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Understanding Machine Learning Shai Shalev-Shwartz 2014-05-19 Introduces machine learning and its algorithmic

paradigms, explaining the principles behind automated learning approaches and the considerations underlying their usage.

Bifurcation Stenting Ron Waksman
2012-03-22 Here is expert guidance on one of the most vexing clinical challenges faced by interventional cardiologists. Written by global thought leaders in the area and edited by two internationally-recognized pioneers in interventional cardiology, **Bifurcation Stenting** covers all techniques, imaging modalities, and devices in current use, including VH-IVUS and OCT. It includes practical tips/tricks from leading experts and a section of challenging cases to further illustrate the material and help readers better understand the treatment of bifurcation lesions.

Parallel Algorithms for Regular Architectures Russ Miller 1996
Parallel-Algorithms for Regular Architectures is the first book to

concentrate exclusively on algorithms and paradigms for programming parallel computers such as the hypercube, mesh, pyramid, and mesh-of-trees.

1001 Math Problems LearningExpress LLC 2013 1001 math problems will teach you how to: master core concepts to prepare for important exams, learn math rules and how to apply them to problems, learn math skills you can apply when solving problems at all levels, and overcome math anxiety through skills reinforcement and focused practice.

Computational Statistics Geof H. Givens 2005-02-02 A comprehensive, classroom-tested introduction to modern computational statistics This comprehensive introduction enables readers to develop a multifaceted and thorough knowledge of modern

statistical computing and computational statistics. Backed by many years of classroom experience, the authors help readers gain a practical understanding of how and why modern statistical methods work, enabling readers to apply these methods effectively. Detailed examples are drawn from diverse fields such as bioinformatics, ecology, medicine, computer vision, and stochastic finance. The text emphasizes areas that are central to understanding the evolving field of computational statistics including areas where routine application of software often fails to solve complex problems. Topics covered include ordinary and combinatorial optimization, algorithms for missing data, numerical and Monte Carlo integration, simulation, introductory

and advanced Markov chain Monte Carlo, bootstrapping, density estimation, and smoothing. Knowledge of computer languages is not required, making examples and algorithms easier for readers to follow. Everything needed to quickly learn and apply the material is provided and is presented in a fluid, jargon-free style with fascinating real-world examples and problem sets that have been tested in the classroom for more than a decade. Computational Statistics is recommended for graduate-level courses in statistics, computer science, mathematics, engineering, and other quantitative sciences. Advanced undergraduate students can also use this text to learn the basics and for deeper study as they progress. Chapters are written to

stand independently, allowing instructors to build their own courses by selecting topics. Statisticians and quantitative empirical scientists will refer to this desktop reference often. By providing readers with a thorough understanding of contemporary statistical techniques, the book gives readers a solid foundation for contributing their own ideas and finding new applications for this dynamic field.

Data and Goliath: The Hidden Battles to Collect Your Data and Control Your World Bruce Schneier 2015-03-02

“Bruce Schneier’s amazing book is the best overview of privacy and security ever written.”—Clay Shirky “Bruce Schneier’s amazing book is the best overview of privacy and security ever written.”—Clay Shirky Your cell phone

provider tracks your location and knows who’s with you. Your online and in-store purchasing patterns are recorded, and reveal if you're unemployed, sick, or pregnant. Your e-mails and texts expose your intimate and casual friends. Google knows what you’re thinking because it saves your private searches. Facebook can determine your sexual orientation without you ever mentioning it. The powers that surveil us do more than simply store this information. Corporations use surveillance to manipulate not only the news articles and advertisements we each see, but also the prices we’re offered. Governments use surveillance to discriminate, censor, chill free speech, and put people in danger worldwide. And both sides share this information with each other or, even

worse, lose it to cybercriminals in huge data breaches. Much of this is voluntary: we cooperate with corporate surveillance because it promises us convenience, and we submit to government surveillance because it promises us protection. The result is a mass surveillance society of our own making. But have we given up more than we've gained? In *Data and Goliath*, security expert Bruce Schneier offers another path, one that values both security and privacy. He brings his bestseller up-to-date with a new preface covering the latest developments, and then shows us exactly what we can do to reform government surveillance programs, shake up surveillance-based business models, and protect our individual privacy. You'll never look at your phone, your computer, your

credit cards, or even your car in the same way again.

