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622 - ARIANA BOOKER

This book is a carefully designed tutorial for a variety of beginning users of Maple V. The authors focus on the most frequently used features of Maple V, and use a step-by-step approach to get the reader up and running quickly. Compatible with Maple V, Release 2; topical coverage includes Calculus, Linear Algebra, Ordinary and Partial Differential Equations, and Selected Graphics Topics; designed for Maple V beginners; a valuable addition to any Maple V owner's library; presentation geared toward popular applications of mathematics; step-by-step instructions for all Maple V implementations.

There is nothing quite like that feeling you get when you see that look of recognition and enjoyment on your students' faces. Not just the strong ones, but everyone is nodding in agreement during your first explanation of the geometry of directional derivatives. If you have incorporated animated demonstrations into your teaching, you know how effective they can be in eliciting this kind of response. You know the value of giving students vivid moving images to tie to concepts. But learning to make animations generally requires extensive searching through a vast computer algebra system for the pertinent functions. Maple Animation brings together virtually all of the functions and procedures useful

in creating sophisticated animations using Maple 7, 8, or 9 and it presents them in a logical, accessible way. The accompanying downloadable resources provide all of the Maple code used in the book, including the code for more than 30 ready-to-use demonstrations. From Newton's method to linear transformations, the complete animations included in this book allow you to use them straight out of the box. Careful explanations of the methods teach you how to implement your own creative ideas. Whether you are a novice or an experienced Maple user, Maple Animation provides the tools and skills to enhance your teaching and your students' enjoyment of the subject through animation.

This book presents a selection of the papers presented at EUROCODE '90, the symposium on coding theory held in Udine, Italy, November 1990. It gives the state of the art on coding in Europe and ranges from theoretical topics like algebraic geometry and combinatorial coding to applications like modulation, real-space decoding and VLSI implementation. The book is divided into eight sections: - Algebraic codes - Combinatorial codes - Geometric codes - Protection of information - Convolutional codes - Information theory - Modulation - Applications of coding. Five of the sections are introduced by an invited contribution.

In two editions spanning more than a decade, The Electrical Engineering Handbook stands as the definitive reference to the multidisciplinary field of electrical engineering. Our knowledge continues to grow, and so does the Handbook. For the third edition, it has grown into a set of six books carefully focused on specialized areas or fields of study. Each one represents a concise yet definitive collection of key concepts, models, and equations in its respective domain, thoughtfully gathered for convenient access. Combined, they constitute

the most comprehensive, authoritative resource available. Circuits, Signals, and Speech and Image Processing presents all of the basic information related to electric circuits and components, analysis of circuits, the use of the Laplace transform, as well as signal, speech, and image processing using filters and algorithms. It also examines emerging areas such as text to speech synthesis, real-time processing, and embedded signal processing. Electronics, Power Electronics, Optoelectronics, Microwaves, Electromagnetics, and Radar delves into the fields of electronics, integrated circuits, power electronics, optoelectronics, electromagnetics, light waves, and radar, supplying all of the basic information required for a deep understanding of each area. It also devotes a section to electrical effects and devices and explores the emerging fields of microlithography and power electronics. Sensors, Nanoscience, Biomedical Engineering, and Instruments provides thorough coverage of sensors, materials and nanoscience, instruments and measurements, and biomedical systems and devices, including all of the basic information required to thoroughly understand each area. It explores the

emerging fields of sensors, nanotechnologies, and biological effects. Broadcasting and Optical Communication Technology explores communications, information theory, and devices, covering all of the basic information needed for a thorough understanding of these areas. It also examines the emerging areas of adaptive estimation and optical communication. Computers, Software Engineering, and Digital Devices examines digital and logical devices, displays, testing, software, and computers, presenting the fundamental concepts needed to ensure a thorough understanding of each field. It treats the emerging fields of programmable logic, hardware description languages, and parallel computing in detail. Systems, Controls, Embedded Systems, Energy, and Machines explores in detail the fields of energy devices, machines, and systems as well as control systems. It provides all of the fundamental concepts needed for thorough, in-depth understanding of each area and devotes special attention to the emerging area of embedded systems. Encompassing the work of the world's foremost experts in their respective specialties, The Electrical Engineering Handbook, Third Edition remains the most

convenient, reliable source of information available. This edition features the latest developments, the broadest scope of coverage, and new material on nanotechnologies, fuel cells, embedded systems, and biometrics. The engineering community has relied on the Handbook for more than twelve years, and it will continue to be a platform to launch the next wave of advancements. The Handbook's latest incarnation features a protective slipcase, which helps you stay organized without overwhelming your bookshelf. It is an attractive addition to any collection, and will help keep each volume of the Handbook as fresh as your latest research.

