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Time Series - Ngai Hang Chan 2002

This title gives both conceptual and practical illustrations of financial time series. Examples and discussions in the later chapters of the book make recent developments in time series more accessible. Examples from finance are maximized as much as possible throughout the book.

Introduction to Regression Modeling - Bovas Abraham 2006

Looking for an easy-to-understand text to guide you through the tough topic of regression modeling?

INTRODUCTION TO REGRESSION MODELING (WITH CD-ROM) offers a blend of theory and regression applications and will give you the practice you need to tackle this subject through exercises, case studies, and projects that have you identify a problem of interest and collect data relevant to the problem's solution. The book goes beyond linear regression by covering nonlinear models, regression models with time series errors, and logistic and Poisson regression models.

Meta Analysis - Elena Kulinskaya 2008-04-15

Meta Analysis: A Guide to Calibrating and Combining Statistical Evidence acts as a source of basic methods for scientists wanting to combine evidence from different experiments. The authors aim to promote a deeper understanding of the notion of statistical evidence. The book is comprised of two parts - The Handbook, and The Theory. The Handbook is a guide for combining and interpreting experimental evidence to solve standard statistical problems. This section allows someone with a rudimentary knowledge in general statistics to apply the methods. The Theory provides the motivation, theory and results of simulation experiments to justify the methodology. This is a coherent introduction to the statistical concepts required to understand the authors' thesis that evidence in a test statistic can often be calibrated when transformed to the right scale.

Climate Time Series Analysis - Manfred Mudelsee 2010-08-26

Climate is a paradigm of a complex system. Analysing climate data is an exciting challenge, which is increased by non-normal distributional shape, serial dependence, uneven spacing and timescale uncertainties. This book presents bootstrap resampling as a computing-intensive method able to meet the challenge. It shows the bootstrap to perform reliably in the most important statistical estimation techniques: regression, spectral analysis, extreme values and correlation. This book is written for climatologists and applied statisticians. It explains step by step the bootstrap algorithms (including novel adaptations) and methods for confidence interval construction. It tests the accuracy of the algorithms by means of Monte Carlo experiments. It analyses a large array of climate time series, giving a detailed account on the data and the associated climatological questions. This makes the book self-contained for graduate students and researchers.

Time Series Analysis and Forecasting by Example - Søren Bisgaard 2011-08-24

An intuition-based approach enables you to master time series analysis with ease Time Series Analysis and Forecasting by Example provides the fundamental techniques in time series analysis using various examples. By introducing necessary theory through examples that showcase the discussed topics, the authors successfully help readers develop an intuitive understanding of seemingly complicated time series models and their implications. The book presents methodologies for time series analysis in a simplified, example-based approach. Using graphics, the authors discuss each presented example in detail and explain

the relevant theory while also focusing on the interpretation of results in data analysis. Following a discussion of why autocorrelation is often observed when data is collected in time, subsequent chapters explore related topics, including: Graphical tools in time series analysis Procedures for developing stationary, non-stationary, and seasonal models How to choose the best time series model Constant term and cancellation of terms in ARIMA models Forecasting using transfer function-noise models The final chapter is dedicated to key topics such as spurious relationships, autocorrelation in regression, and multiple time series. Throughout the book, real-world examples illustrate step-by-step procedures and instructions using statistical software packages such as SAS®, JMP, Minitab, SCA, and R. A related Web site features PowerPoint slides to accompany each chapter as well as the book's data sets. With its extensive use of graphics and examples to explain key concepts, Time Series Analysis and Forecasting by Example is an excellent book for courses on time series analysis at the upper-undergraduate and graduate levels. it also serves as a valuable resource for practitioners and researchers who carry out data and time series analysis in the fields of engineering, business, and economics.

