Monte Carlo Simulation And Risk Assessment In Capital Bugeting

Electrical Engineering Probabilistic Risk Assessment and Management for Engineers and Scientists Second Edition "State of the art in risk analysis...[this book] projects the technology into the next decade. Congratulations to the authors on a virtuoso performance." -Charles Donaghey, University of Houston "A very useful reference to the academic and government communities, and junior engineering staff within nuclear, chemical, transportation, aerospace, and other industries." -Yovan Lukic, Arizona Public Service Company As the demands of government agencies and insurance companies escalate, societal risk assessment and management become increasingly critical to the development and use of engineered systems in the full range of industrial installations. Packed with real-world examples and practical mathematical and statistical methods for large, complex systems, this definitive text and sourcebook gives you the guidance you need for thorough and conclusive study. You'll find new and updated coverage of all the key topics related to risk analysis: * Probabilistic nature of risk * Qualitative and quantitative risk assessments * System decomposition * Legal and regulatory risks * And much more! The authors also provide end-of-chapter problems and a course outline. Complete with a new, automated, fault tree synthesis method using semantic networks. Probabilistic Risk Assessment and Management for Engineers and Scientists, Second Edition will be of value to anyone working with engineered systems. Also of Interest from IEEE Press... Successful Patents and Patenting for Engineers and Scientists edited by Michael A. Lechter, Esq. 1995 Softcover 432 pp IEEE Order No. PP4478 ISBN 0-7803-1086-1 Metric Units and Conversion Charts A Metrication Handbook for Engineers, Technologists, and Scientists Second Edition Theodore Wildi 1995 Softcover 144 pp IEEE Order No. PP4044 ISBN 0-7803-1050-0 The Probability Tutoring Book An Intuitive Course for Engineers and Scientists (And Everyone Else!) Carol Ash 1993 Softcover 480 pp IEEE Order No. PP2881 ISBN 0-7803-1051-9

"This book, (MSTP) is intended to be an introduction to techniques that can be used to model the performance and risk of trading systems. MSTP is a sequel to [the author's] earlier book, Quantitative Trading Systems (QTS). QTS discusses the design, testing, and validation of trading systems. Although it illustrates examples using the AmiBroker trading system development platform, the concepts it discusses are universal. MSTP uses analogies from gambling to illustrate the effects of uncertainty and to build easily understood simulation models using Monte Carlo simulation."--Adapted from author/ publisher's preface and Introduction.

Discover solutions to common obstacles faced by project managers. Written as a business novel, the book is highly interactive, allowing readers to participate and consider options at each stage of a project. The book is based on years of experience, both through the author's research projects as well as his teaching lectures at business schools. The book tells the story of Emily Reed and her colleagues who are in charge of the management of a new tennis stadium project. The CEO of the company, Jacob Mitchell, is planning to install a new data-driven project management methodology as a decision support tool for all upcoming projects. He challenges Emily and her team to start a journey in exploring project data to fight against unexpected project obstacles. Data-driven project management is known in the academic literature as "dynamic scheduling" or "integrated project management and control." It is a project management methodology to plan, monitor, and control projects in progress in order to deliver them on time and within budget to the client. Its main focus is on the integration of three crucial aspects, as follows: Baseline Scheduling: Plan the project activities to create a project timetable with time and budget restrictions. Determine start and finish times of each project activity within the activity network and resource constraints. Know the expected timing of the work to be done as well as an expected impact on the project's time and budget objectives. Schedule Risk Analysis: Analyze the risk of the baseline schedule and its impact on the project's time and budget. Use Monte Carlo simulations to assess the risk of the baseline schedule and to forecast the impact of time and budget deviations on the project objectives. Project Control: Measure and analyze the project's performance data and take actions to bring the project on track. Monitor deviations from the expected project progress and control performance in order to facilitate the decision-making process in case corrective actions are needed to bring projects back on track. Both traditional Earned Value Management (EVM) and the novel Earned Schedule (ES) methods are used. What You'll Learn Implement a data-driven project management methodology (also known as "dynamic scheduling") which allows project managers to plan, monitor, and control projects while delivering them on time and within budget Study different project management tools and techniques, such as PERT/CPM, schedule risk analysis (SRA), resource buffering, and earned value management (EVM) Understand the three aspects of dynamic scheduling: baseline scheduling, schedule risk analysis, and project control Who This Book Is For Project managers looking to learn data-driven project management (or "dynamic scheduling") via a novel, demonstrating real-time simulations of how project managers can solve common project obstacles