Handbook of Pattern Recognition & Computer Vision Chi-hau Chen 1999 Annotation. Presents the latest research findings in theory, techniques, algorithms, and major applications of pattern recognition and computer vision, as well as new hardware and architecture aspects. Contains sections on basic methods in pattern recognition and computer vision, nine recognition applications, inspection and robotic applications, and architectures and technology. Some areas discussed include cluster analysis, 3D vision of dynamic objects, speech recognition, computer vision in food handling, and video content analysis and retrieval. This second edition is extensively revised to describe

progress in the field since 1993. Chen is affiliated with the electrical and computer engineering department at the University of Massachusetts-Dartmouth. Annotation copyrighted by Book News, Inc., Portland, OR.

Automated Threat Handbook OWASP Foundation 2018

Web Programming with HTML5, CSS, and JavaScript John Dean 2018-01-09 Web Programming with HTML5, CSS, and JavaScript is written for the undergraduate, client-side web programming course. It covers the three client-side technologies (HTML5, CSS, and JavaScript) in depth, with no dependence on server-side technologies.

Object Recognition M. Bennamoun 2001-12-12 Automatie object recognition is a multidisciplinary

research area using concepts and tools from mathematics, computing, optics, psychology, pattern recognition, artificial intelligence and various other disciplines. The purpose of this research is to provide a set of coherent paradigms and algorithms for the purpose of designing systems that will ultimately emulate the functions performed by the Human Visual System (HVS). Hence, such systems should have the ability to recognise objects in two or three dimensions independently of their positions, orientations or scales in the image. The HVS is employed for tens of thousands of recognition events each day, ranging from navigation (through the recognition of landmarks or signs), right through to communication (through the

recognition of characters or people themselves). Hence, the motivations behind the construction of recognition systems, which have the ability to function in the real world, is unquestionable and would serve industrial (e.g. quality control), military (e.g. automatic target recognition) and community needs (e.g. aiding the visually impaired). Scope, Content and Organisation of this Book This book provides a comprehensive, yet readable foundation to the field of object recognition from which research may be initiated or guided. It represents the culmination of research topics that I have either covered personally or in conjunction with my PhD students. These areas include image acquisition, 3-D object reconstruction, object

modelling, and the matching of objects, all of which are essential in the construction of an object recognition system.

Foundations of Data Science Avrim Blum 2020-01-23 This book provides an introduction to the mathematical and algorithmic foundations of data science, including machine learning, high-dimensional geometry, and analysis of large networks. Topics include the counterintuitive nature of data in high dimensions, important linear algebraic techniques such as singular value decomposition, the theory of random walks and Markov chains, the fundamentals of and important algorithms for machine learning, algorithms and analysis for clustering, probabilistic models for large networks, representation learning including topic modelling

and non-negative matrix factorization, wavelets and compressed sensing. Important probabilistic techniques are developed including the law of large numbers, tail inequalities, analysis of random projections, generalization guarantees in machine learning, and moment methods for analysis of phase transitions in large random graphs. Additionally, important structural and complexity measures are discussed such as matrix norms and VC-dimension. This book is suitable for both undergraduate and graduate courses in the design and analysis of algorithms for data.

Adjutant General's Report Containing the Complete Muster-out Rools of the Illinois Volunteers who Served in the Spanish-American War, 1898 and 1899, : Fifth infantry. Sixth infantry. 1904.

523 p Illinois. Military and Naval Department 1904
Mathematics for Machine Learning Marc Peter Deisenroth 2020-04-23 The fundamental mathematical tools needed to understand machine learning include linear algebra, analytic geometry, matrix decompositions, vector calculus, optimization, probability and statistics. These topics are traditionally taught in disparate courses, making it hard for data science or computer science students, or professionals, to efficiently learn the mathematics. This self-contained textbook bridges the gap between mathematical and machine learning texts, introducing the mathematical concepts with a minimum of prerequisites. It uses these concepts to derive four central machine learning methods: linear

regression, principal component analysis, Gaussian mixture models and support vector machines. For students and others with a mathematical background, these derivations provide a starting point to machine learning texts. For those learning the mathematics for the first time, the methods help build intuition and practical experience with applying mathematical concepts. Every chapter includes worked examples and exercises to test understanding. Programming tutorials are offered on the book's web site.

