RECENSIONI E SEGNALAZIONI BIBLIOGRAFICHE

A. AGRESTI, *An Introduction to Categorical Data Analysis*, 2007, Wiley, pp. 372+xiii.

The book provides an applied introduction to the most important methods for analysing categorical data, such as chi-squared tests and logistic regression. This second edition has two new chapters on clustered data analysis wit emphasis on generalised estimating equations and an appendix on the use of SAS.

The presentation has not a sophisticated technical level and does not require familiarity with advanced mathematics or statistics so that the text is designed for students taking an introductory course in categorical data analysis.

a.lu.

A.C. ATKINSON, A.N. DONEV, R.D. TOBIAS, *Optimum Experimental Designs, with SAS*, 2007, Oxford Statistical Science Series, pp. 511+xvi.

The fundamental idea behind this book is the importance of the model relating the responses observed in the experiment to the experimental factors. On one hand, the book describes enough of the theory to make apparent the overall pattern of optimum designs. On the other hand, it provides a thorough grounding in the use of the SAS for the design of optimum experiments.

The material is divided in two parts. The first eight chapters discusses the advantages of a statistical approach to the design of experiments and introduce many of the models and examples which will be used in later chapters. The second part presents a more detailed discussion of the general theory and of a wide variety of experiments.

The book is suitable for readers with a background in statistics.

a.lu.

M.J. CRAWLEY, *The R Book*, 2007, John Wiley & Sons Ltd, Chichester, pp. 9422+viii.

The high-level language of R is recognized as one of the most powerful and flexible statistical software environments, and is rapidly becoming the standard setting for quantitative analysis, statistics and graphics. R provides free access to unrivalled coverage and cutting-edge applications, enabling the user to apply numerous statistical methods ranging from simple regression to time series or multivariate analysis.

The R Book is packed with worked examples, providing an all inclusive guide to R, ideal for novice and more accomplished users alike. The book assumes no background in statistics or computing and introduces the advantages of the R environment, detailing its applications in a wide range of disciplines.

The R Book: provides the first comprehensive reference manual for the R language, including practical guidance and full coverage of the graphics facilities; introduces all the statistical models covered by R, beginning with simple classical tests such as chi-square and t-test; proceeds to examine more advance methods, from regression and analysis of variance, through to generalized linear models, generalized mixed models, time series, spatial statistics, multivariate statistics and much more.

The R Book is aimed at undergraduates, postgraduates and professionals in science, engineering and medicine. It is also ideal for students and professionals in statistics, economics, geography and the social sciences.

m.s.

A. GEWEKE, *Contemporary Bayesian Econometrics and Statistics*, Wiley Series in probability and Statistics, 2005, pp. 300.

The purpose of the book is to provide a coherent and unified methodology to deal with decision theory problems in a Bayesian perspective. There are two main objectives: the first is to make Bayesian analysis comprehensive, the second is to describe the state of the art for what concerns simulation methods. Both these objectives are oriented to real data analysis.

The book is structured in eight chapters. The first three deal with Bayesian data analysis whereas the remainders concern simulations. The book presents a wide variety of examples and exercises.

f.b.

M. GOLDSTEIN, D. WOOF, *Bayes Linear Statistics. Theory and Methods*, 2007, Wiley, pp. 508+xvi.

The book is concerned with the subjectivist analysis of uncertainty and develops a methodology, termed *Bayes linear approach* based around partial belief instead of full prior specifications. The main features of this approach are that it focuses on expectation rather than probability as a primitive and that beliefs are adjusted by linear fitting rather than conditioning. Ten chapters introduce and develop the topic whereas the two closing chapters deal with the implementation. Many examples directly follow the theory so illustrating the material covered soon after its definition.

The book is suitable for a graduate readership.

a.lu.

E.J. KONTOGHIORGHES (Editor), *Handbook of Parallel Computing and Statistics*, 2005, & Hall/CRC, pp. 552 Chapman Series: Statistics: A Series of Textbooks and Monographs Volume: 184.

This handbook shows principles and theoretical models for parallel computing, together with their applications to the solution of statistical problems. A general

description of architectures for parallel computing and of certain numerical algorithms of mainstream use is presented. Then, optimisation principles and statistical applications typical of such kind of problems are introduced.

By means of different programming languages both theoretical/methodological and implementation issues are considered for each technique. In conclusion, the book gives a reliable guide to the design, analysis and implementation of parallel algorithms for statistical problems, considering applications to contextes such as forecast modelling and data mining.

a.dn.

N.D. SINGPURWALLA, *Reliablity and Risk*, 2006, Wiley Series in Probability and Statistics, pp. 372+xii.

This book provides a comprehensive overview of the mathematical and statistical aspects of risk and reliability analysis, from a Bayesian perspective.

The material is divided in eleven chapters, dealing with the quantification of uncertainty, exchangeability, stochastic models of failure, parametric failure data analysis, composite reliability, survival analysis, point processes, non parametric Bayesian methods.

Applications are shown in econometrics and finance.

a.lu.