Praise for the First Edition "...a nice, self-contained introduction to simulation and computational techniques in finance..." – Mathematical Reviews Simulation Techniques in Financial Risk Management, Second Edition takes a unique approach to the field of simulations by focusing on techniques necessary in the fields of finance and risk management. Thoroughly updated, the new edition expands on several key topics in these areas and presents many of the recent innovations in simulations and risk management, such as advanced option pricing models beyond the Black–Scholes paradigm, interest rate models, MCMC methods including stochastic volatility models simulations, model assets and model-free properties, jump diffusion, and state space modeling. The Second Edition also features: Updates to primary software used throughout the book, Microsoft Office® Excel® VBA New topical coverage on multiple assets, model-free properties, and related models More than 300 exercises at the end of each chapter, with select answers in the appendix, to help readers apply new concepts and test their understanding Extensive use of examples to illustrate how to use simulation techniques in risk management Practical case studies, such as the pricing of exotic options; simulations of Greeks in hedging; and the use of Bayesian ideas to assess the impact of jumps, so readers can reproduce the results of the studies A related website with additional solutions to problems within the book as well as Excel VBA and S-Plus computer code for many of the examples within the book Simulation Techniques in Financial Risk Management, Second Edition is an invaluable resource for risk managers in the financial and actuarial industries as well as a useful reference for readers interested in learning how to better gauge risk and make more informed decisions. The book is also ideal for upper-undergraduate and graduate-level courses in simulation and risk management.

Power system risk assessment is becoming an important and mandatory task in planning, operation, maintenance, and asset management of utilities, particularly under the deregulation environment. This book will provide readers with the tools to solve practical problems using appropriate risk assessment techniques. Both analytical and Monte Carlo evaluation methods are discussed with an emphasis on applied techniques and actual considerations in generation, transmission, substation, and distribution systems.

The proper understanding and managing of project risks and uncertainties is crucial to any organization. It is of paramount importance at all phases of project development and execution to avoid poor project results from meager economics, overspending, reputation and environmental damage, and even loss of life. The Handbook of Research on Leveraging Risk and Uncertainties for Effective Project Management is a comprehensive reference source for emerging perspectives of managing risks associated with the execution and development of projects. Highlighting innovative coverage written by top industry specialists, such as complexity theory, psychological bias and risk management fallacies, probabilistic risk analysis, and various aspects of project decision making, this book is ideally designed for project and risk managers, project engineers, cost estimators, schedulers, safety and environmental protection specialists, corporate planners, financial and insurance specialists, corporate decision makers,

as well as academics and lecturers working in the area of project management and students pursing PMP, PMI-RMP, ISO 31000, etc. certification.

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 applicationsof Monte Carlo methods in financial engineering and economics. Written by an international leading expert in thefield, the handbook illustrates the challenges confronting present-day financial practitioners and provides various applicationsof Monte Carlo techniques to answer these issues. The book is organized into five parts: introduction andmotivation; input analysis, modeling, and estimation; random variate and sample path generation; output analysisand 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.

Risk Analysis concerns itself with the quantification of risk, the modeling of identified risks and how to make decisions from those models. Quantitative risk analysis (QRA) using Monte Carlo simulation offers a powerful and precise method for dealing with the uncertainty and variability of a problem. By providing the building blocks the author guides the reader through the necessary steps to produce an accurate risk analysis model and offers general and specific techniques to cope with most modeling problems. A wide range of solved problems is used to illustrate these techniques and how they can be used together to solve otherwise complex problems.

The Monte Carlo Simulation Method for System Reliability and Risk AnalysisSpringer Science & Business Media

This updated edition deals with the Monte Carlo simulation of complex physical systems encountered in condensed-matter physics, statistical mechanics, and related fields. It contains many applications, examples, and exercises to help the reader. It is an excellent guide for graduate students and researchers who use computer simulations in their research.