Raspberry Pi User Guide Eben Upton
2016-08-29 Learn the Raspberry Pi 3 from the experts! Raspberry Pi User Guide, 4th Edition is the "unofficial official" guide to everything Raspberry Pi 3. Written by the Pi's creator and a leading Pi guru, this

book goes straight to the source to bring you the ultimate Raspberry Pi 3 manual. This new fourth edition has been updated to cover the Raspberry Pi 3 board and software, with detailed discussion on its wide array of configurations, languages, and applications. You'll learn how to take full advantage of the mighty Pi's full capabilities, and then expand those capabilities even more with add-on technologies. You'll write productivity and multimedia programs, and learn flexible programming languages that allow you to shape your Raspberry Pi into whatever you want it to be. If you're ready to jump right in, this book gets you started with clear, step-by-step instruction from software installation to system customization. The Raspberry Pi's tremendous

popularity has spawned an entire industry of add-ons, parts, hacks, ideas, and inventions. The movement is growing, and pushing the boundaries of possibility along with it—are you ready to be a part of it? This book is your ideal companion for claiming your piece of the Pi. Get all set up with software, and connect to other devices Understand Linux System Admin nomenclature and conventions Write your own programs using Python and Scratch Extend the Pi's capabilities with add-ons like Wi-Fi dongles, a touch screen, and more The credit-card sized Raspberry Pi has become a global phenomenon. Created by the Raspberry Pi Foundation to get kids interested in programming, this tiny computer kick-started a movement of tinkerers, thinkers, experimenters, and

inventors. Where will your Raspberry Pi 3 take you? The Raspberry Pi User Guide, 3rd Edition is your ultimate roadmap to discovery.

A Primer on Scientific Programming with Python Hans Petter Langtangen 2016-07-28 The book serves as a first introduction to computer programming of scientific applications, using the high-level Python language. The exposition is example and problem-oriented, where the applications are taken from mathematics, numerical calculus, statistics, physics, biology and finance. The book teaches "Matlab-style" and procedural programming as well as object-oriented programming. High school mathematics is a required background and it is advantageous to study classical and numerical one-variable calculus in parallel with reading

this book. Besides learning how to program computers, the reader will also learn how to solve mathematical problems, arising in various branches of science and engineering, with the aid of numerical methods and programming. By blending programming, mathematics and scientific applications, the book lays a solid foundation for practicing computational science. From the reviews: Langtangen ... does an excellent job of introducing programming as a set of skills in problem solving. He guides the reader into thinking properly about producing program logic and data structures for modeling real-world problems using objects and functions and embracing the object-oriented paradigm. ... Summing Up: Highly recommended. F. H. Wild III, Choice,

Vol. 47 (8), April 2010 Those of us who have learned scientific programming in Python 'on the streets' could be a little jealous of students who have the opportunity to take a course out of Langtangen's Primer." John D. Cook, The Mathematical Association of America, September 2011 This book goes through Python in particular, and programming in general, via tasks that scientists will likely perform. It contains valuable information for students new to scientific computing and would be the perfect bridge between an introduction to programming and an advanced course on numerical methods or computational science. Alex Small, IEEE, CiSE Vol. 14 (2), March /April 2012 "This fourth edition is a wonderful, inclusive textbook that covers pretty much everything one

needs to know to go from zero to fairly sophisticated scientific programming in Python...” Joan Horvath, Computing Reviews, March 2015

Introduction to Programming Using Java David Eck 2009-09 This is a free, on-line textbook on introductory programming using Java. This book is directed mainly towards beginning programmers, although it might also be useful for experienced programmers who want to learn more about Java. It is an introductory text and does not provide complete coverage of the Java language. The text is a PDF and is suitable for printing or on-screen reading. It contains internal links for navigation and external links to source code files, exercise solutions, and other resources.

Contents: 1) Overview: The Mental Landscape. 2) Programming in the Small I: Names and Things. 3) Programming in the Small II: Control. 4) Programming in the Large I: Subroutines. 5) Programming in the Large II: Objects and Classes. 6) Introduction to GUI Programming. 7) Arrays. 8) Correctness and Robustness. 9) Linked Data Structures and Recursion. 10) Generic Programming and Collection Classes. 11) Files and Networking. 12) Advanced GUI Programming. Appendices: Source Code for All Examples in this Book, and News and Errata.

