RESEÑAS / BOOK REVIEWS

CORRESPONDENCE ANALYSIS AND DATA CODING WITH JAVA AND R

Fionn Murtagh (2005)
Chapman and Hall

This book uses the principles developed by the famous statistician Jean-Paul Benzècri. It was the root of a different point of view of data analysis, as it established that Correspondence Analysis should be considered as the basis of Multivariate Analysis, because it must be used for an adequate codification of data. The divulgation of these ideas among sociologists by P. Bordieu, as mentor, makes these technique very popular, because of its core ideas and codification procedures, which allowed modeling the multiplicity of signals, present in social research. As they usually are a mixture of discrete continuous variables as well as of qualitative variables, social scientists accepted the methods proposed by Correspondence Analysis which overcome the difficulties posed by other statistics techniques to such data.

Chapter 1 and 2 place the historical development of the ideas on Correspondence Analysis, using of course as touch stone the principles posed by Benzècri, and the needed mathematics. Chapter 3 presents the coding technicities including not only the usual use of dummification but also fuzzy coding with enables to conserve softer information. Chapter 4 develops studies on continuous scaled data through 5 cases. Chapter 5 is concerned with longitudinal and textual analysis.

This book contains a set of examples where data codification is made and Correspondence Analysis is used for establishing the structuration of the obtained information. It may be considered it as a basis for going through particular R codes available at www.corrspondence.info.

The mathematical notation introduced in the first chapters may be misleading for non-mathematicians and a little to complicated also for those at home with Multivariate Analysis formulae. After this preliminaries the reader can go without difficulties with a more classic notation in the particular cases treated in the rest of the book.

The solid theoretical basis and the applications developed in the examples make of this book a needed tool in the statistician library.

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PARALLEL COMBINATORIAL OPTIMIZATION

El-Ghazali Talbi (2006) (Editor)
Wiley ISBN: 0-471-72101-8
xxi+330 pages

This book is divided into 12 chapters and provides a comprehensive presentation of the main

features of Parallel Combinatorial Optimization . You can obtain the learning for solving complex problems using parallel optimization algorithms

Chapter 1 is devoted to . Parallel branch and bound. The authors are T. Crainic, B. Lecun, and C. Roucairol. Chapter 2 is concerned with Parallel dynamic programming and was witten by F. Almeida, D. Gonzalez, and I. Pelaez. Chapter 3 is devoted to . Parallel branch and cut and was due to T. Ralphs. Chapter 4 presnts the exposition of S. j. Benson on. Parallel semidefinite programming and combinatorial optimization while

Chapter 5 Parallel resolution of the satisfiability problem: a survey was witten by D. Singer. Chapter 6's theme is . Parallel metaheuristics: Algorithms and frameworks and th authors were Melab, E-G. Talbi, S. Cahon, E. Alba, and G. Luque. Chapter 7 is titiled Towards parallel design of hybrids between mataheuristics and exact methods which is due to M. Basseur, L. Jourdan, and E-G. Talbi. Chapter 8 is concerned with Parallel exact methods for multi-objective combinatorial optimization and was worked out by C. Dhaenens, J. Lemesre, N. Melab, M. Mezmaz, and E-G. Talbi. Chapter 9 presents Parallel primal-dual interior point methods for semi-definite programs developed by M. Yamashita, K. Fujisawa, M. Fukuda, M. Kojima, and K. Nakata. Chapter 10 is devoted to MW: A software framework for combinatorial optimization on computational grids and the authorship is of W. Glankwamdee and T. Linderoth. Chapter 11 presents. Constraint logic programming on multiple processors presented by I. Sakellariou and I. Vlahavas. Finally Application of parallel metaheuristics to optimization problems in telecommunications and bioinformatics is the theme of chapter 12 and was due to S. L. Martins, C. Ribeiro and I. Rosseti

The book presents a good balance between the theoretical aspects and their applications. Different algorithms are discussed at large as Exact algorithms , dynamic programming, branch and cut, semidefinite programming, constrained programming, Metaheuristics (local search, tabu search, simulated annealing, scatter search, GRASP, variable neighborhood search, ant colonies, genetic programming, evolution strategies, and genetic algorithms), Hybrid approaches (exact algorithms and metaheuristics) and Multi-objective optimization algorithms . Some software frameworks and libraries that integrate parallel algorithms for combinatorial optimization are given (COIN, ParadisEO, BOB++, MW, and SDPARA).
Real-world problems are discussed with illustration proposes of how are worked parallel combinatorial (applied to telecommunications, logistics, genomics, networking, and transport)

The readers will be able to use and interpret algorithms and methods needed in the solution of different complex optimization of common problems in applications. The contributors are well known leading experts in the developed theme .

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MULTIDIMENSIONAL NON LINEAR DATA ANALYSIS

Shizuhiko Nishisato (2006)
Chapman and Hall

This book covers the main problems appearing in the theme, using a family of methods for quantifying categorical data, which is named multidimensional nonlinear data analysis. A key aspect of it, for practical statistics, is that the author pretends that multidimensional nonlinear analysis allows obtaining as particular cases correspondence analysis, dual scaling, analysis of quantification and other multivariate techniques suitable for the social sciences.

The first two chapters are concerned with the confirmation of premises. An overview of the development of these techniques is given in chapter 3. Chapters 4 and 5 are concerned with the dealing with different types of data and how the models treat them. Chapter 6 is devoted to

dealing with single correspondence analysis (called single choice data) and it is followed by chapter 7, which develops multiple correspondence analysis (called multiple choice data). Chapter 8 considered how to sort data using the multiple choice data procedures. Chapter 9 consists of a series of arguments on the use of canonical correspondence analysis (called forced classification of incidence data). The rest of he book deal with paired comparisons, rank order data and successive ratings. The author named this set of techniques as “dominance data”

The book lacks of clear statements on the relations between the techniques described and their counterparts in the usual component analysis literature. This makes the book as an unnecessary acquisition by a multivariate analysis theoretician or teacher.

The book also lacks of a discussion on the computational supports of the presented procedures which is should be considered as an insurmountable defect for practitioners

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BIOEQUIVALENCE ANDSTATISTICS IN CLINICAL PHARMACOLOGY.

S. Patterson and B. Jones

Chapman & Hall/CRC, Taylor & Francis Group ISBN 1-58488-530-0.
374 .

US$89.95

The interest in bioavailability and bioequivalence is important but there is a lack of books in the theme The authors are well know in the field and provide an exposition on bioequivalence testing and statistical methods present in the common work of pharmacology. They combine the models with regulatory information, a key problem in the practical work of drug submissions. A lot of statistical methods are presented through 11 chapters.

The methods are illustrated using real data sets and the SAS code is given in such away that the reader can perform the analysis. They can be obtained at the web site of the authors
www.crcpress
This is a valuable book for biometricians involved in drug development

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