Handbook of Probabilistic Models carefully examines the application of advanced probabilistic models in conventional engineering fields. In this comprehensive handbook, practitioners, researchers and scientists will find detailed explanations of technical concepts, applications of the proposed methods, and the respective scientific approaches needed to solve the problem. This book provides an interdisciplinary approach that creates advanced probabilistic models for engineering fields, ranging from conventional fields of mechanical engineering and civil engineering, to electronics, electrical, earth sciences, climate, agriculture, water resource, mathematical sciences and computer sciences. Specific topics covered include minimax probability machine regression, stochastic finite element method, relevance vector machine, logistic regression, Monte Carlo simulations, random matrix, Gaussian process regression, Kalman filter, stochastic optimization, maximum likelihood, Bayesian inference, Bayesian update, kriging, copula-statistical models, and more. Explains the application of advanced probabilistic models encompassing multidisciplinary research Applies probabilistic modeling to emerging areas in engineering Provides an interdisciplinary approach to probabilistic models and their applications, thus solving a wide range of practical problems

This volume showcases the presentations and discussions delivered at the 2018 POMS International Conference in Rio. Through a collection of selected papers, it is possible to review the impact and application of operations management for social good, with contributions across a wide range of topics, including: humanitarian operations and crisis management, healthcare operations management, sustainable operations, artificial intelligence and data analytics in operations, product innovation and technology in operations management, marketing and operations management, service operations and servitization, logistics and supply chain management, resilience and risk in operations, defense, and tourism among other emerging Operations Management issues. The Production and Operations Management Society (POMS) is one of the most important and influential societies in the subject of Production Engineering and, as an international professional and academic organization, represents the interests of professionals and academics in production management and operations around the world.

An updated guide to risk analysis and modeling Although risk was once seen as something that was both unpredictable and uncontrollable, the evolution of risk analysis tools and theories has changed the way we look at this important business element. In the Second Edition of Analyzing and Modeling Risk, expert Dr. Johnathan Mun provides up-to-date coverage of risk analysis as it is applied within the realms of business risk analysis and offers an intuitive feel of what risk looks like, as well as the different ways of quantifying it. This Second Edition provides professionals in all industries a more comprehensive guide on such key concepts as risk and return, the fundamentals of model building, Monte Carlo simulation, forecasting, time-series and regression analysis, optimization, real options, and more. Includes new examples, questions, and exercises as well as updates using Excel 2007 Book supported by author's proprietary risk analysis software found on the companion CD-ROM Offers both a qualitative and quantitative description of risk Filled with in-depth insights and practical advice, this reliable resource covers all of the essential tools and techniques that risk managers need to successfully conduct risk analysis. Note: CD-ROM/DVD and other supplementary materials are not included as part of eBook file.

This book concentrates on the accuracy of risk modelling rather than the management of risk analysis. It provides a comprehensive guide to modelling of uncertainty using spreadsheets and Monte Carlo software on standard PCs. It includes sufficient probability and statistics theory and provides the basic information necessary for a simple risk analysis model.

From the reviews: "Paul Glasserman has written an astonishingly good book that bridges financial engineering and the Monte Carlo method. The book will appeal to graduate students, researchers, and most of all, practicing financial engineers [...] So often, financial engineering texts are very theoretical. This book is not." --Glyn Holton, Contingency Analysis

Developed from the author's course on Monte Carlo simulation at Brown University, Monte Carlo Simulation with Applications to Finance provides a self-contained introduction to Monte Carlo methods in financial engineering. It is suitable for advanced undergraduate and graduate students taking a one-semester course or for practitioners in the financial industry. The author first presents the necessary mathematical tools for simulation, arbitrary free option pricing, and the basic implementation of Monte Carlo schemes. He then describes variance reduction techniques, including control variates, stratification, conditioning, importance sampling, and cross-entropy. The text concludes with stochastic calculus and the simulation of diffusion processes. Only requiring some familiarity with probability and statistics, the book keeps much of the mathematics at an informal level and avoids technical measure-theoretic jargon to provide a practical understanding of the basics. It includes a large number of examples as well as MATLAB® coding exercises that are designed in a progressive manner so that no prior experience with MATLAB is needed.