Understanding Magnetic Resonance

Imaging Robert C. Smith 1997-11-20
Magnetic resonance imaging (MRI) is the most technically dependent imaging technique in radiology. To perform and interpret MRI studies

correctly, an understanding of the basic underlying principles is essential. Understanding Magnetic Resonance Imaging explains the pulse sequences, imaging options, and coils used to produce MR images, providing a strong foundation for performing and interpreting imaging studies. The text is complemented by more than 100 figures and 25 photomicrographs illustrating the techniques discussed. Radiology residents, MR technologists, and radiologists should not be without Understanding Magnetic Resonance Imaging-the only single resource that explains all technical aspects of MRI, including recent advances, and presents all imaging options.

Introduction to Applied Linear Algebra Stephen Boyd 2018-06-07 A groundbreaking introduction to

vectors, matrices, and least squares for engineering applications, offering a wealth of practical examples.

Concise Computer Vision Reinhard Klette 2014-01-04 This textbook provides an accessible general introduction to the essential topics in computer vision. Classroom-tested programming exercises and review questions are also supplied at the end of each chapter. Features: provides an introduction to the basic notation and mathematical concepts for describing an image and the key concepts for mapping an image into an image; explains the topologic and geometric basics for analysing image regions and distributions of image values and discusses identifying patterns in an image; introduces optic flow for representing dense

motion and various topics in sparse motion analysis; describes special approaches for image binarization and segmentation of still images or video frames; examines the basic components of a computer vision system; reviews different techniques for vision-based 3D shape reconstruction; includes a discussion of stereo matchers and the phase-congruency model for image features; presents an introduction into classification and learning.

Deep Learning for Toxicity and Disease Prediction Ping Gong

2020-04-01

About Face Alan Cooper 2014-09-02 The essential interaction design guide, fully revised and updated for the mobile age About Face: The Essentials of Interaction Design, Fourth Edition is the latest update to the book that shaped and evolved the landscape of

interaction design. This comprehensive guide takes the worldwide shift to smartphones and tablets into account. New information includes discussions on mobile apps, touch interfaces, screen size considerations, and more. The new full-color interior and unique layout better illustrate modern design concepts. The interaction design profession is blooming with the success of design-intensive companies, priming customers to expect "design" as a critical ingredient of marketplace success. Consumers have little tolerance for websites, apps, and devices that don't live up to their expectations, and the responding shift in business philosophy has become widespread. About Face is the book that brought interaction design out of the

research labs and into the everyday lexicon, and the updated Fourth Edition continues to lead the way with ideas and methods relevant to today's design practitioners and developers. Updated information includes: Contemporary interface, interaction, and product design methods Design for mobile platforms and consumer electronics State-of-the-art interface recommendations and up-to-date examples Updated Goal-Directed Design methodology Designers and developers looking to remain relevant through the current shift in consumer technology habits will find About Face to be a comprehensive, essential resource.

Mathematical Tasks Chris McGrane
2020-10-01 If we want our pupils to develop fluency, understanding and the ability to solve complex

problems, then it is vital that teachers develop the ability to select, adapt and design appropriate mathematical tasks. In 'Mathematical Tasks: The Bridge Between Teaching and Learning', Chris McGrane and Mark McCourt a range of practical approaches, strategies and principles behind the design and effective use of tasks in the mathematics classroom that lead to all pupils becoming successful learners. First-hand interviews with world class mathematics education experts and practicing teachers bring to life the ideas behind how tasks can act as a bridge between what the teacher wants the pupil to make sense of and what the pupil actually does makes sense of; tasks are how we enable pupils to enact mathematics - it is only by being mathematical that pupils can

truly make connections across mathematical ideas and understand the bigger picture. This is a book for classroom teachers. Chris McGrane offers a range of practical examples for nurturing deep learning in mathematics that can be adapted and embedded in one's own classroom practice. This is also a book for those who are interested in the theory behind tasks. Chris and his interviewees examine the key role tasks play in shaping learning, teaching, curriculum and assessment. Suitable for teachers at all stages in their careers and teachers are encouraged to return to the book from time to time over the years to notice how their use of tasks in the classroom changes as they themselves develop.