Applied Survival Analysis - David W. Hosmer, Jr. 2011-09-23

THE MOST PRACTICAL, UP-TO-DATE GUIDE TO MODELLING AND ANALYZING TIME-TO-EVENT

DATA—NOW IN A VALUABLE NEW EDITION Since publication of the first edition nearly a decade ago, analyses using time-to-event methods have increase considerably in all areas of scientific inquiry mainly as a result of model-building methods available in modern statistical software packages. However, there has been minimal coverage in the available literature to9 guide researchers, practitioners, and students who wish to apply these methods to health-related areas of study. Applied Survival Analysis, Second Edition provides a comprehensive and up-to-date introduction to regression modeling for time-to-event data in medical, epidemiological, biostatistical, and other health-related research. This book places a unique emphasis on the practical and contemporary applications of regression modeling rather than the mathematical theory. It offers a clear and accessible presentation of modern modeling techniques supplemented with real-world examples and case studies. Key topics covered include: variable selection, identification of the scale of continuous covariates, the role of interactions in the model, assessment of fit and model assumptions, regression diagnostics, recurrent event models, frailty models, additive models, competing risk models, and missing data. Features of the Second Edition include: Expanded coverage of interactions and the covariate-adjusted survival functions The use of the Worcester Heart Attack Study as the main modeling data set for illustrating discussed concepts and techniques New discussion of variable selection with multivariable fractional polynomials Further exploration of time-varying covariates, complex with examples Additional treatment of the exponential, Weibull, and log-logistic parametric regression models Increased emphasis on interpreting and using results as well as utilizing multiple imputation methods to analyze data with missing values New examples and exercises at the end of each chapter Analyses throughout the text are performed using Stata® Version 9, and an accompanying FTP site contains the data sets used in the book. Applied Survival Analysis, Second Edition is an ideal book for graduate-level courses in biostatistics, statistics, and epidemiologic methods. It also serves as a valuable reference for practitioners and researchers in any health-related field or for professionals in insurance and government.

Robust Correlation - Georgy L. Shevlyakov 2016-09-08

This book presents material on both the analysis of the classical concepts of correlation and on the development of their robust versions, as well as discussing the related concepts of correlation matrices, partial correlation, canonical correlation, rank correlations, with the corresponding robust and non-robust estimation procedures. Every chapter contains a set of examples with simulated and real-life data. Key features: Makes modern and robust correlation methods readily available and understandable to practitioners, specialists, and consultants working in various fields. Focuses on implementation of methodology and application of robust correlation with R. Introduces the main approaches in robust statistics, such as Huber's minimax approach and Hampel's approach based on influence functions. Explores various robust estimates of the correlation coefficient including the minimax variance and bias estimates as well as the most B- and V-robust estimates. Contains applications of robust correlation methods to exploratory data analysis, multivariate statistics, statistics of time series, and to real-life data. Includes an accompanying website featuring computer code and datasets. Features exercises and examples throughout the text using both small and large data sets. Theoretical and applied statisticians, specialists in multivariate statistics, robust statistics, robust time series analysis, data analysis and signal processing will benefit from this book. Practitioners who use correlation based methods in their work as well as postgraduate students in statistics will also find this book useful.

Improving Almost Anything - George E. P. Box 2006-04-21

Masterworks in process improvement and quality technology— by George Box and friends George Box has a unique ability to explain complex ideas simply and eloquently. This revised edition of his masterworks since 1982 clearly demonstrates the range of his wit and intellect. These fascinating readings represent the cornerstones in the theory and application of process improvement, product design, and process control. Readers will gain valuable insights into the fundamentals and philosophy of scientific method using statistics and how it can drive creativity and discovery. The book is divided into five key parts: Part A, Some Thoughts on Quality Improvement, concerns the democratization of the scientific method and, in such papers as "When Murphy Speaks—Listen," advises managers to view operation of their processes as ongoing opportunities for improvement. Part B, Design of Experiments for Process Improvement, illustrates the enormous advantages offered by experimental design in the pursuit of better products and processes. Part C, Sequential Investigation and Discovery, shows how sequential assembly of designs allows the experimenter to match the difficulty of the problem with the effort needed to solve it. Part D, Control, describes application of feedback control in the Statistical Process Control (SPC) environment. A simple graphical technique using Box-Jenkins charts is set forth to appropriately adjust processes to target. Part E, Variance Reduction and Robustness, demonstrates how the existence of more than one source of variation may be used to achieve products robust to the environment in which they must function and emphasizes the importance of error transmission and data transformation in producing robust assemblies. A Foreword by Dr. J. Stuart Hunter allows readers to gain insight into the workings of a remarkable mind and explains how these ideas can greatly catalyze their efforts in process improvement.

Data Analysis and Statistics for Geography, Environmental Science, and Engineering - Miguel F. Acevedo 2012-12-07

Providing a solid foundation for twenty-first-century scientists and engineers, Data Analysis and Statistics for Geography, Environmental Science, and Engineering guides readers in learning quantitative methodology, including how to implement data analysis methods using open-source software. Given the importance of interdisciplinary work in sustain

Bayesian Computation with R - Jim Albert 2009-04-20

There has been dramatic growth in the development and application of Bayesian inference in statistics. Berger (2000) documents the increase in Bayesian activity by the number of published research articles, the number of books, and the extensive number of applications of Bayesian articles in applied disciplines such as science and engineering. One reason for the dramatic growth in Bayesian modeling is the availability of computational algorithms to compute the range of integrals that are necessary in a Bayesian posterior analysis. Due to the speed of modern computers, it is now possible to use the Bayesian paradigm to fit very complex models that cannot be fit by alternative frequentist methods. To fit Bayesian models, one needs a

statistical computing environment. This environment should be such that one can: write short scripts to define a Bayesian model use or write functions to summarize a posterior distribution use functions to simulate from the posterior distribution construct graphs to illustrate the posterior inference An environment that meets these requirements is the R system. R provides a wide range of functions for data manipulation, calculation, and graphical displays. Moreover, it includes a well-developed, simple programming language that users can extend by adding new functions. Many such extensions of the language in the form of packages are easily downloadable from the Comprehensive R Archive Network (CRAN).

