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KEY=COMPUTING - JOSEPH AYERS

THE BASICS OF S-PLUS

Springer Science & Business Media In a clear style the most important ideas of S-PLUS are introduced through the use of many examples. Each chapter includes a collection of exercises, fully worked-out solutions and detailed comments.

MIXED-EFFECTS MODELS IN S AND S-PLUS

Springer Science & Business Media R, linear models, random, fixed, data, analysis, fit.

MODERN APPLIED STATISTICS WITH S-PLUS

Springer Science & Business Media A guide to using the power of S-PLUS to perform statistical analyses, providing both an introduction to the program and a course in modern statistical methods. Readers are assumed to have a basic grounding in statistics, thus the book is intended for would-be users, as well as students and researchers using statistics. Throughout, the emphasis is on presenting practical problems and full analyses of real data sets, with many of the methods discussed being modern approaches to topics such as linear and non-linear regression models, robust

and smooth regression methods, survival analysis, multivariate analysis, tree-based methods, time series, spatial statistics, and classification. This second edition is intended for users of S-PLUS 3.3, or later, and covers both Windows and UNIX. It treats the recent developments in graphics and new statistical functionality, including bootstraping, mixed effects linear and non-linear models, factor analysis, and regression with autocorrelated errors. The authors have written several software libraries which enhance S-PLUS, and these, plus all the datasets used, are available on the Internet.

STATISTICAL COMPUTING

AN INTRODUCTION TO DATA ANALYSIS USING S-PLUS

Wiley Many statistical modelling and data analysis techniques can be difficult to grasp and apply, and it is often necessary to use computer software to aid the implementation of large data sets and to obtain useful results. S-Plus is recognised as one of the most powerful and flexible statistical software packages, and it enables the user to apply a number of statistical methods, ranging from simple regression to time series or multivariate analysis. This text offers extensive coverage of many basic and more advanced statistical methods, concentrating on graphical inspection, and features step-by-step instructions to help the non-statistician to understand fully the methodology. * Extensive coverage of basic, intermediate and advanced statistical methods * Uses S-Plus, which is recognised globally as one of the most powerful and flexible statistical software packages * Emphasis is on graphical data inspection, parameter estimation and model criticism * Features hundreds of worked examples to illustrate the techniques described * Accessible to scientists from a large number of disciplines with minimal statistical knowledge * Written by a leading figure in the field, who runs a number of successful international short courses * Accompanied by a Web site featuring worked examples, data sets, exercises and solutions A valuable reference resource for researchers, professionals, lecturers and students from statistics, the life sciences, medicine, engineering, economics and the social sciences.

MODERN APPLIED STATISTICS WITH S

Springer Science & Business Media A guide to using S environments to perform statistical analyses providing both an introduction to the use of S and a course in modern statistical methods. The emphasis is on presenting practical problems and full analyses of real data sets.

S PROGRAMMING

Springer Science & Business Media S is a high-level language for manipulating, analysing and displaying data. It forms the basis of two highly acclaimed and widely used data analysis software systems, the commercial S-PLUS® and the Open Source R. This book provides an in-depth guide to writing software in the S language under either or both of those systems. It is intended for readers who have some acquaintance with the S language and want to know how to use it more effectively, for example to build re-usable tools for streamlining routine data analysis or to implement new statistical methods. One of the outstanding strengths of the S language is the ease with which it can be extended by users. S is a functional language, and functions written by users are first-class objects treated in the same way as functions provided by the system. S code is eminently readable and so a good way to document precisely what algorithms were used, and as much of the implementations are themselves written in S, they can be studied as models and to understand their subtleties. The current implementations also provide easy ways for S functions to call compiled code written in C, Fortran and similar languages; this is documented here in depth. Increasingly S is being used for statistical or graphical analysis within larger software systems or for whole vertical-market applications. The interface facilities are most developed on Windows® and these are covered with worked examples. The authors have written the widely used Modern Applied Statistics with S-PLUS, now in its third edition, and several software libraries that enhance S-PLUS and R; these and the examples used in both books are available on the Internet. Dr. W.N. Venables is a senior Statistician with the CSIRO/CMIS Environmetrics Project in Australia, having been at the Department of Statistics, University of Adelaide for many years previously. Professor B.D. Ripley holds the Chair of Applied Statistics at the University of Oxford, and is the author of four other books on spatial statistics, simulation, pattern recognition and neural networks. Both authors are known and respected throughout the international S and R communities, for their books, workshops, short courses, freely available software and through their extensive contributions to the S-news and R mailing lists.