College Algebra Jay Abramson

2018-01-07 College Algebra provides a comprehensive exploration of algebraic principles and meets scope and sequence requirements for a typical introductory algebra course. The modular approach and richness of content ensure that the book meets the needs of a variety of courses. College Algebra offers a wealth of examples with detailed, conceptual explanations, building a strong foundation in the material before asking students to apply what they've learned. Coverage and Scope In determining the concepts, skills, and topics to cover, we engaged dozens of highly experienced instructors with a range of student audiences. The resulting scope and sequence proceeds logically while allowing for a significant amount of flexibility in instruction. Chapters 1 and 2 provide

both a review and foundation for study of Functions that begins in Chapter 3. The authors recognize that while some institutions may find this material a prerequisite, other institutions have told us that they have a cohort that need the prerequisite skills built into the course. Chapter 1: Prerequisites Chapter 2: Equations and Inequalities Chapters 3-6: The Algebraic Functions Chapter 3: Functions Chapter 4: Linear Functions Chapter 5: Polynomial and Rational Functions Chapter 6: Exponential and Logarithm Functions Chapters 7-9: Further Study in College Algebra Chapter 7: Systems of Equations and Inequalities Chapter 8: Analytic Geometry Chapter 9: Sequences, Probability and Counting Theory
Magnetic Resonance Imaging Robert W.

Brown 2014-06-23 New edition explores contemporary MRI principles and practices Thoroughly revised, updated and expanded, the second edition of Magnetic Resonance Imaging: Physical Principles and Sequence Design remains the preeminent text in its field. Using consistent nomenclature and mathematical notations throughout all the chapters, this new edition carefully explains the physical principles of magnetic resonance imaging design and implementation. In addition, detailed figures and MR images enable readers to better grasp core concepts, methods, and applications. Magnetic Resonance Imaging, Second Edition begins with an introduction to fundamental principles, with coverage of magnetization, relaxation, quantum mechanics, signal detection and

acquisition, Fourier imaging, image reconstruction, contrast, signal, and noise. The second part of the text explores MRI methods and applications, including fast imaging, water-fat separation, steady state gradient echo imaging, echo planar imaging, diffusion-weighted imaging, and induced magnetism. Lastly, the text discusses important hardware issues and parallel imaging. Readers familiar with the first edition will find much new material, including: New chapter dedicated to parallel imaging New sections examining off-resonance excitation principles, contrast optimization in fast steady-state incoherent imaging, and efficient lower-dimension analogues for discrete Fourier transforms in echo planar imaging applications Enhanced sections pertaining to

Fourier transforms, filter effects on image resolution, and Bloch equation solutions when both rf pulse and slice select gradient fields are present Valuable improvements throughout with respect to equations, formulas, and text New and updated problems to test further the readers' grasp of core concepts Three appendices at the end of the text offer review material for basic electromagnetism and statistics as well as a list of acquisition parameters for the images in the book. Acclaimed by both students and instructors, the second edition of Magnetic Resonance Imaging offers the most comprehensive and approachable introduction to the physics and the applications of magnetic resonance imaging.

[Python Data Science Handbook](#) Jake

VanderPlas 2016-11-21 For many researchers, Python is a first-class tool mainly because of its libraries for storing, manipulating, and gaining insight from data. Several resources exist for individual pieces of this data science stack, but only with the Python Data Science Handbook do you get them all—IPython, NumPy, Pandas, Matplotlib, Scikit-Learn, and other related tools. Working scientists and data crunchers familiar with reading and writing Python code will find this comprehensive desk reference ideal for tackling day-to-day issues: manipulating, transforming, and cleaning data; visualizing different types of data; and using data to build statistical or machine learning models. Quite simply, this is the must-have reference for scientific

computing in Python. With this handbook, you'll learn how to use: IPython and Jupyter: provide computational environments for data scientists using Python NumPy: includes the ndarray for efficient storage and manipulation of dense data arrays in Python Pandas: features the DataFrame for efficient storage and manipulation of labeled/columnar data in Python Matplotlib: includes capabilities for a flexible range of data visualizations in Python Scikit-Learn: for efficient and clean Python implementations of the most important and established machine learning algorithms