Developments in both computer hardware and Perhaps the greatest impact has been felt by the software over the decades have fundamentally education community. Today, it is nearly changed the way people solve problems. impossible to find a college or university that has Technical professionals have greatly benefited not introduced mathematical computation in from new tools and techniques that have allowed some form, into the curriculum. Students now them to be more efficient, accu-

rate, and creative have regular access to the amount of in their work. computational power that were available to a very exclusive set of researchers five years ago. This Maple V and the new generation of mathematical has produced tremendous pedagogical computation systems have the potential of challenges and opportunities. having the same kind of revolutionary impact as high-level general purpose programming Comparisons to the calculator revolution of the languages (e.g. FORTRAN, BASIC, C), 70's are inescapable. Calculators have application software (e.g. spreadsheets, extended the average person's ability to solve Computer Aided Design - CAD), and even common problems more efficiently, and calculators have had. Maple V has amplified our arguably, in better ways. Today, one needs at mathematical abilities: we can solve more least a calculator to deal with standard problems more accurately, and more often. In in life -budgets, mortgages, gas mileage, etc. specific disciplines, this amplification has taken For business people or professionals, the excitingly different forms.

Winner of an Outstanding Academic Title

Award from CHOICE Magazine Most available cryptology books primarily focus on either mathematics or history. Breaking this mold, *Secret History: The Story of Cryptology* gives a thorough yet accessible treatment of both the mathematics and history of cryptology. Requiring minimal mathematical prerequisites, the book presents the mathematics in sufficient detail and weaves the history throughout the chapters. In addition to the fascinating historical and political sides of cryptology, the author—a former Scholar-in-Residence at the U.S. National Security Agency (NSA) Center for Cryptologic History—includes interesting instances of codes and ciphers in crime, literature, music, and art. Following a mainly chronological development of concepts, the book focuses on classical cryptology in the first part. It covers Greek and Viking cryptography, the Vigenère cipher, the one-time pad, transposition ciphers, Jefferson's cipher wheel, the Playfair cipher, ADFGX, matrix encryption, World War II cipher systems (including a detailed examination of Enigma), and many other classical methods introduced before World War II. The second part of the book examines modern cryptology. The author

looks at the work of Claude Shannon and the origin and current status of the NSA, including some of its Suite B algorithms such as elliptic curve cryptography and the Advanced Encryption Standard. He also details the controversy that surrounded the Data Encryption Standard and the early years of public key cryptography. The book not only provides the how-to of the Diffie-Hellman key exchange and RSA algorithm, but also covers many attacks on the latter. Additionally, it discusses Elgamal, digital signatures, PGP, and stream ciphers and explores future directions such as quantum cryptography and DNA computing. With numerous real-world examples and extensive references, this book skillfully balances the historical aspects of cryptography with its mathematical details. It provides readers with a sound foundation in this dynamic field.

This book is also available through the Introductory Engineering Custom Publishing System. If you are interested in creating a course-pack that includes chapters from this book, you can get further information by calling 212-850-6272 or sending email inquiries to engineerjwiley.com. The authors offer a set of objectives at the begin-

ning of each chapter plus a clear, concise description of abstract concepts. Focusing on preparing students to solve practical problems, it includes numerous colorful illustrative examples. Along with updated material on MOSFETS, the CRO for use in lab work, a thorough treatment of digital electronics and rapidly developing areas of electronics, it contains an expansive glossary of new terms and ideas.

An innovative text that emphasizes the graphical, numerical and analytical aspects of calculus throughout and often asks students to explain ideas using words. This problem driven text introduces topics with a real-world problem and derives the general results from it. It can be used with any technology that can graph and find definite integrals numerically. The derivative, the integral, differentiation, and differential equations are among the topics covered.

Release 5

Vitamin C is the first book to cover the history, chemistry, biochemistry, and medical importance of vitamin C and is the first to provide an in-depth, interdisciplinary study of this essential and fascinating com-

pound. The book provides a comprehensive and systematic account of the vitamin C story, fully surveying the history of scurvy and how its cure led to the suggestion, discovery, and isolation of the vitamin, later named L-ascorbic acid. It describes in detail the vitamin's structure determination, synthesis and manufacture, and its oxidation products, derivatives and related compounds. Its key biochemical roles are fully categorized and explained, and the medical importance of the vitamin, including the recent use of so-called megadoses, is thoroughly discussed. Vitamin C will be of interest to a very wide readership and will provide useful background information and inspiration for students at various levels. It will also be relevant to the interested chemist or lay person, as well as those carrying out research in this area.