Time Series Analysis in Climatology and Related Sciences - Victor Privalsky 2020-11-22

This book gives the reader the basic knowledge of the theory of random processes necessary for applying to study climatic time series. It contains many examples in different areas of time series analysis such as autoregressive modelling and spectral analysis, linear extrapolation, simulation, causality, relations between scalar components of multivariate time series, and reconstructions of climate data. As an important feature, the book contains many practical examples and recommendations about how to deal and how not to deal with applied problems of time series analysis in climatology or any other science where the time series are short.

The Effects of Equipment Age on Mission Critical Failure Rates - Eric Peltz 2004

Military budget limits in the late 1990s and the timeline for the Army's next generation of weapon systems have resulted in the aging of many of the Army's fleets and projected extensions in their service lives. There is a widespread belief that the increases in fleet age will create readiness and cost problems. The Army is executing recapitalization programs to rebuild or upgrade selected weapon systems in order to retain combat capabilities and hold down maintenance costs. To aid in that effort, this research assesses the effects of age on mission-critical failure rates for M1 Abrams tanks. Results suggest that tank age is a significant predictor of M1 mission-critical failures, as are usage and location. The aging effect is estimated at a 3 to 7 percent increase in tank failures per year of age, about a doubling of the failure rate, over the first 14 years of a tank's life. The magnitude and pattern of aging effects were found to differ across tank subsystems, revealing that a distinct subset of components contributes to the aging effects. These parts are the best candidates for replacement with like components in rebuild efforts. Other components emerge as readiness and/or cost drivers, whether or not a tank is new or old, indicating the need for reliability upgrade initiatives rather than simple replacement with new parts. These findings should help quantify the value of Abrams recapitalization efforts and suggest potential subsystems to target in those efforts with regard to both rebuild and upgrade.

Data Analysis - Wolfgang A. Gaul 2012-12-06

"Data Analysis" in the broadest sense is the general term for a field of activities of ever-increasing importance in a time called the information age. It covers new areas with such trendy labels as, e.g., data mining or web mining as well as traditional directions emphasizing, e.g., classification or knowledge organization. Leading researchers in data analysis have contributed to this volume and delivered papers on aspects ranging from scientific modeling to practical application. They have devoted their latest contributions to a book edited to honor a colleague and friend, Hans-Hermann Bock, who has been active in this field for nearly thirty years.

Spatial Time Series - Robert John Bennett 1979

Time Series in Economics and Finance - Tomas Cipra 2020-08-31

This book presents the principles and methods for the practical analysis and prediction of economic and financial time series. It covers decomposition methods, autocorrelation methods for univariate time series, volatility and duration modeling for financial time series, and multivariate time series methods, such as cointegration and recursive state space modeling. It also includes numerous practical examples to demonstrate the theory using real-world data, as well as exercises at the end of each chapter to aid understanding. This book serves as a reference text for researchers, students and practitioners interested in time series, and can also be used for university courses on econometrics or computational finance.

Time-Series Forecasting - Chris Chatfield 2000-10-25

From the author of the bestselling "Analysis of Time Series," Time-Series Forecasting offers a comprehensive, up-to-date review of forecasting methods. It provides a summary of time-series modelling procedures, followed by a brief catalogue of many different time-series forecasting methods, ranging from ad-hoc methods through ARIMA and state-space modelling to multivariate methods and including recent arrivals, such as GARCH models, neural networks, and cointegrated models. The author compares the more important methods in terms of their theoretical inter-relationships and their practical merits. He also considers two other general forecasting topics that have been somewhat neglected in the literature: the computation of prediction intervals and the effect of model uncertainty on forecast accuracy. Although the search for a "best" method continues, it is now well established that no single method will outperform all other methods in all situations-the context is crucial. Time-Series Forecasting provides an outstanding reference source for the more generally applicable methods particularly useful to researchers and practitioners in forecasting in the areas of economics, government, industry, and commerce.

Time Series Analysis - Jonathan D. Cryer 2008-04-04

This book presents an accessible approach to understanding time series models and their applications. The ideas and methods are illustrated with both real and simulated data sets. A unique feature of this edition is its integration with the R computing environment.

