Healthcare - Walid A. Zgallai 2020-07-29

Biomedical Signal Processing and Artificial Intelligence in Healthcare is

a new volume in the Developments in Biomedical Engineering and Bioelectronics series. This volume covers the basics of biomedical signal processing and artificial intelligence. It explains the role of machine learning in relation to processing biomedical signals and the applications in medicine and healthcare. The book provides background to statistical analysis in biomedical systems. Several types of biomedical signals are introduced and analyzed, including ECG and EEG signals. The role of Deep Learning, Neural Networks, and the implications of the expansion of artificial intelligence is covered. Biomedical Images are also introduced and processed, including segmentation, classification, and detection. This book covers different aspects of signals, from the use of hardware and software, and making use of artificial intelligence in problem solving. Dr Zgallai's book has up to date coverage where readers can find the latest information, easily explained, with clear examples and illustrations. The book includes examples on the application of signal and image processing employing artificial intelligence to Alzheimer, Parkinson, ADHD, autism, and sleep disorders, as well as ECG and EEG signals. Developments in Biomedical Engineering and Bioelectronics is a 10-volume series which covers recent developments, trends and advances in this field. Edited by leading academics in the field, and taking a multidisciplinary approach, this series is a forum for cutting-edge, contemporary review articles and contributions from key 'up-and-coming' academics across the full subject area. The series serves a wide audience of university faculty, researchers and students, as well as industry practitioners. Coverage of the subject area and the latest advances and applications in biomedical signal processing and Artificial Intelligence. Contributions by recognized researchers and field leaders. On-line presentations, tutorials, application and algorithm examples.

Mining Text Data - Charu C. Aggarwal 2012-02-03

Text mining applications have experienced tremendous advances because of web 2.0 and social networking applications. Recent advances in hardware and software technology have lead to a number of unique scenarios where text mining algorithms are learned. Mining Text Data

introduces an important niche in the text analytics field, and is an edited volume contributed by leading international researchers and practitioners focused on social networks & data mining. This book contains a wide swath in topics across social networks & data mining. Each chapter contains a comprehensive survey including the key research content on the topic, and the future directions of research in the field. There is a special focus on Text Embedded with Heterogeneous and Multimedia Data which makes the mining process much more challenging. A number of methods have been designed such as transfer learning and cross-lingual mining for such cases. Mining Text Data simplifies the content, so that advanced-level students, practitioners and researchers in computer science can benefit from this book. Academic and corporate libraries, as well as ACM, IEEE, and Management Science focused on information security, electronic commerce, databases, data mining, machine learning, and statistics are the primary buyers for this reference book.

Image Processing And Analysis: A Primer - Gimel'farb Georgy
2018-08-24

This textbook guides readers through their first steps into the challenging world of mimicking human vision with computational tools and techniques pertaining to the field of image processing and analysis. While today's theoretical and applied processing and analysis of images meet with challenging and complex problems, this primer is confined to a much simpler, albeit critical, collection of image-to-image transformations, including image normalisation, enhancement, and filtering. It serves as an introduction to beginners, a refresher for undergraduate and graduate students, as well as engineers and computer scientists confronted with a problem to solve in computer vision. The book covers basic image processing/computer vision pipeline techniques, which are widely used in today's computer vision, computer graphics, and image processing, giving the readers enough knowledge to successfully tackle a wide range of applied problems.

System Engineering Analysis, Design, and Development - Charles S. Wasson
2015-11-16

Praise for the first edition: "This excellent text will be useful to every system engineer (SE) regardless of the domain. It covers ALL relevant SE material and does so in a very clear, methodical fashion. The breadth and depth of the author's presentation of SE principles and practices is outstanding." -Philip Allen This textbook presents a comprehensive, step-by-step guide to System Engineering analysis, design, and development via an integrated set of concepts, principles, practices, and methodologies. The methods presented in this text apply to any type of human system -- small, medium, and large organizational systems and system development projects delivering engineered systems or services across multiple business sectors such as medical, transportation, financial, educational, governmental, aerospace and defense, utilities, political, and charity, among others. Provides a common focal point for "bridging the gap" between and unifying System Users, System Acquirers, multi-discipline System Engineering, and Project, Functional, and Executive Management education, knowledge, and decision-making for developing systems, products, or services Each chapter provides definitions of key terms, guiding principles, examples, author's notes, real-world examples, and exercises, which highlight and reinforce key SE & D concepts and practices Addresses concepts employed in Model-Based Systems Engineering (MBSE), Model-Driven Design (MDD), Unified Modeling Language (UMLTM) / Systems Modeling Language (SysMLTM), and Agile/Spiral/V-Model Development such as user needs, stories, and use cases analysis; specification development; system architecture development; User-Centric System Design (UCSD); interface definition & control; system integration & test; and Verification & Validation (V&V) Highlights/introduces a new 21st Century Systems Engineering & Development (SE&D) paradigm that is easy to understand and implement. Provides practices that are critical staging points for technical decision making such as Technical Strategy Development; Life Cycle requirements; Phases, Modes, & States; SE Process; Requirements Derivation; System Architecture Development, User-Centric System Design (UCSD); Engineering Standards, Coordinate Systems, and Conventions; et al.