In the past four decades, information technology has altered chains of value production, distribution, and information access at a significant rate. These changes, although they have shaken up numerous economic models, have so far not radically challenged the bases of our society. This book addresses our current progress and

viewpoints on digital identity management in different fields (social networks, cloud computing, Internet of Things (IoT), with input from experts in computer science, law, economics and sociology. Within this multidisciplinary and scientific context, having crossed analysis on the digital ID issue, it describes the different technical and legal approaches to protect digital identities with a focus on authentication systems, identity federation techniques and privacy preservation solutions. The limitations of these solutions and research issues in this field are also discussed to further understand the changes that are taking place. Offers a state of the discussions and work places on the management of digital identities in various contexts, such as social networking, cloud computing and the Internet of Things Describes the advanced technical and legal measures to protect digital identities Contains a strong emphasis of authentication techniques, identity federation tools and technical protection of privacy

Preface to the First Edition This textbook is an introduction to Scientific Computing. We will illustrate several numerical methods for the computer solution of c- tain

classes of mathematical problems that cannot be faced by paper and pencil. We will show how to compute the zeros or the integrals of continuous functions, solve linear systems, approximate functions by polynomials and construct accurate approximations for the solution of differential equations. With this aim, in Chapter 1 we will illustrate the rules of the game that computers adopt when storing and operating with real and complex numbers, vectors and matrices. In order to make our presentation concrete and appealing we will 1 adopt the programming environment MATLAB as a faithful c- panion. We will gradually discover its principal commands, statements and constructs. We will show how to execute all the algorithms that we introduce throughout the book. This will enable us to furnish an - mediate quantitative assessment of their theoretical properties such as stability, accuracy and complexity. We will solve several problems that will be raised through exercises and examples, often stemming from s- ci?c applications.

"Introduction to Computational Science" was developed over a period of two years at the University of Utah Department of

Computer Science in conjunction with the U.S. Department of Energy-funded Undergraduate Computation in Engineering Science (UCES) program. Each chapter begins by introducing a problem and then guiding the student through its solution. The computational techniques needed to solve the problem are developed as necessary, making the motivation for learning the computing always apparent. Each chapter will introduce a single problem that will be used to motivate a single computing concept. The notes currently consist of 15 chapters. The first seven chapters deal with Maple and the last eight with C. The textbook will contain 20 to 30 chapters covering a similar mix of concepts at a finer level of detail.

New mathematical insights and rigorous results are often gained through extensive experimentation using numerical examples or graphical images and analyzing them. Today computer experiments are an integral part of doing mathematics. This allows for a more systematic approach to conducting and replicating experiments. The authors address the role of Using computers to solve problems and model physical problems has fast become

an integral part of undergraduate and graduate education in physics. This 3rd year undergraduate and subsequent graduate course is a supplement to courses in theoretical physics and develops problem-solving techniques using the computer. It makes use of the newest version of Mathematica (3.0) while still remaining compatible with older versions. The programs using Mathematica 3.0 and C are written for both PCs and workstations, and the problems, source files, and graphic routines help students gain experience from the very beginning.

A fresh look at the role of astrology and alchemy in Renaissance thinking and everyday life.

Since its first release in 1988, Mathematica has sold over a quarter of a million copies throughout the world, enabling the manipulation of fields of mathematics such as numerics, symbolic algebra, and graphics. This step-by-step guide deals solely with generating computer graphics using the Mathematica software. It is written by an expert in the field, himself an employee of Wolfram Research, Inc., the creators and distributors of the software. Dr. Wick-

ham-Jones is directly involved in all the technical issues and programs relating to the graphics side of the Mathematica package, and is therefore an obvious choice as author of such a publication.

Complete coverage of all fields of electrical engineering. The book provides workable definitions for practicing engineers, while serving as a reference and research tool for students, and offering practical information for scientists and engineers in other disciplines. Areas examined include applied electrical, microwave, control, power, and digital systems engineering, plus device electronics.