Monte Carlo simulation is one of the best tools for performing realistic analysis of complex systems as it allows most of the limiting assumptions on system behavior to be relaxed. The Monte Carlo Simulation Method for System Reliability and Risk Analysis comprehensively illustrates the Monte Carlo simulation method and its application to reliability and system engineering. Readers are given a sound understanding of the fundamentals of Monte Carlo sampling and simulation and its application for realistic system modeling. Whilst many of the topics rely on a high-level understanding of calculus, probability and statistics, simple academic examples will be provided in support to the explanation of the theoretical foundations to facilitate comprehension of the subject matter. Case studies will be introduced to provide the practical value of the most advanced techniques. This detailed approach makes The Monte Carlo Simulation Method for System Reliability and Risk Analysis a key reference for senior undergraduate and graduate students as well as researchers and practitioners. It provides a powerful tool for all those involved in system analysis for reliability, maintenance and risk evaluations.

Monte Carolo simulation is a practical tool used in determining contingency and can facilitate more effective management of cost estimate uncertainties. This paper details the process for effectively developing the model for Monte Carlo simulations and reveals some of the intricacies needing special consideration. This paper begins with a discussion on the importance of continuous risk management practice and leads into the why and how a Monte Carlo simulation is used to establish contingency. Given the right Monte Carlo simulation tools and skills, any size project can take advantage of the advancements of information availability and technology to yield powerful results.

Essentials of Monte Carlo Simulation focuses on the fundamentals of Monte Carlo methods using basic computer simulation techniques. The theories presented in this text deal with systems that are too complex to solve analytically. As a result, readers are given a system of interest and constructs using computer code, as well as algorithmic models to emulate how the system works internally. After the models are run several times, in a random sample way, the data for each output variable(s) of interest is analyzed by ordinary statistical methods. This book features 11 comprehensive chapters, and discusses such key topics as random number generators, multivariate random variates, and continuous random variates. Over 100 numerical examples are presented as part of the appendix to illustrate useful real world applications. The text also contains an easy to read presentation with minimal use of difficult mathematical concepts. Very little has been published in the area of computer Monte Carlo simulation methods, and this book will appeal to students and researchers in the fields of Mathematics and Statistics.

Examines timely multidisciplinary applications, problems, and case histories in risk modeling, assessment, and management Risk Modeling, Assessment, and Management, Third Edition describes the state of the art of risk analysis, a rapidly growing field with important applications in engineering, science, manufacturing, business, homeland security, management, and public policy. Unlike any other text on the subject, this definitive work applies the art and science of risk analysis to current and emergent engineering and socioeconomic problems. It clearly demonstrates how to quantify risk and construct probabilities for real-world decision-making problems, including a host of institutional, organizational, and political issues. Avoiding higher mathematics whenever possible, this important new edition presents basic concepts as well as advanced material. It incorporates numerous examples and case studies to illustrate the analytical methods under discussion and features restructured and updated chapters, as well as: A new chapter applying systems-driven and risk-based analysis to a variety of Homeland Security issues An accompanying FTP site—developed with Professor Joost Santos—that offers 150 example problems with an Instructor's Solution Manual and case studies from a variety of journals Case studies on the 9/11 attack and Hurricane Katrina An adaptive multiplayer Hierarchical Holographic Modeling (HHM) game added to Chapter Three This is an indispensable resource for academic, industry, and government professionals in such diverse areas as homeland and cyber security, healthcare, the environment, physical infrastructure systems, engineering, business, and more. It is also a valuable textbook for both undergraduate and graduate students in systems engineering and systems management courses with a focus on our uncertain world.

Project managers tend to believe their cost estimates - whether they have exceeded budgets in the past or not. It is dangerous to accept the engineering cost estimates, which are often optimistic or unrealistic. Though cost estimates incorporate contingency reserves below-the-line, these estimates of reserves often do not benefit from a rigorous assessment of risk to project costs. Risks to cost come from multiple sources including uncertain project duration, which is often ignored in cost risk analyses. In short, experience shows that cost estimating on projects is rarely successful - cost overruns routinely occur. There are effective ways to estimate the impact on the cost of complex projects from project risks of all types, including traditional cost-type risks and the indirect but often substantial impact from risks usually thought of as affecting project schedules. Integrated cost-schedule risk anlaysis helps us determine how likely the project will go over budget with the current plan, how much contingency reserve is required to achieve a desired level of certainty, and which risks are most important so the project manager can mitigate them and achieve a better result. Integrated Cost-Schedule Risk Analysis provides solutions for these and other challenges. This book follows on from David Hulett's highly-praised Practical Schedule Risk Analysis. It focuses on the way that schedule risk can generate cost risk, and how to handle this relationship. It also applies the Risk Driver Method to the analysis so that you can clearly and transparently identify the key

risks, rather than just the most risky cost line items. With detailed worked examples and over 70 illustrations, Integrated Cost-Schedule Risk Analysis offers the definitive guide to this critically important aspect of project management from surely the world's leading commentator.