Using the Weibull Distribution - John I. McCool 2012-08-06

Understand and utilize the latest developments in Weibull inferential methods While the Weibull distribution is widely used in science and engineering, most engineers do not have the necessary statistical training to implement the methodology effectively. Using the Weibull Distribution: Reliability, Modeling, and Inference fills a gap in the current literature on the topic, introducing a self-contained presentation of the probabilistic basis for the methodology while providing powerful techniques for extracting information from data. The author explains the use of the Weibull distribution and its statistical and probabilistic basis, providing a wealth of material that is not available in the current literature. The book begins by outlining the fundamental probability and statistical concepts that serve as a foundation for subsequent topics of coverage, including: • Optimum burn-in, age and block replacement, warranties and renewal theory • Exact inference in Weibull regression • Goodness of fit testing and distinguishing the Weibull from the lognormal • Inference for the Three Parameter Weibull Throughout the book, a wealth of real-world examples showcases the discussed topics and each chapter concludes with a set of exercises, allowing readers to test their understanding of the presented material. In addition, a related website features the author's own software for implementing the discussed analyses along with a set of modules written in Mathcad®, and additional graphical interface software for performing simulations. With its numerous hands-on examples, exercises, and software applications, Using the Weibull Distribution is an excellent book for courses on quality control and reliability engineering at the upper-undergraduate and graduate levels. The book also serves as a valuable reference for engineers, scientists, and business analysts who gather and interpret data that follows the Weibull distribution

An Introduction to Statistical Methods and Data Analysis - R. Lyman Ott 2015-05-28

Ott and Longnecker's AN INTRODUCTION TO STATISTICAL METHODS AND DATA ANALYSIS, Seventh Edition, provides a broad overview of statistical methods for advanced undergraduate and graduate students from a variety of disciplines who have little or no prior course work in statistics. The authors teach students to solve problems encountered in research projects, to make decisions based on data in general settings both within and beyond the university setting, and to become critical readers of statistical analyses in research papers and news reports. The first eleven chapters present material typically covered in an introductory statistics course, as well as case studies and examples that are often encountered in undergraduate capstone courses. The remaining chapters cover regression modeling and design of experiments. Important Notice: Media content referenced within the product description or the product text may not be available in the ebook version.

Generalized Least Squares - Takeaki Kariya 2004-11-19

Generalised Least Squares adopts a concise and mathematically rigorous approach. It will provide an up-to-date self-contained introduction to the unified theory of generalized least squares estimations, adopting a concise and mathematically rigorous approach. The book covers in depth the 'lower and upper bounds

approach', pioneered by the first author, which is widely regarded as a very powerful and useful tool for generalized least squares estimation, helping the reader develop their understanding of the theory. The book also contains exercises at the end of each chapter and applications to statistics, econometrics, and biometrics, enabling use for self-study or as a course text.

Statistical Analysis and Forecasting of Economic Structural Change - Peter Hackl 2013-03-09

In 1984, the University of Bonn (FRG) and the International Institute for Applied System Analysis (IIASA) in Laxenburg (Austria), created a joint research group to analyze the relationship between economic growth and structural change. The research team was to examine the commodity composition as well as the size and direction of commodity and credit flows among countries and regions. Krelle (1988) reports on the results of this "Bonn-IIASA" research project. At the same time, an informal IIASA Working Group was initiated to deal with problems of the statistical analysis of economic data in the context of structural change: What tools do we have to identify nonconstancy of model parameters? What type of models are particularly applicable to nonconstant structure? How is forecasting affected by the presence of nonconstant structure? What problems should be anticipated in applying these tools and models? Some 50 experts, mainly statisticians or econometricians from about 15 countries, came together in Lodz, Poland (May 1985); Berlin, GDR (June 1986); and Sulejov, Poland (September 1986) to present and discuss their findings. This volume contains a selected set of those conference contributions as well as several specially invited chapters.

Lean Construction Management - Shang Gao 2014-05-23

The book presents a mixed research method adopted to assess and present the Toyota Way practices within construction firms in general and for firms in China specifically. The results of an extensive structured questionnaire survey based on the Toyota Way-styled attributes identified were developed and data collected from building professionals working in construction firms is presented. The quantitative data presented in the book explains the status quo of the Toyota Way-styled practices implemented in the construction industry, as well as the extent to which these attributes were perceived for lean construction management. The book highlights all the actionable attributes derived from the Toyota Way model appreciated by the building professionals, but alerts the readers that some attributes felled short of implementation. Further findings from in-depth interviews and case studies are also presented in the book to provide to readers an understanding how these Toyota Way practices can be implemented in real-life projects. Collectively, all the empirical findings presented in this book can serve to enhance understanding of Toyota Way practices in the lean construction management context. The readers are then guided through to understand the gaps between actual practice and Toyota Way-styled practices, and the measures that they may undertake to circumvent the challenges for implementation. The book also presents to readers the SWOT analysis that addresses the strengths, weaknesses, opportunities and threats towards the implementation of the Toyota Way in the construction industry. The book prescribes the Toyota Way model for use in construction firms to strategically implement lean construction management. The checklist presented in the book enables readers to draw lessons that may be used additionally as a holistic assessment tool for measuring the maturity of firms with respect to their Toyota Way implementation. Consequent to this, management would then be in a better position to develop plans for Toyota Way implementation by focusing on weak areas, strengthening them, and thus increasing the likelihood of success in the implementation of the Toyota Way. In a nutshell, this book provides a comprehensive and valuable resource for firms not only in the construction industry but also businesses outside of the construction sector to better understand the Toyota Way and how this understanding can translate to implementation of lean construction/business management to enhance profitability and survivability in an increasingly competitive global market place.

