# <<自助法及其应用>>

#### 图书基本信息

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#### 前言

The publication in 1979 of Bradley Efrons first article on bootstrap methods was amajor event in Statistics, at once synthesizing some of the cartier resampling ideasand establishing a new framework for simulation.based statistical analysis. The idea of replacing complicated and often inaccurate approximations to biases, variances and other measures of uncertainty by computer simulations caught the imagination of both theoretical researchers and Users of statistical methods. Theoreticianssharpened their pencils and set about establishing mathematical conditions underwhich the idea could work. Once they had overcome their iuitial skepticism.appliedworkers sat down at their terminals and began to amass empirical evidence that the bootstrap often did work better than traditional methods. The early trickle of Papers quickly became a torrent, with new additions to the literature appearingeverymonth nditwashardto seewhenwould be agood moment to try to chart the waters. Then the organizers of COMPSTAT 92 invited us to present a courseon the topic, and shortly afterwards Wedecidedtotrytowriteabalanced account of resamplingmethods, toincludebasic we began to write this book. aspects of the theory which underpinned the methods, and to show as manyapplications as we could in order to illustrate the fun potential of the methods-warts and alL We quickly realized that in order for uS and others to understandand use the bootstrap, we would need suitable software, and producing it led usfurther towards a practically oriented treatment. Our view was cemented by twofurther developments : the appearance of two excellent books, one by Pleter Hallon the asymptotic theory and the other on basic methods by Bradley Efron and Robert Tibshirani; and the chance to give further courses that included practicals. Our experience has been that hands-on computing is essential in coming to gripswith resampling ideas, so we have included practicals in this booL as well as more theoretical problems. As the book fxpanded, we realized that a fully comprehensive treatment wasbeyond US, and that certain topics could be given only a cursory treatment becausetoo little is known about them. So it is that the reader will find only brief accountsof bootstrap methods for hierarchical data , missing data problems.

model selection, robust estimation, nonparametric regression, and complex data.But we do try topoint the more ambitious reader in the fight direction.



#### 内容概要

This series of high quality upper-division textbooks and expository monographs covers all areas of stochastic applicable mathematics. The topics range from pure and applied statistics to probability theory, operations research, mathematical programming, and optimzation. The books contain clear presentations of new developments in the field and also of the state of the art in classical methods. While emphasizing rigorous treatment of theoretical methods, the books contain important applications and discussions of new techniques made possible be advances in computational methods.

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