Thoroughly illustrated, with end-of-chapter exercises and numerous case studies and examples, *Systems Engineering Analysis, Design, and Development*, Second Edition is a primary textbook for multi-discipline, engineering, system analysis, and project management undergraduate/graduate level students and a valuable reference for professionals.

Proceedings of 2nd International Conference on Artificial Intelligence - Garima Mathur 2022

This book gathers outstanding research papers presented in the 2nd International Conference on Artificial Intelligence: Advances and Application (ICAIAA 2021), held in Poornima College of Engineering, Jaipur, India during 27-28 March 2021. This book covers research works carried out by various students such as bachelor, master and doctoral scholars, faculty and industry persons in the area of artificial intelligence, machine learning, deep learning applications in healthcare, agriculture, business, security, etc. It will also cover research in core concepts of computer networks, intelligent system design and deployment, real time systems, WSN, sensors and sensor nodes, SDN, NFV, etc.

Data Structures And Algorithms - Shi-kuo Chang 2003-09-29

This is an excellent, up-to-date and easy-to-use text on data structures and algorithms that is intended for undergraduates in computer science and information science. The thirteen chapters, written by an international group of experienced teachers, cover the fundamental concepts of algorithms and most of the important data structures as well as the concept of interface design. The book contains many examples and diagrams. Whenever appropriate, program codes are included to facilitate learning. This book is supported by an international group of authors who are experts on data structures and algorithms, through its website at www.cs.pitt.edu/~jung/GrowingBook/, so that both teachers and students can benefit from their expertise.

Advanced Studies in Biometrics - Massimo Tistarelli 2005-06-03

Automatic person authentication, the identification and verification of an individual as such, has increasingly been acknowledged as a significant

aspect of various security applications. Various recognition and identification systems have been based on biometrics utilizing biometric features such as fingerprint, face, retina scans, iris patterns, hand geometry, DNA traces, gait, and others. This book originates from an international summer school on biometrics, held in Alghero, Italy, in June 2003. The seven revised tutorial lectures by leading researchers introduce the reader to biometrics-based person authentication, fingerprint recognition, gait recognition, various aspects of face recognition and face detection, topologies for biometric recognition, and hand detection. Also included are the four best selected student papers, all dealing with face recognition.

Algorithms and Data Structures for External Memory - Jeffrey Scott Vitter 2008

Describes several useful paradigms for the design and implementation of efficient external memory (EM) algorithms and data structures. The problem domains considered include sorting, permuting, FFT, scientific computing, computational geometry, graphs, databases, geographic information systems, and text and string processing.

Artificial Intelligence in China - Qilian Liang 2021-02-08

This book brings together papers presented at The 2nd International Conference on Artificial Intelligence in China (ChinaAI) 2020, 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 and DOE).

Teach Yourself Java for Macintosh in 21 Days - Laura Lemay 1996-01-01

Takes a tutorial approach towards developing and serving Java applets, offering step-by-step instruction on such areas as motion pictures, animation, applet interactivity, file transfers, sound, and type. Original. (Intermediate).

Introduction to Data Compression - Khalid Sayood 2006

Each edition of Introduction to Data Compression has widely been considered the best introduction and reference text on the art and science of data compression, and the third edition continues in this tradition. Data compression techniques and technology are ever-evolving with new applications in image, speech, text, audio, and video. The third edition includes all the cutting edge updates the reader will need during the work day and in class. Khalid Sayood provides an extensive introduction to the theory underlying today's compression techniques with detailed instruction for their applications using several examples to explain the concepts. Encompassing the entire field of data compression Introduction to Data Compression, includes lossless and lossy compression, Huffman coding, arithmetic coding, dictionary techniques, context based compression, scalar and vector quantization. Khalid Sayood provides a working knowledge of data compression, giving the reader the tools to develop a complete and concise compression package upon completion of his book. New content added on the topic of audio compression including a description of the mp3 algorithm New video coding standard and new facsimile standard explained Completely explains established and emerging standards in depth including JPEG 2000, JPEG-LS, MPEG-2, Group 3 and 4 faxes, JBIG 2, ADPCM, LPC, CELP, and MELP Source code provided via companion web site that gives readers the opportunity to build their own algorithms, choose and implement techniques in their own applications