Time Series Econometrics - Klaus Neusser 2016-06-14

This text presents modern developments in time series analysis and focuses on their application to economic problems. The book first introduces the fundamental concept of a stationary time series and the basic properties of covariance, investigating the structure and estimation of autoregressive-moving average (ARMA) models and their relations to the covariance structure. The book then moves on to non-stationary time series, highlighting its consequences for modeling and forecasting and presenting standard statistical

tests and regressions. Next, the text discusses volatility models and their applications in the analysis of financial market data, focusing on generalized autoregressive conditional heteroskedastic (GARCH) models. The second part of the text devoted to multivariate processes, such as vector autoregressive (VAR) models and structural vector autoregressive (SVAR) models, which have become the main tools in empirical macroeconomics. The text concludes with a discussion of co-integrated models and the Kalman Filter, which is being used with increasing frequency. Mathematically rigorous, yet application-oriented, this self-contained text will help students develop a deeper understanding of theory and better command of the models that are vital to the field. Assuming a basic knowledge of statistics and/or econometrics, this text is best suited for advanced undergraduate and beginning graduate students.

Statistics - Thomas Hill 2006

This - one of a kind - book offers a comprehensive, almost encyclopedic presentation of statistical methods and analytic approaches used in science, industry, business, and data mining, written from the perspective of the real-life practitioner ("consumer") of these methods.

Bayesian Analysis of Stochastic Process Models - David Insua 2012-04-02

Bayesian analysis of complex models based on stochastic processes has in recent years become a growing area. This book provides a unified treatment of Bayesian analysis of models based on stochastic processes, covering the main classes of stochastic processing including modeling, computational, inference, forecasting, decision making and important applied models. Key features: Explores Bayesian analysis of models based on stochastic processes, providing a unified treatment. Provides a thorough introduction for research students. Computational tools to deal with complex problems are illustrated along with real life case studies Looks at inference, prediction and decision making. Researchers, graduate and advanced undergraduate students interested in stochastic processes in fields such as statistics, operations research (OR), engineering, finance, economics, computer science and Bayesian analysis will benefit from reading this book. With numerous applications included, practitioners of OR, stochastic modelling and applied statistics will also find this book useful.

Encyclopedia of Epidemiology - Sarah Boslaugh 2008

Presents information from the field of epidemiology in a less technical, more accessible format. Covers major topics in epidemiology, from risk ratios to case-control studies to mediating and moderating variables, and more. Relevant topics from related fields such as biostatistics and health economics are also included.

Statistical Methods for Forecasting - Bovas Abraham 2009-09-25

The Wiley-Interscience Paperback Series consists of selected books that have been made more accessible to consumers in an effort to increase global appeal and general circulation. With these new unabridged softcover volumes, Wiley hopes to extend the lives of these works by making them available to future generations of statisticians, mathematicians, and scientists. "This book, it must be said, lives up to the words on its advertising cover: 'Bridging the gap between introductory, descriptive approaches and highly advanced theoretical treatises, it provides a practical, intermediate level discussion of a variety of forecasting tools, and explains how they relate to one another, both in theory and practice.' It does just that!" -Journal of the Royal Statistical Society "A well-written work that deals with statistical methods and models that can be used to produce short-term forecasts, this book has wide-ranging applications. It could be used in the context of a study of regression, forecasting, and time series analysis by PhD students; or to support a concentration in quantitative methods for MBA students; or as a work in applied statistics for advanced undergraduates." -Choice Statistical Methods for Forecasting is a comprehensive, readable treatment of statistical methods and models used to produce short-term forecasts. The interconnections between the forecasting models and methods are thoroughly explained, and the gap between theory and practice is successfully bridged. Special topics are discussed, such as transfer function modeling; Kalman filtering; state space models; Bayesian forecasting; and methods for forecast evaluation, comparison, and control. The book provides time series, autocorrelation, and partial autocorrelation plots, as well as examples and exercises using real data. Statistical Methods for Forecasting serves as an outstanding textbook for advanced undergraduate and graduate courses in statistics, business, engineering, and the social sciences, as well as a working reference for professionals in business, industry, and government.