Fiber Optic Data Communication

Casimer DeCusatis 2002-03-08 History of fiber optics / Jeff D. Montgomery -- Market analysis and business

planning / Yann Y. Morvan and Ronald C. Lasky -- Small form factor fiber optic connectors / John Fox and Casimer DeCusatis -- Specialty fiber optic cables / Casimer DeCusatis and John Fox -- Optical wavelength division multiplexing for data communication networks / Casimer DeCusatis -- Optical backplanes, board and chip interconnects / Rainer Michalzik -- Parallel computer architectures using fiber optics / David B. Sher and Casimer DeCusatis -
- Packaging assembly techniques / Ronald C. Lasky, Adam Singer, and Prashant Chouta -- InfiniBand, the interconnect from backplane to fiber / Ali Ghiasi -- New devices for optoelectronics : smart pixels / Barry L. Shoop, Andre H. Sayles, and Daniel M. Litynski -- Emerging technology for fiber optic data

communication / Chung-Sheng Li -- Manufacturing challenges / Eric Maass.

UNESCO science report UNESCO

2015-11-09 There are fewer grounds today than in the past to deplore a North-South divide in research and innovation. This is one of the key findings of the UNESCO Science Report: towards 2030. A large number of countries are now incorporating science, technology and innovation in their national development agenda, in order to make their economies less reliant on raw materials and more rooted in knowledge. Most research and development (R&D) is taking place in high-income countries, but innovation of some kind is now occurring across the full spectrum of income levels according to the first survey of manufacturing companies in

65 countries conducted by the UNESCO Institute for Statistics and summarized in this report. For many lower-income countries, sustainable development has become an integral part of their national development plans for the next 10–20 years. Among higher-income countries, a firm commitment to sustainable development is often coupled with the desire to maintain competitiveness in global markets that are increasingly leaning towards 'green' technologies. The quest for clean energy and greater energy efficiency now figures among the research priorities of numerous countries. Written by more than 50 experts who are each covering the country or region from which they hail, the UNESCO Science Report: towards 2030 provides more country-level information than ever before.

The trends and developments in science, technology and innovation policy and governance between 2009 and mid-2015 described here provide essential baseline information on the concerns and priorities of countries that could orient the implementation and drive the assessment of the 2030 Agenda for Sustainable Development in the years to come.

High Resolution Imaging in Microscopy and Ophthalmology Josef F. Bille
2019-08-13 This open access book provides a comprehensive overview of the application of the newest laser and microscope/ophthalmoscope technology in the field of high resolution imaging in microscopy and ophthalmology. Starting by describing High-Resolution 3D Light Microscopy with STED and RESOLFT, the book goes on to cover retinal and anterior

segment imaging and image-guided treatment and also discusses the development of adaptive optics in vision science and ophthalmology. Using an interdisciplinary approach, the reader will learn about the latest developments and most up to date technology in the field and how these translate to a medical setting. High Resolution Imaging in Microscopy and Ophthalmology – New Frontiers in Biomedical Optics has been written by leading experts in the field and offers insights on engineering, biology, and medicine, thus being a valuable addition for scientists, engineers, and clinicians with technical and medical interest who would like to understand the equipment, the applications and the medical/biological background. Lastly, this book is dedicated to the

memory of Dr. Gerhard Zinser, co-founder of Heidelberg Engineering GmbH, a scientist, a husband, a brother, a colleague, and a friend. *Formal Power Series and Algebraic Combinatorics* Daniel Kroh 2013-03-09 This book contains the extended abstracts presented at the 12th International Conference on Power Series and Algebraic Combinatorics (FPSAC '00) that took place at Moscow State University, June 26-30, 2000. These proceedings cover the most recent trends in algebraic and bijective combinatorics, including classical combinatorics, combinatorial computer algebra, combinatorial identities, combinatorics of classical groups, Lie algebra and quantum groups, enumeration, symmetric functions, young tableaux etc...