This revised and updated second edition maintains the content and spirit of the first edition and includes a new chapter, "Recent Experiences", that provides examples of experimental mathematics that have come to light since the publication of the first edition in 2003. For more examples and insights, Experimentation in Mathematics: Computational P

The Maple Summer Workshop and Symposium, MSWS '94, reflects the growing community of Maple users around the world. This volume contains the contributed papers. A careful inspection of author affilia-

tions will reveal that they come from North America, Europe, and Australia. In fact, fifteen come from the United States, two from Canada, one from Australia, and nine come from Europe. Of European papers, two are from Germany, two are from the Netherlands, two are from Spain, and one each is from Switzerland, Denmark, and the United Kingdom. More important than the geographical diversity is the intellectual range of the contributions. We begin to see in this collection of works papers in which Maple is used in an increasingly flexible way. For example, there is an application in computer science that uses Maple as a tool to create a new utility. There is an application in abstract algebra where Maple has been used to create new functionalities for computing in a rational function field. There are applications to geometrical optics, digital signal processing, and experimental design.

Mathematica by Example presents the commands and applications of Mathematica, a system for doing mathematics on a computer. This text serves as a guide to beginning users of Mathematica and users who do not intend to take advantage of

the more specialized applications of Mathematica. The book combines symbolic manipulation, numerical mathematics, outstanding graphics, and a sophisticated programming language. It is comprised of 10 chapters. Chapter 1 gives a brief background of the software and how to install it in the computer. Chapter 2 introduces the essential commands of Mathematica. Basic operations on numbers, expressions, and functions are introduced and discussed. Chapter 3 provides Mathematica's built-in calculus commands. The fourth chapter presents elementary operations on lists and tables. This chapter is a prerequisite for Chapter 5 which discusses nested lists and tables in detail. The purpose of Chapter 6 is to illustrate various computations Mathematica can perform when solving differential equations. Chapters 7, 8, and 9 introduce Mathematica Packages that are not found in most Mathematica reference book. The final chapter covers the Mathematica Help feature. Engineers, computer scientists, physical scientists, mathematicians, business professionals, and students will find the book useful.

This book constitutes the refereed proceed-

ings of the 14th International Conference on Parallel Problem Solving from Nature, PPSN 2016, held in Edinburgh, UK, in September 2016. The total of 93 revised full papers were carefully reviewed and selected from 224 submissions. The meeting began with four workshops which offered an ideal opportunity to explore specific topics in intelligent transportation Workshop, landscape-aware heuristic search, natural computing in scheduling and timetabling, and advances in multi-modal optimization. PPSN XIV also included sixteen free tutorials to give us all the opportunity to learn about new aspects: gray box optimization in theory; theory of evolutionary computation; graph-based and cartesian genetic programming; theory of parallel evolutionary algorithms; promoting diversity in evolutionary optimization: why and how; evolutionary multi-objective optimization; intelligent systems for smart cities; advances on multi-modal optimization; evolutionary computation in cryptography; evolutionary robotics - a practical guide to experiment with real hardware; evolutionary algorithms and hyper-heuristics; a bridge between optimization over manifolds and evolutionary computation; implementing

evolutionary algorithms in the cloud; the attainment function approach to performance evaluation in EMO; runtime analysis of evolutionary algorithms: basic introduction; meta-model assisted (evolutionary) optimization. The papers are organized in topical sections on adaption, self-adaption and parameter tuning; differential evolution and swarm intelligence; dynamic, uncertain and constrained environments; genetic programming; multi-objective, many-objective and multi-level optimization; parallel algorithms and hardware issues; real-word applications and modeling; theory; diversity and landscape analysis.

The digital era has dramatically changed the ways that researchers search, produce, publish, and disseminate their scientific work. These processes are still rapidly evolving due to improvements in information science, new achievements in computer science technologies, and initiatives such as DML and open access journals, digitization projects, sci

Through the use of numerous examples that illustrate how to solve important applications using Maple V, Release 2, this book provides readers with a solid, hand-

s-on introduction to ordinary and partial differential equations. Includes complete coverage of constructing and numerically computing and approximating solutions to ordinary and partial equations.

This book aims to shine a light on some of the issues of mathematical creativity. It is neither a philosophical treatise nor the presentation of experimental results, but a compilation of reflections from top-caliber working mathematicians. In their own words, they discuss the art and practice of their work. This approach highlights creative components of the field, illustrates the dramatic variation by individual, and hopes to express the vibrancy of creative minds at work. *Mathematicians on Creativity* is meant for a general audience and is probably best read by browsing.