The Atlas of AI - Kate Crawford 2021-04-06

The hidden costs of artificial intelligence, from natural resources and labor to privacy and freedom What happens when artificial intelligence saturates political life and depletes the planet? How is AI shaping our understanding of ourselves and our societies? In this book Kate Crawford reveals how this planetary network is fueling a shift toward undemocratic governance and increased inequality. Drawing on more than a decade of research, award-winning science, and technology, Crawford reveals how AI is a technology of extraction: from the energy and minerals needed to build and sustain its infrastructure, to the exploited workers behind "automated" services, to the data AI collects

from us. Rather than taking a narrow focus on code and algorithms, Crawford offers us a political and a material perspective on what it takes to make artificial intelligence and where it goes wrong. While technical systems present a veneer of objectivity, they are always systems of power. This is an urgent account of what is at stake as technology companies use artificial intelligence to reshape the world.

Essentials of Digital Photography - Akira Kasai 1997

Explains how to use Photoshop for digital image editing, including restoring old and damaged photographs, and manipulating original images

The Scientist and Engineer's Guide to Digital Signal Processing - Steven W. Smith 1999

R.U.R. - Karel Capek 2001-08-20

Must-read play looks to a future in which all workers are automatons. They revolt when they acquire souls (i.e., when they gain the ability to hate) and the resulting catastrophe make for a powerful theatrical experience.

Digital Communications and Signal Processing (Second Edition) - Ke Vāsudēvan 2010

Ruby on Rails Tutorial - Michael Hartl 2016-11-17

This is the eBook of the printed book and may not include any media, website access codes, or print supplements that may come packaged with the bound book. Used by sites as varied as Twitter, GitHub, Disney, and Airbnb, Ruby on Rails is one of the most popular frameworks for developing web applications, but it can be challenging to learn and use. Whether you're new to web development or new only to Rails, Ruby on Rails™ Tutorial, Fourth Edition, is the solution. Best-selling author and leading Rails developer Michael Hartl teaches Rails by guiding you through the development of three example applications of increasing sophistication. The tutorial's examples focus on the general principles of web development needed for virtually any kind of website. The updates to this edition include full compatibility with Rails 5, a division of the

largest chapters into more manageable units, and a huge number of new exercises interspersed in each chapter for maximum reinforcement of the material. This indispensable guide provides integrated tutorials not only for Rails, but also for the essential Ruby, HTML, CSS, and SQL skills you need when developing web applications. Hartl explains how each new technique solves a real-world problem, and then he demonstrates it with bite-sized code that's simple enough to understand, yet novel enough to be useful. Whatever your previous web development experience, this book will guide you to true Rails mastery. This book will help you Install and set up your Rails development environment, including pre-installed integrated development environment (IDE) in the cloud Go beyond generated code to truly understand how to build Rails applications from scratch Learn testing and test-driven development (TDD) Effectively use the Model-View-Controller (MVC) pattern Structure applications using the REST architecture Build static pages and transform them into dynamic ones Master the Ruby programming skills all Rails developers need Create high-quality site layouts and data models Implement registration and authentication systems, including validation and secure passwords Update, display, and delete users Upload images in production using a cloud storage service Implement account activation and password reset, including sending email with Rails Add social features and microblogging, including an introduction to Ajax Record version changes with Git and create a secure remote repository at Bitbucket Deploy your applications early and often with Heroku

[Learning Processing](#) - Daniel Shiffman 2015-09-09

[Learning Processing](#), Second Edition, is a friendly start-up guide to Processing, a free, open-source alternative to expensive software and daunting programming languages. Requiring no previous experience, this book is for the true programming beginner. It teaches the basic building blocks of programming needed to create cutting-edge graphics applications including interactive art, live video processing, and data visualization. Step-by-step examples, thorough explanations, hands-on exercises, and sample code, supports your learning curve. A unique lab-style manual, the book gives graphic and web designers, artists, and

illustrators of all stripes a jumpstart on working with the Processing programming environment by providing instruction on the basic principles of the language, followed by careful explanations of select advanced techniques. The book has been developed with a supportive learning experience at its core. From algorithms and data mining to rendering and debugging, it teaches object-oriented programming from the ground up within the fascinating context of interactive visual media. This book is ideal for graphic designers and visual artists without programming background who want to learn programming. It will also appeal to students taking college and graduate courses in interactive media or visual computing, and for self-study. A friendly start-up guide to Processing, a free, open-source alternative to expensive software and daunting programming languages No previous experience required—this book is for the true programming beginner! Step-by-step examples, thorough explanations, hands-on exercises, and sample code supports your learning curve