Temporal Data Mining - Theophano Mitsa 2010-03-10

Temporal data mining deals with the harvesting of useful information from temporal data. New initiatives in health care and business organizations have increased the importance of temporal information in data today. From basic data mining concepts to state-of-the-art advances, Temporal Data Mining covers the theory of this subject as well as its application in a variety of fields. It discusses the incorporation of temporality in databases as well as temporal data representation, similarity computation, data classification, clustering, pattern discovery, and prediction. The book also explores the use of temporal data mining in medicine and biomedical informatics, business and industrial applications, web usage mining, and spatiotemporal data mining. Along with various state-of-the-art algorithms, each chapter includes detailed references and short descriptions of relevant algorithms and techniques described in other references. In the appendices, the author explains how data mining fits the overall goal of an organization and how these data can be interpreted for the purpose of characterizing a population. She also provides programs written in the Java language that implement some of the algorithms presented in the first chapter. Check out the author's blog at <http://theophanomitsa.wordpress.com/>

Production Engineering and Management under Fuzziness - Cengiz Kahraman 2010-05-19

Production engineering and management involve a series of planning and control activities in a production system. A production system can be as small as a shop with only one machine or as big as a global operation including many manufacturing plants, distribution centers, and retail locations in multiple continents. The product of a production system can also vary in complexity based on the material used, technology employed, etc. Every product, whether a pencil or an airplane, is produced in a system which depends on good management to be successful. Production management has been at the center of industrial engineering and management science disciplines since the industrial revolution. The tools and techniques of production management have been so successful that they have been adopted to various service industries, as well. The book is intended to be a valuable resource to undergraduate and graduate students interested in the applications of production management under fuzziness. The chapters represent all areas of production management and are organized to reflect the natural order of production management tasks. In all chapters, special attention is given to applicability and wherever possible, numerical examples are presented. While the reader is expected to have a fairly good understanding of the fuzzy logic, the book provides the necessary notation and preliminary knowledge needed in each chapter.

The Practice of Econometrics - H. Neudecker 2012-12-06

In the autumn of 1961 Jan Salomon ('Mars') Cramer was appointed to the newly established chair of econometrics at the University of Amsterdam. This volume is published to commemorate this event. It is well-known how much econometrics has developed over the period under consideration, the 25 years that elapsed between 1961 and 1986. This is specifically true for the areas in which Cramer has been actively interested. We mention the theory and measurement of consumer behaviour; money and income; regression, correlation and forecasting. In the present volume this development will be highlighted. Sixteen contributions have been solicited from scholars all over the world who have belonged to the circle of academic friends of Cramer for a shorter or longer part of the period of 25 years. The contributions fall broadly speaking into the four areas mentioned above. Theory and measurement of consumer behaviour is represented by four papers, whereas a fifth paper deals with a related area. Richard Blundell and Costas Meghir devote a paper to the estimation of Engel curves. They apply a discrete choice model to British (individual) data from the Family Expenditure Survey 1981. Their aim is to assess the impact of individual characteristics such as income, demographic structure, location, wages and prices on commodity expenditure.

Encyclopedia of Operations Research and Management Science - Saul I. Gass 2012-12-06

Operations Research: 1934-1941," 35, 1, 143-152; "British The goal of the Encyclopedia of Operations Research and Operational Research in World War II," 35, 3, 453-470; Management Science is to provide to decision makers and "U. S. Operations Research in World War II," 35, 6, 910-925; problem solvers in business, industry, government and and the 1984 article by Harold Lardner that appeared in academia a comprehensive overview of the wide range of Operations Research: "The Origin of Operational Research," ideas, methodologies, and synergistic forces that combine to 32, 2, 465-475. form the preeminent decision-

aiding fields of operations research and management science (OR/MS). To this end, we The Encyclopedia contains no entries that define the fields enlisted a distinguished international group of academics of operations research and management science. OR and MS and practitioners to contribute articles on subjects for are often equated to one another. If one defines them by the which they are renowned. methodologies they employ, the equation would probably The editors, working with the Encyclopedia's Editorial stand inspection. If one defines them by their historical Advisory Board, surveyed and divided OR/MS into specific developments and the classes of problems they encompass, topics that collectively encompass the foundations, applica the equation becomes fuzzy. The formalism OR grew out of tions, and emerging elements of this ever-changing field. We the operational problems of the British and U. s. military also wanted to establish the close associations that OR/MS efforts in World War II.