A core reference of classic research and new writing on the methodologies and applications of Monte Carlo simulation.

This book starts with the basic ideas in uncertainty propagation using Monte Carlo methods and the generation of random variables and stochastic processes for some common distributions encountered in engineering applications. It then introduces a class of powerful simulation techniques called Markov Chain Monte Carlo method (MCMC), an important machinery behind Subset Simulation that allows one to generate samples for investigating rare scenarios in a probabilistically consistent manner. The theory of Subset Simulation is then presented, addressing related practical issues encountered in the actual implementation. The book also introduces the reader to probabilistic failure analysis and reliability-based sensitivity analysis, which are laid out in a context that can be efficiently tackled with Subset Simulation or Monte Carlo simulation in general. The book is supplemented with an Excel VBA code that provides a user-friendly tool for the reader to gain hands-on experience with Monte Carlo simulation. Presents a powerful simulation method called Subset Simulation for efficient engineering risk assessment and failure and sensitivity analysis Illustrates examples with MS Excel spreadsheets, allowing readers to gain hands-on experience with Monte Carlo simulation Covers theoretical fundamentals as well as advanced implementation issues A companion website is available to include the developments of the software ideas This book is essential reading for graduate students, researchers and engineers interested in applying Monte Carlo methods for risk assessment and reliability based design in various fields such as civil engineering, mechanical engineering, aerospace engineering, electrical engineering and nuclear engineering. Project managers, risk managers and financial engineers dealing with uncertainty effects may also find it useful.

Scientific Essay from the year 2010 in the subject Business economics - Banking, Stock Exchanges, Insurance, Accounting, grade: keine, Masaryk University (Fakultat fur Wirtschaft und Verwaltung), course: ---, language: English, abstract: This article deals with the actual status quo of measuring credit risk in the German banking sector. It defines the kinds of VaR approaches and discusses the basics and models for quantifying credit risk. The VaR tools used in the German banking sector to measure credit risk are analysed in a next step. Further, the complex character of the Monte Carlo approach is explained at the example of an Excel tool. The outlook of this article consists of a critical analysis of the efficiency in the context of the actual financial crisis in Germany. The paper extends the basic aspects of three former publications of the author, published in the specialized banking magazine Bankpraktiker 07-08.2006, pp. 366 - 371, the Conference paper for the ESF Conference on 25.06. - 26.06.2008 in Brno, Czech Republic, pp. 325 - 333 and the ControllerMagazin 05.2009, pp. 84 - 92."

Monte Carlo methods have been used for decades in physics, engineering, statistics, and other fields. Monte Carlo Simulation and Finance explains the nuts and bolts of this essential technique used to value derivatives and other securities. Author and educator Don McLeish examines this fundamental process, and discusses important issues, including specialized problems in finance that Monte Carlo and Quasi-Monte Carlo methods can help solve and the different ways Monte Carlo methods can be improved upon. This state-of-the-art book on Monte Carlo simulation methods is ideal for finance professionals and students. Order your copy today.

Practical Spreadsheet Modeling Using @Risk provides a guide of how to construct applied decision analysis models in spreadsheets. The focus is on the use of Monte Carlo simulation to provide quantitative assessment of uncertainties and key risk drivers. The book presents numerous examples based on real data and relevant practical decisions in a variety of settings, including health care, transportation, finance, natural resources, technology, manufacturing, retail, and sports and entertainment. All examples involve decision problems where uncertainties make simulation modeling useful to obtain decision insights and explore alternative choices. Good spreadsheet modeling practices are highlighted. The book is suitable for graduate students or advanced undergraduates in business, public policy, health care administration, or any field amenable to simulation modeling of decision problems. The book is also useful for applied practitioners seeking to build or enhance their spreadsheet modeling skills. Features Step-by-step examples of spreadsheet modeling and risk analysis in a variety of fields Description of probabilistic methods, their theoretical foundations, and their practical application in a spreadsheet environment Extensive example models and exercises based on real data and relevant decision problems Comprehensive use of the @Risk software for simulation analysis, including a free one-year educational software license