A Complete Guide to Programming in C++ - Ulla Kirch-Prinz 2002
This guide was written for readers interested in learning the C++ programming language from scratch, and for both novice and advanced C++ programmers wishing to enhance their knowledge of C++. The text is organized to guide the reader from elementary language concepts to professional software development, with in depth coverage of all the C++ language elements en route.

Medical and Biological Image Analysis - 2018-07-04
This book deals with medical image analysis methods. In particular, it contains two significant chapters on image segmentation as well as some selected examples of the application of image analysis and processing methods. Despite the significant development of information technology methods used in modern image analysis and processing algorithms, the segmentation process remains open. This is mainly due to intra-patient variability and/or scene diversity. Segmentation is equally difficult in the case of ultrasound imaging and depends on the location of the probe or the contact force. Regardless of the imaging method, segmentation must be tailored for a specific application in almost every case. These types of

application areas for various imaging methods are included in this book.
Introduction to Information Retrieval - Christopher D. Manning
2008-07-07

Class-tested and coherent, this textbook teaches classical and web information retrieval, including web search and the related areas of text classification and text clustering from basic concepts. It gives an up-to-date treatment of all aspects of the design and implementation of systems for gathering, indexing, and searching documents; methods for evaluating systems; and an introduction to the use of machine learning methods on text collections. All the important ideas are explained using examples and figures, making it perfect for introductory courses in information retrieval for advanced undergraduates and graduate students in computer science. Based on feedback from extensive classroom experience, the book has been carefully structured in order to make teaching more natural and effective. Slides and additional exercises (with solutions for lecturers) are also available through the book's supporting website to help course instructors prepare their lectures.

Learning Kali Linux - Ric Messier 2018-07-17

With more than 600 security tools in its arsenal, the Kali Linux distribution can be overwhelming. Experienced and aspiring security professionals alike may find it challenging to select the most appropriate tool for conducting a given test. This practical book covers Kali's expansive security capabilities and helps you identify the tools you need to conduct a wide range of security tests and penetration tests. You'll also explore the vulnerabilities that make those tests necessary. Author Ric Messier takes you through the foundations of Kali Linux and explains methods for conducting tests on networks, web applications, wireless security, password vulnerability, and more. You'll discover different techniques for extending Kali tools and creating your own toolset. Learn tools for stress testing network stacks and applications Perform network reconnaissance to determine what's available to attackers Execute penetration tests using automated exploit tools such as Metasploit Use cracking tools to see if passwords meet complexity requirements Test

wireless capabilities by injecting frames and cracking passwords Assess web application vulnerabilities with automated or proxy-based tools Create advanced attack techniques by extending Kali tools or developing your own Use Kali Linux to generate reports once testing is complete

Introduction to Modern Cryptography - Jonathan Katz 2020-12-21
Now the most used textbook for introductory cryptography courses in both mathematics and computer science, the Third Edition builds upon previous editions by offering several new sections, topics, and exercises. The authors present the core principles of modern cryptography, with emphasis on formal definitions, rigorous proofs of security.

Flutter for Beginners - Alessandro Biessek 2019-09-12

A step-by-step guide to learning Flutter and Dart 2 for creating Android and iOS mobile applications Key FeaturesGet up to speed with the basics of Dart programming and delve into Flutter developmentUnderstand native SDK and third-party libraries for building Android and iOS applications using FlutterPackage and deploy your Flutter apps to achieve native-like performanceBook Description Google Flutter is a cross-platform mobile framework that makes it easy to write high-performance apps for Android and iOS. This book will help you get to grips with the basics of the Flutter framework and the Dart programming language. Starting from setting up your development environment, you'll learn to design the UI and add user input functions. You'll explore the navigator widget to manage app routes and learn to add transitions between screens. The book will even guide you through developing your own plugin and later, you'll discover how to structure good plugin code. Using the Google Places API, you'll also understand how to display a map in the app and add markers and interactions to it. You'll then learn to improve the user experience with features such as map integrations, platform-specific code with native languages, and personalized animation options for designing intuitive UIs. The book follows a practical approach and gives you access to all relevant code files hosted at github.com/PacktPublishing/Flutter-for-Beginners. This will help you access a variety of examples and prepare your own bug-free apps, ready to deploy on the App Store and Google Play Store. By the end of this

