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<<蒙特卡罗统计方法>>

图书基本信息

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前言

He sat，continuing to look down the nave，when suddenly the solution to the problem just seemed to present itself. It was so simple，SO obvious he just started to laugh——P. C. Doherty. Satan in St Mary'sMonte Carlo statistical methods，particularly those based on Markov chains，have now matured to be part of the standard set of techniques used by statisticians. This book is intended to bring these techniques into the classroom. being(we hope)a self-contained logical development of the subject，with all concepts being explained in detail. and all theorems. etc. having detailed proofs. There is also an abundance of examples and problems，relating the concepts with statistical practice and enhancing primarily the application of simulation techniques to statistical problems of various difficulties. This iS a textbook intended for a second-year graduate course. We do not assume that the reader has any familiarity with Monte Carlo techniques (such as random variable generation)or with any Markov chain theory. We do assume that the reader has had a first course in statistical theory at the level of Statistica!Inference bY Casella and Berger(1990). Unfortunately，a few times throughout the book a somewhat more advanced notion iS needed. We have kept these incidents to a minimum and have posted warnings when they occur. While this iS a book on simulation. whose actual implementation must be processed through a computer，no requirement lS made on programming skills or computing abilities：algorithms are presented in a program-like format but in plain text rather than in a specific programming language. (Most of the examples in the book were actually implemented in C. with the S-Plus graphical interface.)

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内容概要

It is a tribute to our profession that a textbook that was current in 1999 is starting to feel old. The work for the first edition of Monte Carlo Statistical Methods (MCSM1) was finished in late 1998, and the advances made since then, as well as our level of understanding of Monte Carlo methods, have grown a great deal. Moreover, two other things have happened. Topics that just made it into MCSM1 with the briefest treatment (for example, perfect sampling) have now attained a level of importance that necessitates a much more thorough treatment. Secondly, some other methods have not withstood the test of time or, perhaps, have not yet been fully developed, and now receive a more appropriate treatment. When we worked on MCSM1 in the mid-to-late 90s, MCMC algorithms were already heavily used, and the flow of publications on this topic was atsuch a high level that the picture was not only rapidly changing, but also necessarily incomplete. Thus, the process that we followed in MCSM1 was that of someone who was thrown into the ocean and was trying to grab onto the biggest and most seemingly useful objects while trying to separate the flotsam from the jetsam. Nonetheless, we also felt that the fundamentals of many of these algorithms were clear enough to be covered at the textbook alevel, so we" swam on.

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