THE BASICS OF S AND S-PLUS

Springer Science & Business Media A lucid explanation of the basics of S-PLUS at a level suitable for users with little computing or statistical knowledge. Unlike the S-PLUS manuals, the book does not strive to be comprehensive, but instead introduces the most important ideas of S-PLUS through the use of many examples. Each chapter includes a collection of exercises that are accompanied by fully worked-out solutions and detailed comments, and the whole is

rounded off with practical hints on how to work efficiently in S-PLUS, making it well-suited for both self-study and as a textbook. This second edition has been updated to incorporate the completely revised S Language and its implementation in S-PLUS, while new chapters have been added to explain the Windows GUI, how to explore relationships in data using the powerful Trellis graphics system, and how to understand and use object-oriented programming. In addition, the programming chapter has been extended to cover some of the more technical but important aspects of S-PLUS.

S PROGRAMMING

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MODERN APPLIED STATISTICS WITH S

Springer Science & Business Media A guide to using S environments to perform statistical analyses providing both an introduction to the use of S and a course in modern statistical methods. The emphasis is on presenting practical problems and full analyses of real data sets.

COMPUTATIONAL STATISTICS

VOLUME 2: PROCEEDINGS OF THE 10TH SYMPOSIUM ON COMPUTATIONAL STATISTICS, COMPSTAT, NEUCHÂTEL, SWITZERLAND, AUGUST 1992

Springer Science & Business Media The papers assembled in this book were presented at the biannual symposium of Inter national Association for Statistical Computing in Neuchcitel, Switzerland, in August of 1992. This congress marked the tenth such meeting from its inception in 1974 at Vienna and maintained the tradition of providing a forum for the open discussion of progress made in computer oriented statistics and the dissemination of new ideas throughout the statistical community. It was gratifying to see how well the groups of theoretical statisti cians, software developers and applied research workers were represented, whose mixing is an event made uniquely possible by this symposium. While maintaining traditions certain new features have been introduced at this con ference: there were a larger number of invited speakers; there was more commercial sponsorship and exhibition space; and a larger body of proceedings have been published. The structure of the proceedings follows a standard format: the papers have been grouped together according to a rough subject matter classification, and within topic follow an approximate aphabetical order. The papers are published in two volumes ac cording to the emphasis of the topics: volume I gives a slight leaning towards statistics and modelling, while volume II is focussed more on computation; but this is certainly only a crude distinction and the volumes have to be thought of as the result of a single en terprise.

STATISTICAL ANALYSIS OF FINANCIAL DATA IN S-PLUS

Springer Science & Business Media This is the first book at the graduate textbook level to discuss analyzing financial data with S-PLUS. Its originality lies in the introduction of tools for the estimation and simulation of heavy tail distributions and copulas, the computation of measures of risk, and the principal component analysis of yield curves. The book is aimed at undergraduate students in financial engineering; master students in finance and MBA's, and to

practitioners with financial data analysis concerns.