book, you'll be well-versed with Dart programming and have the skills to develop your own mobile apps or build a career as a Dart and Flutter app developer. What you will learn Understand the fundamentals of the Dart programming language Explore the core concepts of the Flutter UI and how it compiles for multiple platforms Develop Flutter plugins and widgets and understand how to structure plugin code appropriately Style your Android and iOS apps with widgets and learn the difference between stateful and stateless widgets Add animation to your UI using Flutter's `AnimatedBuilder` component Integrate your native code into your Flutter codebase for native app performance Who this book is for This book is for developers looking to learn Google's revolutionary framework Flutter from scratch. No prior knowledge of Flutter or Dart is required; however, basic knowledge of any programming language will be helpful.

Electroless Copper and Nickel-Phosphorus Plating - W Sha 2011-01-01

Unlike electroplating, electroless plating allows uniform deposits of coating materials over all surfaces, regardless of size, shape and electrical conductivity. Electroless copper and nickel-phosphorus deposits provide protective and functional coatings in industries as diverse as electronics, automotive, aerospace and chemical engineering. This book discusses the latest research in electroless depositions. After an introductory chapter, part one focuses on electroless copper depositions reviewing such areas as surface morphology and residual stress, modelling surface structure, adhesion strength of electroless copper deposit, electrical resistivity and applications of electroless copper deposits. Part two goes on to look at electroless nickel-phosphorus depositions with chapters on the crystallisation of nickel-phosphorus deposits, modelling the thermodynamics and kinetics of crystallisation of nickel-phosphorus deposits, artificial neural network (ANN) modelling of crystallisation temperatures, hardness evolution of nickel-phosphorus deposits and applications of electroless nickel-phosphorus plating. Written by leading experts in the field Electroless copper and nickel-phosphorus plating: Processing, characterisation and modelling is an invaluable guide for researchers studying electroless

deposits or materials science as well as for those working in the chemical, oil and gas, automotive, electronics and aerospace industries. Written by leading experts in the field, this important book reviews the deposition process and the key properties of electroless copper and nickel-phosphorus deposits as well as their practical applications Chapters review areas such as surface morphology and residual stress, modelling surface structure, crystallisation of nickel-phosphorus deposits and hardness evolution An invaluable guide for researchers studying electroless deposits or materials science as well as for those working in the chemical, oil and gas, automotive, electronics and aerospace industries

Computational Modeling and Simulation Examples in Bioengineering - Nenad Filipovic 2021-11-30

A systematic overview of the quickly developing field of bioengineering—with state-of-the-art modeling software! Computational Modeling and Simulation Examples in Bioengineering provides a comprehensive introduction to the emerging field of bioengineering. It provides the theoretical background necessary to simulating pathological conditions in the bones, muscles, cardiovascular tissue, and cancers, as well as lung and vertigo disease. The methodological approaches used for simulations include the finite element, dissipative particle dynamics, and lattice Boltzman. The text includes access to a state-of-the-art software package for simulating the theoretical problems. In this way, the book enhances the reader's learning capabilities in the field of biomedical engineering. The aim of this book is to provide concrete examples of applied modeling in biomedical engineering. Examples in a wide range of areas equip the reader with a foundation of knowledge regarding which problems can be modeled with which numerical methods. With more practical examples and more online software support than any competing text, this book organizes the field of computational bioengineering into an accessible and thorough introduction. Computational Modeling and Simulation Examples in Bioengineering: Includes a state-of-the-art software package enabling readers to engage in hands-on modeling of the examples in the book

Provides a background on continuum and discrete modeling, along with equations and derivations for three key numerical methods Considers examples in the modeling of bones, skeletal muscles, cartilage, tissue engineering, blood flow, plaque, and more Explores stent deployment modeling as well as stent design and optimization techniques Generates different examples of fracture fixation with respect to the advantages in

medical practice applications Computational Modeling and Simulation Examples in Bioengineering is an excellent textbook for students of bioengineering, as well as a support for basic and clinical research. Medical doctors and other clinical professionals will also benefit from this resource and guide to the latest modeling techniques.