**Archaeology, Anthropology, and
Interstellar Communication** National
Aeronautics Administration 2014-09-06
Addressing a field that has been
dominated by astronomers, physicists,
engineers, and computer scientists,
the contributors to this collection
raise questions that may have been
overlooked by physical scientists
about the ease of establishing
meaningful communication with an
extraterrestrial intelligence. These
scholars are grappling with some of
the enormous challenges that will
face humanity if an information-rich
signal emanating from another world
is detected. By drawing on issues at
the core of contemporary archaeology
and anthropology, we can be much
better prepared for contact with an
extraterrestrial civilization, should
that day ever come.

Introduction to Communication Systems
Upamanyu Madhow 2014-11-24 An
accessible undergraduate textbook
introducing key fundamental
principles behind modern
communication systems, supported by
exercises, software problems and lab
exercises.

*Information Theory, Inference and
Learning Algorithms* David J. C.
MacKay 2003-09-25 Information theory
and inference, taught together in
this exciting textbook, lie at the
heart of many important areas of
modern technology - communication,
signal processing, data mining,
machine learning, pattern
recognition, computational
neuroscience, bioinformatics and
cryptography. The book introduces
theory in tandem with applications.
Information theory is taught

alongside practical communication systems such as arithmetic coding for data compression and sparse-graph codes for error-correction. Inference techniques, including message-passing algorithms, Monte Carlo methods and variational approximations, are developed alongside applications to clustering, convolutional codes, independent component analysis, and neural networks. Uniquely, the book covers state-of-the-art error-correcting codes, including low-density-parity-check codes, turbo codes, and digital fountain codes - the twenty-first-century standards for satellite communications, disk drives, and data broadcast. Richly illustrated, filled with worked examples and over 400 exercises, some with detailed solutions, the book is ideal for self-learning, and for

undergraduate or graduate courses. It also provides an unparalleled entry point for professionals in areas as diverse as computational biology, financial engineering and machine learning.

Flash Boys: A Wall Street Revolt

Michael Lewis 2014-03-31 Argues that post-crisis Wall Street continues to be controlled by large banks and explains how a small, diverse group of Wall Street men have banded together to reform the financial markets.

Religion and Media in China Stefania Travagnin 2016-11-10 This volume focuses on the intersection of religion and media in China, bringing interdisciplinary approaches to bear on the role of religion in the lives of individuals and greater shifts within Chinese society in an

increasingly media-saturated environment. With case studies focusing on Mainland China (including Tibet), Hong Kong and Taiwan, as well as diasporic Chinese communities outside Asia, contributors consider topics including the historical and ideological roots of media representations of religion, expressions of religious faith online and in social media, state intervention (through both censorship and propaganda), religious institutions' and communities' use of various forms of media, and the role of the media in relations between online/offline and local/diaspora communities. Chapters engage with the major religious traditions practiced in contemporary China, namely Buddhism, Daoism, Confucianism, Christianity, Islam, and new

religious movements. Religion and the Media in China serves as a critical survey of case studies and suggests theoretical and methodological tools for a thorough and systematic study of religion in modern China.

Contributors to the volume include historians of religion, sinologists, sociologists, political scientists, anthropologists, and media and communication scholars. The critical theories that contributors develop around key concepts in religion—such as authority, community, church, ethics, pilgrimage, ritual, text, and practice—contribute to advancing the emerging field of religion and media studies.

Promise Theory Jan A Bergstra
2014-01-15 Promise Theory bridges the worlds of semantics and dynamics to describe scalable interactions

between autonomous agents that form clusters and groups. It provides a broadly developed and semi-formal language, which builds on the mathematics of sets and graphs, and models intent and outcome in an impartial manner. The result is a theory that expresses a 'chemistry' of cooperative behaviours for a wide range of systems, emphasizing how each new scale of cooperation leads to new phenomena and new promises. This book is aimed at scientists, philosophers, and engineers. It introduces readers to the key concepts in a practical manner, building on the foundation of voluntary cooperation as a ground state for all interacting systems. The book draws on many examples from the real world, with a particular emphasis on human-computer systems.