Technological Innovation and International Competitiveness for Business Growth - João J. M. Ferreira
2020-10-22

This book explores how companies combine technological innovation and competitive actions that create new opportunities for business growth in the international market. The complexity of designing today's technology platforms requires profound knowledge in multiple areas. Technology development and commercialization as an ongoing competitive process involves enabling and inhibiting mechanisms, which govern the speed and acceleration of technological innovation. To compete more effectively, potential competitors are using coopetition and pooling their resources for shared gain in areas where they do not compete directly. Thus, a thorough examination of the current paradigms, theories, and frameworks is needed to increase our understanding of the technology-innovation-competitiveness linkages of business growth. This book brings together recent developments and methodological contributions within technological innovation, international competitiveness, and business growth that bridge the existing gaps and simultaneously advances the debate on this research topic.

Probability & Statistics for Engineers & Scientists - Ronald E. Walpole 2016-03-09

NOTE: This edition features the same content as the traditional text in a convenient, three-hole-punched, loose-leaf version. Books a la Carte also offer a great value-this format costs significantly less than a new textbook. Before purchasing, check with your instructor or review your course syllabus to ensure that you select the correct ISBN. Several versions of Pearson's MyLab & Mastering products exist for each title, including customized versions for individual schools, and registrations are not transferable. In addition, you may need a CourseID, provided by your instructor, to register for and use Pearson's MyLab & Mastering products. For junior/senior undergraduates taking probability and statistics as applied to engineering, science, or computer science. This classic text provides a rigorous introduction to basic probability theory and statistical inference, with a unique balance between theory and methodology. Interesting, relevant applications use real data from actual studies, showing how the concepts and methods can be used to solve problems in the field. This revision focuses on improved clarity and deeper understanding. This latest edition is also available in as an enhanced Pearson eText. This exciting new version features an embedded version of StatCrunch, allowing students to analyze data sets while reading the book. Also available with MyStatLab MyStatLab(tm) is an online homework, tutorial, and assessment program designed to work with this text to engage students and improve results. Within its structured environment, students practice what they learn, test their understanding, and pursue a personalized study plan that helps them absorb course material and understand difficult concepts. Note: You are purchasing a standalone product; MyLab(tm) & Mastering(tm) does not come packaged with this content. Students, if interested in purchasing this title with MyLab & Mastering, ask your instructor for the correct package ISBN and Course ID. Instructors, contact your Pearson representative for more information.

Data Mining and Business Analytics with R - Johannes Ledolter 2013-05-28

Collecting, analyzing, and extracting valuable information from a large amount of data requires easily accessible, robust, computational and analytical tools. Data Mining and Business Analytics with R utilizes the open source software R for the analysis, exploration, and simplification of large high-dimensional data sets. As a result, readers are provided with the needed guidance to model and interpret complicated data and become adept at building powerful models for prediction and classification. Highlighting both underlying concepts and practical computational skills, Data Mining and Business Analytics with R begins with coverage

of standard linear regression and the importance of parsimony in statistical modeling. The book includes important topics such as penalty-based variable selection (LASSO); logistic regression; regression and classification trees; clustering; principal components and partial least squares; and the analysis of text and network data. In addition, the book presents:

- A thorough discussion and extensive demonstration of the theory behind the most useful data mining tools
- Illustrations of how to use the outlined concepts in real-world situations
- Readily available additional data sets and related R code allowing readers to apply their own analyses to the discussed materials
- Numerous exercises to help readers with computing skills and deepen their understanding of the material

Data Mining and Business Analytics with R is an excellent graduate-level textbook for courses on data mining and business analytics. The book is also a valuable reference for practitioners who collect and analyze data in the fields of finance, operations management, marketing, and the information sciences.

Single Period Inventory Control and Pricing - Emel Arıkan 2011

The price-setting newsvendor model is used to address the single period joint pricing and inventory control problem. The objective is to set the optimal price and replenishment quantity of a single product in order to maximize the expected profit. Products with a short selling season and relatively long replenishment lead times such as fashion goods are the most relevant application areas of the model. The focus of the work is the generalization of the model with respect to the modeling of uncertainty in demand. The author presents an analytical and empirical study which compares different demand models with a more flexible model based on price and inventory optimization. She concludes that using a general model can increase the profits significantly.