A HANDBOOK OF STATISTICAL ANALYSES USING S-PLUS

CRC Press Since the first edition of this book was published, S-PLUS has evolved markedly with new methods of analysis, new graphical procedures, and a convenient graphical user interface (GUI). Today, S-PLUS is the statistical software of choice for many applied researchers in disciplines ranging from finance to medicine. Combining the command line languag

ANALYZING MEDICAL DATA USING S-PLUS

Springer Science & Business Media Each chapter consists of basic statistical theory, simple examples of S-PLUS code, plus more complex examples of S-PLUS code, and exercises. All data sets are taken from genuine medical investigations and will be available on a web site. The examples in the book contain extensive graphical analysis to highlight one of the prime features of S-PLUS. Written with few details of S-PLUS and less technical descriptions, the book concentrates solely on medical data sets, demonstrating the flexibility of S-PLUS and its huge advantages, particularly for applied medical statisticians.

ELEMENTS OF COMPUTATIONAL STATISTICS

Springer Science & Business Media Will provide a more elementary introduction to these topics than other books available; Gentle is the author of two other Springer books

INTRODUCTORY STATISTICS WITH R

Springer Science & Business Media This book provides an elementary-level introduction to R, targeting both non-statistician scientists in various fields and students of statistics. The main mode of presentation is via code examples with liberal commenting of the code and the output, from the computational as well as the statistical viewpoint. Brief sections introduce the statistical methods before they are used. A supplementary R package can be downloaded and contains the data sets. All examples are directly runnable and all graphics in the text are generated from the examples. The statistical methodology covered includes statistical standard distributions, one- and two-sample tests with continuous data, regression analysis, one-and two-way analysis of variance, regression analysis, analysis of

tabular data, and sample size calculations. In addition, the last four chapters contain introductions to multiple linear regression analysis, linear models in general, logistic regression, and survival analysis.

DATA ANALYSIS, CLASSIFICATION AND THE FORWARD SEARCH

PROCEEDINGS OF THE MEETING OF THE CLASSIFICATION AND DATA ANALYSIS GROUP (CLADAG) OF THE ITALIAN STATISTICAL SOCIETY, UNIVERSITY OF PARMA, JUNE 6-8, 2005

Springer Science & Business Media This book presents new developments in data analysis, classification and multivariate statistics, and in their algorithmic implementation. The volume offers contributions to the theory of clustering and discrimination, multidimensional data analysis, data mining, and robust statistics with a special emphasis on the novel Forward Search approach. Many papers provide significant insight in a wide range of fields of application. Customer satisfaction and service evaluation are two examples of such emerging fields.

COMPLEX MODELS AND COMPUTATIONAL METHODS IN STATISTICS

Springer Science & Business Media The use of computational methods in statistics to face complex problems and highly dimensional data, as well as the widespread availability of computer technology, is no news. The range of applications, instead, is unprecedented. As often occurs, new and complex data types require new strategies, demanding for the development of novel statistical methods and suggesting stimulating mathematical problems. This book is addressed to researchers working at the forefront of the statistical analysis of complex systems and using computationally intensive statistical methods.

DEVELOPING STATISTICAL SOFTWARE IN FORTRAN 95

Springer Science & Business Media Many books teach computational statistics. Until now, however, none has shown how to write a good program. This book gives statisticians, biostatisticians and methodologically-oriented researchers the tools they need to develop high-quality statistical software. Topics include how to: Program in Fortran 95 using a pseudo object-oriented style Write accurate and efficient computational procedures Create console applications Build dynamic-link libraries (DLLs) and Windows-based software components Develop graphical user interfaces (GUIs) Through detailed examples, readers are shown how to call Fortran procedures from packages including Excel, SAS,