'Promise Theory offers a methodology for generating certainty on top of uncertain foundations. This book presents the formal foundations of Promise Theory. It lays out the formalisms in a clear, concise, understandable way that makes them accessible to non-mathematicians. If you want to fully understand the conceptual mechanisms that underlie the distributed systems that make up today's "cloud services", you should start with this book.' -- Jeff Sussna, Author of Designing Delivery
'[The authors] bring the rigor of theoretical physics to the science of cooperation. The application of this kind of rigor to the social sciences is a tremendous leap forward. [The] pioneering work on developing an algebra of cooperation is an idea whose time has come. A promise is not

a guarantee. That said: I promise you that examining this book will stimulate your thinking about cooperation and collaboration at scale. This book covers a lot of ground: promises, impositions, invitations, games, and the peculiar dynamics of authority and authorization. Those looking for a book that applies the lessons of distributed computing to the new and emerging science of cooperation will find what they are looking for here.'

-- Daniel Mezick, Author of *The Culture Game and Inviting Leadership*

International Finance Mihir A. Desai
2007 Desai's case studies will help readers to understand international financial market, including the instruments and techniques used in the foreign exchange market, monetary policy and international asset

allocation.

Learning Python Mark Lutz 2013-06-12
Get a comprehensive, in-depth introduction to the core Python language with this hands-on book. Based on author Mark Lutz's popular training course, this updated fifth edition will help you quickly write efficient, high-quality code with Python. It's an ideal way to begin, whether you're new to programming or a professional developer versed in other languages. Complete with quizzes, exercises, and helpful illustrations, this easy-to-follow, self-paced tutorial gets you started with both Python 2.7 and 3.3– the latest releases in the 3.X and 2.X lines—plus all other releases in common use today. You'll also learn some advanced language features that recently have become more common in

Python code. Explore Python's major built-in object types such as numbers, lists, and dictionaries. Create and process objects with Python statements, and learn Python's general syntax model. Use functions to avoid code redundancy and package code for reuse. Organize statements, functions, and other tools into larger components with modules. Dive into classes: Python's object-oriented programming tool for structuring code. Write large programs with Python's exception-handling model and development tools. Learn advanced Python tools, including decorators, descriptors, metaclasses, and Unicode processing.

The Book of R Tilman M. Davies

2016-07-16 The Book of R is a comprehensive, beginner-friendly guide to R, the world's most popular

programming language for statistical analysis. Even if you have no programming experience and little more than a grounding in the basics of mathematics, you'll find everything you need to begin using R effectively for statistical analysis. You'll start with the basics, like how to handle data and write simple programs, before moving on to more advanced topics, like producing statistical summaries of your data and performing statistical tests and modeling. You'll even learn how to create impressive data visualizations with R's basic graphics tools and contributed packages, like ggplot2 and ggvis, as well as interactive 3D visualizations using the rgl package. Dozens of hands-on exercises (with downloadable solutions) take you from theory to practice, as you learn:

–The fundamentals of programming in R, including how to write data frames, create functions, and use variables, statements, and loops
–Statistical concepts like exploratory data analysis, probabilities, hypothesis tests, and regression modeling, and how to execute them in R
–How to access R’s thousands of functions, libraries, and data sets
–How to draw valid and useful conclusions from your data
–How to create publication-quality graphics of your results
Combining detailed explanations with real-world examples and exercises, this book will provide you with a solid understanding of both statistics and the depth of R’s functionality. Make The Book of R your doorway into the growing world of data analysis.

Neural Network Design Martin T. Hagan

2003

Fundamentals of Spacecraft Attitude Determination and Control F. Landis Markley 2014-05-31 This book explores topics that are central to the field of spacecraft attitude determination and control. The authors provide rigorous theoretical derivations of significant algorithms accompanied by a generous amount of qualitative discussions of the subject matter. The book documents the development of the important concepts and methods in a manner accessible to practicing engineers, graduate-level engineering students and applied mathematicians. It includes detailed examples from actual mission designs to help ease the transition from theory to practice and also provides prototype algorithms that are readily available on the author’s website. Subject

matter includes both theoretical derivations and practical implementation of spacecraft attitude determination and control systems. It provides detailed derivations for attitude kinematics and dynamics and provides detailed description of the most widely used attitude parameterization, the quaternion. This title also provides a thorough treatise of attitude dynamics including Jacobian elliptical

functions. It is the first known book to provide detailed derivations and explanations of state attitude determination and gives readers real-world examples from actual working spacecraft missions. The subject matter is chosen to fill the void of existing textbooks and treatises, especially in state and dynamics attitude determination. MATLAB code of all examples will be provided through an external website.