

STATISTICAL METHODS FOR SURVIVAL DATA

ANALYSIS, 3rd edition. E.T. Lee and J.W. Wang.
Hoboken, New Jersey: Wiley, 2003, pp. xii + 513,
£60.50.

Contents:

1. Introduction
2. Functions of survival time
3. Examples of survival data analysis
4. Nonparametric methods of estimating survival functions
5. Nonparametric methods for comparing survival distributions
6. Some well-known parametric survival distributions and their applications
7. Estimation procedures for parametric survival distributions without covariates
8. Graphical methods for survival distribution fitting
9. Tests of goodness of fit and distribution selection
10. Parametric methods for comparing two survival distributions

15. Measurement error
16. Bayesian semiparametric regression
17. Spatially adaptive smoothing
18. Analyses
19. Epilogue

Readership: Academic (researchers and postgraduate students in Statistics, Economics, Finance); Users of Statistics (Industry, Medical Research, ...)

In their preface, the authors say that the book is suitable for several audiences. These include those with 'only a moderate background in regression', those 'who have a good working knowledge of linear models', and 'experts on smoothing'. This might seem to be a little ambitious, but there is a lot of material here and it is very sympathetically presented. As the authors say, this is a user-friendly book, with lots of graphs and pictures, and examples and case studies from a variety of fields.

Most chapters have Bibliographical Notes at the end, and the earlier ones also have a Summary of Formulae. Computation is dealt with in Appendix B, where the matrix formulae are given first and then S-Plus and Matlab code. Some software is also referred to, including S-Plus functions and SAS procedures.

I would recommend this book to anyone interested in the field. It is very readable, informative without being heavy, and (excellent news) comes in a paperback version as well as hardback.

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SEMIPARAMETRIC REGRESSION.

D. Ruppert, M.P. Wand and R.J. Carroll.
Cambridge University Press, 2003,
pp. xvi + 386, £70.00/US\$100.00 Cloth;
£29.95/US\$45.00 Paper.

Contents:

1. Introduction
2. Parametric regression
3. Scatterplot smoothing
4. Mixed models
5. Automatic scatterplot smoothing
6. Inference
7. Simple semiparametric models
8. Additive models
9. Semiparametric mixed models
10. Generalized parametric regression
11. Generalized additive models
12. Interaction models
13. Bivariate smoothing
14. Variance function estimation

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4. Sharp asymptotics I
5. Sharp asymptotics II
6. Gaussian asymptotics for power and Besov norms
7. Adaptation for power and Besov norms
8. High-dimensional signal detection

Readership: Mathematical statisticians with interest in nonparametric statistical inference

The book deals with nonparametric goodness-of-fit testing problems from the literature of the past twenty years. The setting is based on the asymptotic variant of the minimax approach. The key element is the construction of asymptotically least favourable priors for a wide class of nonparametric testing problems. The method leads to various types of asymptotically optimal tests. The problems are studied within Gaussian models. It is a theoretical book with mathematical results rather than solutions to applied problems in engineering or medicine. The proofs of the theorems are very detailed and many details are in the appendix of more than one hundred pages.

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NONPARAMETRIC STATISTICAL INFERENCE.

4th edition, revised and expanded.
J.D. Gibbons and S. Chakraborti. New York:
Dekker, 2003, pp. xxiv + 645, US\$195.00.

Contents:

1. Introduction and fundamentals
2. Order statistics, quantiles, and coverages
3. Tests of randomness