Mathematics is often thought of as the coldest expression of pure reason. But few subjects provoke hotter emotions--and inspire more love and hatred--than mathematics. And although math is frequently idealized as floating above the messiness of human life, its story is nothing if not human; often, it is all too human. *Loving and Hating Mathematics* is about the hidden

human, emotional, and social forces that shape mathematics and affect the experiences of students and mathematicians. Written in a lively, accessible style, and filled with gripping stories and anecdotes, *Loving and Hating Mathematics* brings home the intense pleasures and pains of mathematical life. These stories challenge many myths, including the notions that mathematics is a solitary pursuit and a "young man's game," the belief that mathematicians are emotionally different from other people, and even the idea that to be a great mathematician it helps to be a little bit crazy. Reuben Hersh and Vera John-Steiner tell stories of lives in math from their very beginnings through old age, including accounts of teaching and mentoring, friendships and rivalries, love affairs and marriages, and the experiences of women and minorities in a field that has traditionally been unfriendly to both. Included here are also stories of people for whom mathematics has been an immense solace during times of crisis, war, and even imprisonment--as well as of those rare individuals driven to insanity and even murder by an obsession with math. This is a book for anyone who wants to un-

derstand why the most rational of human endeavors is at the same time one of the most emotional.

This book introduces the student to numerous modern applications of mathematics in technology. The authors write with clarity and present the mathematics in a clear and straightforward way making it an interesting and easy book to read. Numerous exercises at the end of every section provide practice and reinforce the material in the chapter. An engaging quality of this book is that the authors also present the mathematical material in a historical context and not just the practical one. *Mathematics and Technology* is intended for undergraduate students in mathematics, instructors and high school teachers. Additionally, its lack of calculus centricity as well as a clear indication of the more difficult topics and relatively advanced references make it suitable for any curious individual with a decent command of high school math.

Learn how to make your .NET applications secure! Security and cryptography, while always an essential part of the computing industry, have seen their importance increase greatly in the last several years. Mi-

Microsoft's .NET Framework provides developers with a powerful new set of tools to make their applications secure. *NET Security and Cryptography* is a practical and comprehensive guide to implementing both the security and the cryptography features found in the .NET platform. The authors provide numerous clear and focused examples in both C# and Visual Basic .NET, as well as detailed commentary on how the code works. They cover topics in a logical sequence and context, where they are most relevant and most easily understood. All of the sample code is available online at [http://www.it-ebooks.info](#). This book will allow developers to:

- Develop a solid basis in the theory of cryptography, so they can understand how the security tools in the .NET Framework function
- Learn to use symmetric algorithms, asymmetric algorithms, and digital signatures
- Master both traditional encryption programming as well as the new techniques of XML encryption and XML signatures
- Learn how these tools apply to ASP.NET and Web Services security

How quickly can you compute the remainder when dividing by 120143? Why would you even want to compute this? And what

does this have to do with cryptography? Modern cryptography lies at the intersection of mathematics and computer sciences, involving number theory, algebra, computational complexity, fast algorithms, and even quantum mechanics. Many people think of codes in terms of spies, but in the information age, highly mathematical codes are used every day by almost everyone, whether at the bank ATM, at the grocery checkout, or at the keyboard when you access your email or purchase products online. This book provides a historical and mathematical tour of cryptography, from classical ciphers to quantum cryptography. The authors introduce just enough mathematics to explore modern encryption methods, with nothing more than basic algebra and some elementary number theory being necessary. Complete expositions are given of the classical ciphers and the attacks on them, along with a detailed description of the famous Enigma system. The public-key system RSA is described, including a complete mathematical proof that it works. Numerous related topics are covered, such as efficiencies of algorithms, detecting and correcting errors, primality testing and digital signatures. The topics

and exposition are carefully chosen to highlight mathematical thinking and problem solving. Each chapter ends with a collection of problems, ranging from straightforward applications to more challenging problems that introduce advanced topics. Unlike many books in the field, this book is aimed at a general liberal arts student, but without losing mathematical completeness.

This book covers key concepts of cryptography, from encryption and digital signatures to cryptographic protocols, presenting techniques and protocols for key exchange, user ID, electronic elections and digital cash. Advanced topics include bit security of one-way functions and computationally perfect pseudorandom bit generators. Assuming no special background in mathematics, it includes chapter-ending exercises and the necessary algebra, number theory and probability theory in the appendix. This edition offers new material including a complete description of the AES, a section on cryptographic hash functions, new material on random oracle proofs, and a new section on public-key encryption schemes that are provably secure against adaptively-chosen-ciphertext at-

tacks.

This book brings together reviews and methods including, system-directed approaches using small molecules, the design of target-focused compound libraries, the study of molecular selectivity, and the systematic analysis of target-ligand interactions.