SPSS, S-PLUS, R, and MATLAB. They are even given a tutorial on creating GUIs for Fortran computational code using Visual Basic.NET. This book is for those who want to learn how to create statistical applications quickly and effectively. Prior experience with a programming language such as Basic, Fortran or C is helpful but not required. More experienced programmers will learn new strategies to harness the power of modern Fortran and the object-oriented paradigm. This may serve as a supplementary text for a graduate course on statistical computing. From the reviews: "This book should be read by all statisticians, engineers, and scientists who want to implement an algorithm as a computer program. The book is the best introduction to programming that I have ever read. I value it as one of my important reference books in my personal library." Melvin J. Hinich for Techonmetrics, November 2006 "Overall, the book is well written and provides a reasonable introduction to the use of modern versions of Fortran for statistical computation. The real thrust of the book is building COM interfaces using Fortran, and it will no doubt be most useful to anyone who needs to build such interfaces." Journal of the American Statistical Association, June 2006 "The book is well written and is divided into chapters and sections which are coherent...Overall the book seems like a good resource for someone that already knows some dialect of FORTRAN and wants to learn a bit about what is new in FORTRAN 95..." Robert Gentleman for the Journal of Statistical Software, December 2006

MODERN APPLIED STATISTICS WITH S-PLUS

Springer Science & Business Media This best-selling guide has been completely updated to present the newest features of S-PLUS 5.0, and includes the very latest computationally-intensive methods and techniques. In addition, extensive software libraries, data sets, and complements will be available online. "the task the authors have undertaken is challenginggetting new S/S-Plus users to quickly learn the fundamentals of the language and presenting a modern approach to data analysis through numerous examples from many areas of statistics. They succeed in this" TECHNOMETRICS

COMPSTAT 2004 - PROCEEDINGS IN COMPUTATIONAL STATISTICS

16TH SYMPOSIUM HELD IN PRAGUE, CZECH REPUBLIC, 2004

Springer Science & Business Media Statistical computing provides the link between statistical theory and applied statistics. The content of the book covers all aspects of this link, from the development and implementation of new statistical ideas to user experiences and software evaluation. The proceedings should appeal to anyone working in

statistics and using computers, whether in universities, industrial companies, government agencies, research institutes or as software developers

BRANCH-AND-BOUND APPLICATIONS IN COMBINATORIAL DATA ANALYSIS

Springer Science & Business Media This book provides clear explanatory text, illustrative mathematics and algorithms, demonstrations of the iterative process, pseudocode, and well-developed examples for applications of the branch-and-bound paradigm to important problems in combinatorial data analysis. Supplementary material, such as computer programs, are provided on the world wide web. Dr. Brusco is an editorial board member for the Journal of Classification, and a member of the Board of Directors for the Classification Society of North America.

SPATIAL STATISTICS

GEOSPATIAL INFORMATION MODELING AND THEMATIC MAPPING

CRC Press Geospatial information modeling and mapping has become an important tool for the investigation and management of natural resources at the landscape scale. Spatial Statistics: GeoSpatial Information Modeling and Thematic Mapping reviews the types and applications of geospatial information data, such as remote sensing, geographic information systems

PHARMACEUTICAL STATISTICS USING SAS

A PRACTICAL GUIDE

SAS Institute Introduces a range of data analysis problems encountered in drug development and illustrates them using case studies from actual pre-clinical experiments and clinical studies. Includes a discussion of methodological issues, practical advice from subject matter experts, and review of relevant regulatory guidelines.

RANDOM NUMBER GENERATION AND MONTE CARLO METHODS

Springer Science & Business Media Monte Carlo simulation has become one of the most important tools in all fields of science. This book surveys the basic techniques and principles of the subject, as well as general techniques useful in

more complicated models and in novel settings. The emphasis throughout is on practical methods that work well in current computing environments.

THE GRAMMAR OF GRAPHICS

Springer Science & Business Media Presents a unique foundation for producing almost every quantitative graphic found in scientific journals, newspapers, statistical packages, and data visualization systems The new edition features six new chapters and has undergone substantial revision. The first edition has sold more than 2200 copies. Four color throughout.

