
Description: AN ACCESSIBLE TREATMENT OF MONTE CARLO METHODS, TECHNIQUES, AND APPLICATIONS IN THE FIELD OF FINANCE AND ECONOMICS

Providing readers with an in-depth and comprehensive guide, the Handbook in Monte Carlo Simulation: Applications in Financial Engineering, Risk Management, and Economics presents a timely account of the applications of Monte Carlo methods in financial engineering and economics. Written by an international leading expert in the field, the handbook illustrates the challenges confronting present-day financial practitioners and provides various applications of Monte Carlo techniques to answer these issues. The book is organized into five parts: introduction and motivation; input analysis, modeling, and estimation; random variate and sample path generation; output analysis and variance reduction; and applications ranging from option pricing and risk management to optimization.

The Handbook in Monte Carlo Simulation features:

- An introductory section for basic material on stochastic modeling and estimation aimed at readers who may need a summary or review of the essentials
- Carefully crafted examples in order to spot potential pitfalls and drawbacks of each approach
- An accessible treatment of advanced topics such as low-discrepancy sequences, stochastic optimization, dynamic programming, risk measures, and Markov chain Monte Carlo methods
- Numerous pieces of R code used to illustrate fundamental ideas in concrete terms and encourage experimentation

The Handbook in Monte Carlo Simulation: Applications in Financial Engineering, Risk Management, and Economics is a complete reference for practitioners in the fields of finance, business, applied statistics, econometrics, and engineering, as well as a supplement for MBA and graduate-level courses on Monte Carlo methods and simulation.

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