Stock Market Modeling and Forecasting translates experience in system adaptation gained in an engineering context to the modeling of financial markets with a view to improving the capture and understanding of market dynamics. The modeling process is considered as identifying a dynamic system in which a real stock market is treated as an unknown plant and the identification model proposed is tuned by feedback of the matching error. Like a physical system, a financial market exhibits fast and slow dynamics corresponding to external (such as company value and profitability) and internal forces (such as investor sentiment and commodity prices) respectively. The framework presented here, consisting of an internal model and an adaptive filter, is successful at considering both fast and slow market dynamics. A double selection method is effi-

cient in identifying input factors influential in market movements, revealing them to be both frequency- and market-dependent. The authors present work on both developed and developing markets in the shape of the US, Hong Kong, Chinese and Singaporean stock markets. Results from all these sources demonstrate the efficiency of the model framework in identifying significant influences and the quality of its predictive ability; promising results are also obtained by applying the model framework to the forecasting of major market-turning periods. Having shown that system-theoretic ideas can form the core of a novel and effective basis for stock market analysis, the book is completed by an indication of possible and likely future expansions of the research in this area.

In MATLAB, Learn the essential skills needed to use the flexible MATLAB system. You will be able to apply the highly modular system towards the purposes you need by harnessing the power of its different toolboxes. This updated and expanded second edition of Book provides a user-friendly introduction to the subject, Taking a clear structural framework, it guides the reader

through the subject's core elements. A flowing writing style combines with the use of illustrations and diagrams throughout the text to ensure the reader understands even the most complex of concepts. This succinct and enlightening overview is a required reading for all those interested in the subject. We hope you find this book useful in shaping your future career & Business.

During the ten years since the appearance of the groundbreaking, bestselling first edition of The Electronics Handbook, the field has grown and changed tremendously. With a focus on fundamental theory and practical applications, the first edition guided novice and veteran engineers along the cutting edge in the design, production, installation, operation, and maintenance of electronic devices and systems. Completely updated and expanded to reflect recent advances, this second edition continues the tradition. The Electronics Handbook, Second Edition provides a comprehensive reference to the key concepts, models, and equations necessary to analyze, design, and predict the behavior of complex electrical devices, circuits, instruments, and systems. With 23 sections that encom-

pass the entire electronics field, from classical devices and circuits to emerging technologies and applications, The Electronics Handbook, Second Edition not only covers the engineering aspects, but also includes sections on reliability, safety, and engineering management. The book features an individual table of contents at the beginning of each chapter, which enables engineers from industry, government, and academia to navigate easily to the vital information they need. This is truly the most comprehensive, easy-to-use reference on electronics available.

This edited survey book consists of 20 chapters showing application of Clifford algebra in quantum mechanics, field theory, spinor calculations, projective geometry, Hypercomplex algebra, function theory and crystallography. Many examples of computations performed with a variety of readily available software programs are presented in detail.

Proceedings of the Third Workshop on Computer Algebra in Scientific Computing, Samarkand, October 5-9, 2000

Praise for the Second Edition: "The authors present an intuitive and easy-to-read book. ... accompanied by many examples, proposed exercises, good references, and comprehensive appendices that initiate the reader unfamiliar with MATLAB." —Adolfo Alvarez Pinto, International Statistical Review "Practitioners of EDA who use MATLAB will want a copy of this book. ... The authors have done a great service by bringing together so many EDA routines, but their main accomplishment in this dynamic text is providing the understanding and tools to do EDA. —David A Huckaby, MAA Reviews Exploratory Data Analysis (EDA) is an important part of the data analysis process. The methods presented in this text are ones that should be in the toolkit of every data scientist. As computational sophistication has increased and data sets have grown in size and complexity, EDA has be-

come an even more important process for visualizing and summarizing data before making assumptions to generate hypotheses and models. Exploratory Data Analysis with MATLAB, Third Edition presents EDA methods from a computational perspective and uses numerous examples and applications to show how the methods are used in practice. The authors use MATLAB code, pseudo-code, and algorithm descriptions to illustrate the concepts. The MATLAB code for examples, data sets, and the EDA Toolbox are available for download on the book's website. New to the Third Edition Random projections and estimating local intrinsic dimensionality Deep learning autoencoders and stochastic neighbor embedding Minimum spanning tree and additional cluster validity indices Kernel density estimation Plots for visualizing data distributions, such as beanplots and violin plots A chapter on visualizing categorical data