REVIVAL: THE HANDBOOK OF SOFTWARE FOR ENGINEERS AND SCIENTISTS (1995)

CRC Press The Handbook of Software for Engineers and Scientists is a single-volume, ready reference for the practicing engineer and scientist in industry, government, and academia as well as the novice computer user. It provides the most up-to-date information in a variety of areas such as common platforms and operating systems, applications programs, networking, and many other problem-solving tools necessary to effectively use computers on a daily basis. Specific platforms and environments thoroughly discussed include MS-DOS®, Microsoft® WindowsTM, the Macintosh® and its various systems, UNIXTM, DEC VAXTM, IBM® mainframes, OS/2®, WindowsTM NT, and NeXTSTEPTM. Word processing, desktop publishing, spreadsheets, databases, integrated packages, computer presentation systems, groupware, and a number of useful utilities are also covered. Several extensive sections in the book are devoted to mathematical and statistical software. Information is provided on circuits and control simulation programs, finite element tools, and solid modeling tools.

BASIC ELEMENTS OF COMPUTATIONAL STATISTICS

Springer This textbook on computational statistics presents tools and concepts of univariate and multivariate statistical data analysis with a strong focus on applications and implementations in the statistical software R. It covers mathematical, statistical as well as programming problems in computational statistics and contains a wide variety of practical examples. In addition to the numerous R sniplets presented in the text, all computer programs (quantlets) and data sets to the book are available on GitHub and referred to in the book. This enables the reader to fully reproduce as well as modify and adjust all examples to their needs. The book is intended for advanced undergraduate

and first-year graduate students as well as for data analysts new to the job who would like a tour of the various statistical tools in a data analysis workshop. The experienced reader with a good knowledge of statistics and programming might skip some sections on univariate models and enjoy the various ma thematical roots of multivariate techniques. The Quantlet platform quantlet.de, quantlet.com, quantlet.org is an integrated QuantNet environment consisting of different types of statistics-related documents and program codes. Its goal is to promote reproducibility and offer a platform for sharing validated knowledge native to the social web. QuantNet and the corresponding Data-Driven Documents-based visualization allows readers to reproduce the tables, pictures and calculations inside this Springer book.

AN INTRODUCTION TO S AND S-PLUS

Cengage Learning This guide's rich, concrete examples and step-by step approach make learning S easy and fun. The author, an internationally known S specialist, has been teaching and researching with S for many years. He focuses on data analysis and graphic data exploration and teaches by example the new philosophy of object-oriented analysis while training the student in the syntax and use of the language. The book is intended for graduate and upper-division undergraduate courses in statistics both for statisticians and for other disciplines where S or S-PLUS is used.

EPIDEMIOLOGY AND MEDICAL STATISTICS

Elsevier This volume, representing a compilation of authoritative reviews on a multitude of uses of statistics in epidemiology and medical statistics written by internationally renowned experts, is addressed to statisticians working in biomedical and epidemiological fields who use statistical and quantitative methods in their work. While the use of statistics in these fields has a long and rich history, explosive growth of science in general and clinical and epidemiological sciences in particular have gone through a see of change, spawning the development of new methods and innovative adaptations of standard methods. Since the literature is highly scattered, the Editors have undertaken this humble exercise to document a representative collection of topics of broad interest to diverse users. The volume spans a cross section of standard topics oriented toward users in the current evolving field, as well as special topics in much need which have more recent origins. This volume was prepared especially keeping the applied statisticians in mind, emphasizing applications-oriented methods and techniques, including references to appropriate software when relevant. · Contributors are internationally renowned experts in their respective areas · Addresses emerging statistical

challenges in epidemiological, biomedical, and pharmaceutical research · Methods for assessing Biomarkers, analysis of competing risks · Clinical trials including sequential and group sequential, crossover designs, cluster randomized, and adaptive designs · Structural equations modelling and longitudinal data analysis

