DESCRIPTION

Complex multivariate problems are frequently encountered in many scientific disciplines and it can be very difficult to obtain meaningful results. Permutation and nonparametric combination methods provide flexible solutions to complex problems by reducing the problem down to a set of simpler sub-problems. The author presents a novel but well tested approach using real examples taken from biomedical research. Statistical analyses are performed in a nonparametric setting, so that no assumptions need be made about the underlying distribution and the dependence relations between variables.

* Provides a clear exposition of the use of multivariate permutation testing, with emphasis on the use of nonparametric combination methodology.

* Growing area of research with many practical applications, notably in biostatistics.

* Numerous case studies and examples help to illustrate the theory.

* Provides solutions to multi-aspect problems, to problems with missing data, analysis of factorial designs and repeated measures.

* Explains the analysis of categorical, ordered categorical, binary, continuous, and mixed variables in both an experimental and an observational context.

* NPC-Test(c) software (demo copy), SAS macros, S-Plus code and datasets are available on the Web at http://www.stat.unipd.it/~pesarin/
For researchers and practitioners in a number of scientific disciplines, particularly biostatistics, the vast collection of techniques, examples and case studies will be an invaluable resource. Graduate students of applied statistics and nonparametric methods will find the book provides an accessible introduction to multivariate permutation testing.

**ABOUT THE AUTHOR**

**Fortunato Pesarin** is with the Department of Statistics, University of Padova, Italy. Professor Pesarin has been actively involved in the areas of multidimensional testing and permutation for almost 40 years, and is the author of dozens of publications in numerous international journals.

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