OCT and Imaging in Central Nervous System Diseases - Andrzej Grzybowski 2020-01-01

The second edition of OCT and Imaging in Central Nervous System Diseases offers updated state-of-the-art advances using optical coherence tomography (OCT) regrading neuronal loss within the retina. Detailed information on the OCT imaging and interpretation is provided for the evaluation of disease progression in numerous neurodegenerative disorders and as a biological marker of neuroaxonal injury. Covering disorders like multiple sclerosis, Parkinson's disease, Alzheimer's disease, intracranial hypertension, Friedreich's ataxia, schizophrenia, hereditary optic neuropathies, glaucoma, and amblyopia, readers will gain insights into effects on the retina and the optic nerve. Individual chapters are also devoted to OCT technique, new OCT technology in neuro-ophthalmology, OCT and pharmacological treatment, and the use of OCT in animal models. Similar to the first edition, this book is an excellent and richly illustrated reference for diagnosis of many retinal diseases and monitoring of surgical and medical treatment. OCT allows to study vision from of the retina to the optic tracts. Retinal axons in the retinal nerve fiber layer (RNFL) are non-myelinated until they penetrate the lamina cribrosa. Hence, the RNFL is an ideal structure for visualization of any process of neurodegeneration, neuroprotection, or regeneration. By documenting the ability of OCT to provide key information on CNS diseases, this book illustrates convincingly that the eye is indeed the "window to the brain".

Regression Modeling with Actuarial and Financial Applications - Edward W. Frees 2010

This book teaches multiple regression and time series and how to use these to analyze real data in risk management and finance.

Handbook of Healthcare Operations Management - Brian T. Denton 2013-02-28

From the Preface: Collectively, the chapters in this book address application domains including inpatient and outpatient services, public health networks, supply chain management, and resource constrained settings in developing countries. Many of the chapters provide specific examples or case studies illustrating the applications of operations research methods across the globe, including Africa, Australia, Belgium, Canada, the United Kingdom, and the United States. Chapters 1-4 review operations research methods that are most commonly applied to health care operations management including: queuing, simulation, and mathematical programming. Chapters 5-7 address challenges related to inpatient services in hospitals such as surgery, intensive care units, and hospital wards. Chapters 8-10 cover outpatient services, the fastest growing part of many health systems, and describe operations research models for primary and specialty care services, and how to plan for patient no-shows. Chapters 12 - 16 cover topics related to the broader integration of health services in the context of public health, including optimizing the location of emergency

vehicles, planning for mass vaccination events, and the coordination among different parts of a health system. Chapters 17-18 address supply chain management within hospitals, with a focus on pharmaceutical supply management, and the challenges of managing inventory for nursing units. Finally, Chapters 19-20 provide examples of important and emerging research in the realm of humanitarian logistics.

The Analysis of Time Series - Chris Chatfield 2019-04-25

This new edition of this classic title, now in its seventh edition, presents a balanced and comprehensive introduction to the theory, implementation, and practice of time series analysis. The book covers a wide range of topics, including ARIMA models, forecasting methods, spectral analysis, linear systems, state-space models, the Kalman filters, nonlinear models, volatility models, and multivariate models. It also presents many examples and implementations of time series models and methods to reflect advances in the field. Highlights of the seventh edition: A new chapter on univariate volatility models A revised chapter on linear time series models A new section on multivariate volatility models A new section on regime switching models Many new worked examples, with R code integrated into the text The book can be used as a textbook for an undergraduate or a graduate level time series course in statistics. The book does not assume many prerequisites in probability and statistics, so it is also intended for students and data analysts in engineering, economics, and finance.

Understanding Computational Bayesian Statistics - William M. Bolstad 2009-12-14

A hands-on introduction to computational statistics from a Bayesian point of view Providing a solid grounding in statistics while uniquely covering the topics from a Bayesian perspective, Understanding Computational Bayesian Statistics successfully guides readers through this new, cutting-edge approach.

With its hands-on treatment of the topic, the book shows how samples can be drawn from the posterior distribution when the formula giving its shape is all that is known, and how Bayesian inferences can be based on these samples from the posterior. These ideas are illustrated on common statistical models, including the multiple linear regression model, the hierarchical mean model, the logistic regression model, and the proportional hazards model. The book begins with an outline of the similarities and differences between Bayesian and the likelihood approaches to statistics. Subsequent chapters present key techniques for using computer software to draw Monte Carlo samples from the incompletely known posterior distribution and performing the Bayesian inference calculated from these samples. Topics of coverage include: Direct ways to draw a random sample from the posterior by reshaping a random sample drawn from an easily sampled starting distribution The distributions from the one-dimensional exponential family Markov chains and their long-run behavior The Metropolis-Hastings algorithm Gibbs sampling algorithm and methods for speeding up convergence Markov chain Monte Carlo sampling Using numerous graphs and diagrams, the author emphasizes a step-by-step approach to computational Bayesian statistics. At each step, important aspects of application are detailed, such as how to choose a prior for logistic regression model, the Poisson regression model, and the proportional hazards model. A related Web site houses R functions and Minitab macros for Bayesian analysis and Monte Carlo simulations, and detailed appendices in the book guide readers through the use of these software packages. Understanding Computational Bayesian Statistics is an excellent book for courses on computational statistics at the upper-level undergraduate and graduate levels. It is also a valuable reference for researchers and practitioners who use computer programs to conduct statistical analyses of data and solve problems in their everyday work.