LINEAR MODELS WITH R

CRC Press Books on regression and the analysis of variance abound—many are introductory, many are theoretical. While most of them do serve a purpose, the fact remains that data analysis cannot be properly learned without actually doing it, and this means using a statistical software package. There are many of these to choose from, all with their particular strengths and weaknesses. Lately, however, one such package has begun to rise above the others thanks to its free availability, its versatility as a programming language, and its interactivity. That software is R. In the first book that directly uses R to teach data analysis, Linear Models with R focuses on the practice of regression and analysis of variance. It clearly demonstrates the different methods available and, more importantly, in which situations each one applies. It covers all of the standard topics, from the basics of estimation to missing data, factorial designs, and block designs. It also discusses topics, such as model uncertainty, rarely addressed in books of this type. The presentation incorporates numerous examples that clarify both the use of each technique and the conclusions one can draw from the results. All of the data sets used in the book are available for download from http://people.bath.ac.uk/jjf23/LMR/ The author assumes that readers know the essentials of statistical inference and have a basic knowledge of data analysis, linear algebra, and calculus. The treatment reflects his view of statistical theory and his belief that qualitative statistical concepts, while somewhat more difficult to learn, are just as important because they enable us to practice statistics rather than just talk about it.

MEDICAL APPLICATIONS OF FINITE MIXTURE MODELS

Springer Science & Business Media Patients are not alike! This simple truth is often ignored in the analysis of me- cal data, since most of the time results are presented for the "average" patient. As a result, potential variability between patients is ignored when presenting, e.g., the results of a multiple linear regression model. In medicine there are more and more attempts to individualize therapy; thus, from the author's point of view biostatis- cians should support these efforts. Therefore, one of the tasks of the statistician is to identify heterogeneity of patients and, if possible, to explain part of it with known explanatory covariates. Finite mixture models may be used to aid this purpose. This book tries to

show that there are a large range of applications. They include the analysis of gene - pression data, pharmacokinetics, toxicology, and the determinants of beta-carotene plasma levels. Other examples include disease clustering, data from psychophysi- ogy, and meta-analysis of published studies. The book is intended as a resource for those interested in applying these methods.

SOFTWARE FOR DATA ANALYSIS

PROGRAMMING WITH R

Springer Science & Business Media John Chambers turns his attention to R, the enormously successful open-source system based on the S language. His book guides the reader through programming with R, beginning with simple interactive use and progressing by gradual stages, starting with simple functions. More advanced programming techniques can be added as needed, allowing users to grow into software contributors, benefiting their careers and the community. R packages provide a powerful mechanism for contributions to be organized and communicated. This is the only advanced programming book on R, written by the author of the S language from which R evolved.

COMPUTATIONAL STATISTICS

John Wiley & Sons This new edition continues to serve as a comprehensive guide to modern and classical methods of statistical computing. The book is comprised of four main parts spanning the field: Optimization Integration and Simulation Bootstrapping Density Estimation and Smoothing Within these sections,each chapter includes a comprehensive introduction and step-by-step implementation summaries to accompany the explanations of key methods. The new edition includes updated coverage and existing topics as well as new topics such as adaptive MCMC and bootstrapping for correlated data. The book website now includes comprehensive R code for the entire book. There are extensive exercises, real examples, and helpful insights about how to use the methods in practice.

THE GRAMMAR OF GRAPHICS

Springer Science & Business Media Written for statisticians, computer scientists, geographers, research and applied scientists, and others interested in visualizing data, this book presents a unique foundation for producing almost every quantitative graphic found in scientific journals, newspapers, statistical packages, and data visualization systems. It

was designed for a distributed computing environment, with special attention given to conserving computer code and system resources. While the tangible result of this work is a Java production graphics library, the text focuses on the deep structures involved in producing quantitative graphics from data. It investigates the rules that underlie pie charts, bar charts, scatterplots, function plots, maps, mosaics, and radar charts. These rules are abstracted from the work of Bertin, Cleveland, Kosslyn, MacEachren, Pinker, Tufte, Tukey, Tobler, and other theorists of quantitative graphics.