This completely revised and updated edition of Applied Risk Analysis includes new case studies in modeling risk and uncertainty as well as a new risk analysis CD-ROM prepared by Dr. Mun. On the CD-ROM you'll find his Risk Simulator and Real Options Super Lattice Solver software as well as many useful spreadsheet models. "Johnathan Mun's book is a sparkling jewel in my finance library. Mun demonstrates a deep understanding of the underlying mathematical theory in his ability to reduce complex concepts to lucid explanations and applications. For this reason, he's my favorite writer in this field." —Janet Tavakoli, President, Tavakoli Structured Finance, Inc. and author of Collateralized Debt Obligations and Structured Finance "A must-read for product portfolio managers . . . it captures the risk exposure of strategic investments, and provides management with estimates of potential outcomes and options for risk mitigation." —Rafael E. Gutierrez, Executive Director of Strategic Marketing and Planning, Seagate Technology, Inc. "Once again, Dr. Mun has created a 'must-have, must-read' book for anyone interested in the practical application of risk analysis. Other books speak in academic generalities, or focus on one area of risk application. [This book] gets to the heart of the matter with applications for every area of risk analysis. You have a real option to buy almost any book?you should exercise your option and get this one!" —Glenn Kautt, MBA, CFP, EA, President and Chairman, The Monitor Group, Inc. Note: CD-ROM/DVD and other supplementary

materials are not included as part of eBook file.

Risk management is a vital concern in any organization. In order to succeed in the competitive modern business environment, the decision-making process must be effectively governed and managed. Managing Project Risks for Competitive Advantage in Changing Business Environments presents critical discussions on effective risk management in projects and methods to ensure overall success in project outcomes. Highlighting theoretical foundations, innovative practices, and real-world applications, this book is a pivotal reference source for managers, practitioners, upper-level students, and other professionals interested in how to properly adopt project risk management systems and tools.

A ground shaking exposé on the failure of popular cyber risk management methods How to Measure Anything in Cybersecurity Risk exposes the shortcomings of current "risk management" practices, and offers a series of improvement techniques that help you fill the holes and ramp up security. In his bestselling book How to Measure Anything, author Douglas W. Hubbard opened the business world's eyes to the critical need for better measurement. This book expands upon that premise and draws from The Failure of Risk Management to sound the alarm in the cybersecurity realm. Some of the field's premier risk management approaches actually create more risk than they mitigate, and questionable methods have been duplicated across industries and embedded in the products accepted as gospel. This book sheds light on these blatant risks, and provides alternate techniques that can help improve your current situation. You'll also learn which approaches are too risky to save, and are actually more damaging than a total lack of any security. Dangerous risk management methods abound; there is no industry more critically in need of solutions than cybersecurity. This book provides solutions where they exist, and advises when to change tracks entirely. Discover the shortcomings of cybersecurity's "best practices" Learn which risk management approaches actually create risk Improve your current practices with practical alterations Learn which methods are beyond saving, and worse than doing nothing Insightful and enlightening, this book will inspire a closer examination of your company's own risk management practices in the context of cybersecurity. The end goal is airtight data protection, so finding cracks in the vault is a positive thing—as long as you get there before the bad guys do. How to Measure Anything in Cybersecurity Risk is your guide to more robust protection through better quantitative processes, approaches, and techniques.

This book brings together expert researchers engaged in Monte-Carlo simulation-based statistical modeling, offering them a forum to present and discuss recent issues in methodological development as well as public health applications. It is divided into three parts, with the first providing an overview of Monte-Carlo techniques, the second focusing on missing data Monte-Carlo methods, and the third addressing Bayesian and general statistical modeling using Monte-Carlo simulations. The data and computer programs used here will also be made publicly available, allowing readers to replicate the model development and data analysis presented in each chapter, and to readily apply them in their own research. Featuring highly topical content, the book has the potential to impact model development and data analyses across a wide spectrum of fields, and to spark further research in this direction.