ESSENTIALS OF BIOSTATISTICS WORKBOOK

STATISTICAL COMPUTING USING EXCEL

Jones & Bartlett Learning

BAYESIAN INFERENCE WITH INLA

CRC Press The integrated nested Laplace approximation (INLA) is a recent computational method that can fit Bayesian models in a fraction of the time required by typical Markov chain Monte Carlo (MCMC) methods. INLA focuses on marginal inference on the model parameters of latent Gaussian Markov random fields models and exploits conditional independence properties in the model for computational speed. Bayesian Inference with INLA provides a description of INLA and its associated R package for model fitting. This book describes the underlying methodology as well as how to fit a wide range of models with R. Topics covered include generalized linear mixed-effects models, multilevel models, spatial and spatio-temporal models, smoothing methods, survival analysis, imputation of missing values, and mixture models. Advanced features of the INLA package and how to extend the number of priors and latent models available in the package are discussed. All examples in the book are fully reproducible and datasets and R code are available from the book website. This book will be helpful to researchers from different areas with some background in Bayesian inference that want to apply the INLA method in their work. The examples cover topics on biostatistics, econometrics, education, environmental science, epidemiology, public health, and the social sciences.

INTRODUCTORY STATISTICS WITH R

Springer Science & Business Media This book provides an elementary-level introduction to R, targeting both non-

statistician scientists in various fields and students of statistics. The main mode of presentation is via code examples with liberal commenting of the code and the output, from the computational as well as the statistical viewpoint. Brief sections introduce the statistical methods before they are used. A supplementary R package can be downloaded and contains the data sets. All examples are directly runnable and all graphics in the text are generated from the examples. The statistical methodology covered includes statistical standard distributions, one- and two-sample tests with continuous data, regression analysis, one-and two-way analysis of variance, regression analysis, analysis of tabular data, and sample size calculations. In addition, the last four chapters contain introductions to multiple linear regression analysis, linear models in general, logistic regression, and survival analysis.

HANDBOOK OF COMPUTATIONAL STATISTICS

CONCEPTS AND METHODS

Springer Science & Business Media The Handbook of Computational Statistics: Concepts and Methodology is divided into four parts. It begins with an overview over the field of Computational Statistics. The second part presents several topics in the supporting field of statistical computing. Emphasis is placed on the need of fast and accurate numerical algorithms and it discusses some of the basic methodologies for transformation, data base handling and graphics treatment. The third part focuses on statistical methodology. Special attention is given to smoothing, iterative procedures, simulation and visualization of multivariate data. Finally a set of selected applications like Bioinformatics, Medical Imaging, Finance and Network Intrusion Detection highlight the usefulness of computational statistics.

R FOR SAS AND SPSS USERS

Springer Science & Business Media While SAS and SPSS have many things in common, R is very different. My goal in writing this book is to help you translate what you know about SAS or SPSS into a working knowledge of R as quickly and easily as possible. I point out how they differ using terminology with which you are familiar, and show you which add-on packages will provide results most like those from SAS or SPSS. I provide many example programs done in SAS, SPSS, and R so that you can see how they compare topic by topic. When finished, you should be able to use R to: Read data from various types of text files and SAS/SPSS datasets. Manage your data through transformations or recodes, as well as splitting, merging and restructuring data sets. Create publication quality graphs including bar, histogram, pie, line, scatter, regression, box, error bar, and interaction plots. Perform the basic types of analyses to measure strength

of association and group differences, and be able to know where to turn to cover much more complex methods.

GRAPHICS OF LARGE DATASETS

VISUALIZING A MILLION

Springer Science & Business Media This book shows how to look at ways of visualizing large datasets, whether large in numbers of cases, or large in numbers of variables, or large in both. All ideas are illustrated with displays from analyses of real datasets and the importance of interpreting displays effectively is emphasized. Graphics should be drawn to convey information and the book includes many insightful examples. New approaches to graphics are needed to visualize the information in large datasets and most of the innovations described in this book are developments of standard graphics. The book is accessible to readers with some experience of drawing statistical graphics.