

The Weibull Distribution A Handbook

First derived within the context of life-testing, inverse Gaussian distribution has become one of the most important and widely employed distributions, and is often used to model the lifetimes of components. It is also used as a model in many varied applications, including fatigue analysis, economic prediction analysis, and the analysis of extreme events such as rainfall and flood levels. The interesting features and properties of this distribution make it an important and realistic model in a variety of problems across numerous disciplines. Because of the broad range of applications, this handbook will be useful not only to members of the statistical community but will also appeal to applied scientists, engineers, econometricians, and anyone who desires a thorough evaluation of this important topic.

The Weibull distribution has been one of the most cited lifetime distributions in reliability engineering. Over the last decade, many generalizations and extensions of the Weibull have been proposed in order to provide more flexibility than the traditional version when it comes to modeling lifetime data in diverse fields. This book offers an update on these developments, presenting the essential properties of each model. Several plots of density and hazard rate functions are also included, and a brief outline of known application(s) for each model is also given.

The Weibull DistributionA HandbookCRC Press

"The CD-ROM also includes solutions to most of the examples in the text in Microsoft Excel templates, a user's guide for the Weibull software, and statistical tables." –Cover.

Handbook of Heavy Tailed Distributions in Finance

A Statistical Approach

The Probability Handbook

The Weibull Distribution

Handbook of Chemometrics and Qualimetrics

Reliability is an essential concept in mathematics, computing, research, and all disciplines of engineering, and reliability as a characteristic is, in fact, a probability. Therefore, in this book, the author uses the statistical approach to reliability modelling along with the MINITAB software package to provide a comprehensive treatment of modelling, from the basics through advanced modelling techniques.The book begins by presenting a thorough grounding in the elements of modelling the lifetime of a single, non-repairable unit. Assuming no prior knowledge of the subject, the author includes a guide to all the fundamentals of probability theory, defines the various measures associated with reliability, then describes and discusses the more common lifetime models: the exponential, Weibull, normal, lognormal and gamma distributions. She concludes the groundwork by looking at ways of choosing and fitting the most appropriate model to a given data set, paying particular attention to two critical points: the effect of censored data and estimating lifetimes in the tail of the distribution.The focus then shifts to topics somewhat more difficult:the difference in the analysis of lifetimes for repairable versus non-repairable systems and whether repair truly ""renews"" the systemmethods for dealing with system with reliability characteristic specified for more than one component or subsystemthe effect of different types of maintenance strategiesthe analysis of life test dataThe final chapter provides snapshot introductions to a range of advanced models and presents two case studies that illustrate various ideas from throughout the book.

Reliability Modelling and Analysis in Discrete Time provides an overview of the probabilistic and statistical aspects connected with discrete reliability systems. This engaging book discusses their distributional properties and dependence structures before exploring various orderings associated between different reliability structures. Though clear explanations, multiple examples, and exhaustive coverage of the basic and advanced topics of research in this area, the work gives the reader a thorough understanding of the theory and concepts associated with discrete models and reliability structures. A comprehensive bibliography assists readers who are interested in further research and understanding. Requiring only an introductory understanding of statistics, this book offers valuable insight and coverage for students and researchers in Probability and Statistics, Electrical Engineering, and Reliability/Quality Engineering. The book also includes a comprehensive bibliography to assist readers seeking to delve deeper. Includes a valuable introduction to Reliability Theory before covering advanced topics of research and real world applications Features an emphasis on the mathematical theory of reliability modeling Provides many illustrative examples to foster reader understanding

***Probability is tough i**ven those fairly well versed in statistical analysis balk at the prospect of tackling it. Many probability concepts seem counterintuitive at first, and the successful student must in effect train him or herself to think in a totally new way. Mastery of probability takes a lot of time, and only comes from solving many, many problems. The aim of this text and its companion, *The Probability Workbook (coming soon)*, is to present the subject of probability as a tutor would. Probability concepts are explained in everyday language and worked examples are presented in abundance. In addition to paper-and-pencil solutions, solution strategies using Microsoft Excel functions are given. All mathematical symbols are explained, and the mathematical rigor is kept on an algebra level; calculus is avoided. This book is written for quality practitioners who are currently performing statistical and probability analyses in their workplaces, and for those seeking to learn probability concepts for the American Society for Quality (ASQ) Certified Quality Engineer, Reliability Engineer, Six Sigma Green Belt, Black Belt, or Master Black Belt exams.*

A handbook in the truest sense of the word, the first edition of the Operations Research Calculations Handbook quickly became an indispensable resource. While other books available tend to give detailed information about specific topics, this one contains comprehensive information and results useful for real-world problem solving. Reflecting the breadth and depth of growth in the field, the scope of the second edition has been expanded to cover several additional topics. And as with the first edition, it focuses on presenting analytical results and formulas that allow quick calculations and provide understanding of system models. See what's in the Second Edition: New chapters include Order Statistics, Traffic Flow and Delay, and Heuristic Search Methods New sections include Distance Norms, Hyper-Exponential and Hypo-Exponential Distributions Newly derived formulas and an expanded reference list Like its predecessor, the new edition of this handbook presents the analytical results and formulas needed in the scientific applications of operations research and management. It continues to provide quick calculations and insight into system performance. Presenting practical results and formulas without derivations, the material is organized by topic and offered in a concise format that allows ready-access to a wide range of results in a single volume. The field of operations research encompasses a growing number of technical areas, and uses analyses and techniques from a variety of branches of mathematics, statistics, and other scientific disciplines. And as the field continues to grow, there is an even greater need for key results to be summarized and easily accessible in one reference volume. Yet many of the important results and formulas are widely scattered among different textbooks and journals and are often hard to find in the midst of mathematical derivations. This book provides a one-stop resource for many important results and formulas needed in operations research and management science applications.

The Weibull Distribution: a Handbook of Statistical Methods

Probability Distributions Used in Reliability Engineering

The New Weibull Handbook

Sequential Tests Under Weibull Distribution

Reliability, statistics, risk, safety, test substantiation, life estimates, cost, warranty analysis, life cycle costs.

A guide and reference to product reliability testing, this volume covers various steps from planning and test selection to test procedure and results analysis. It delivers information on a variety of distributions, including the Chi-Square, Exponential, Normal, Lognormal, Weibull, Gamma, and others.

As with the bestselling first edition, Computational Statistics Handbook with MATLAB, Second Edition covers some of the most commonly used contemporary techniques in computational statistics. With a strong, practical focus on implementing the methods, the authors include algorithmic descriptions of the procedures as well as

Handbook of Exponential and Related Distributions for Engineers and Scientists

Handbook of Statistical Distributions with Applications

Recurent Events Data Analysis for Product Repairs, Disease Recurrences, and Other Applications

Springer Handbook of Engineering Statistics

Extreme Value Distributions

Providing a comprehensive approach to both the art and science of reliability engineering, this volume covers all aspects of the field, from basic concepts to accelerated testing, including SPC, designed experiments, human factors, and reliability management. It also presents the theory of reliability systems and its application as prescribed by industrial and government standards.

This handbook studies the combination of various methods of designing for reliability, availability, maintainability and safety, as well as the latest techniques in probability and possibility modeling, mathematical algorithmic modeling, evolutionary algorithmic modeling, symbolic logic modeling, artificial intelligence modeling and object-oriented computer modeling.

In today 's global and highly competitive environment, continuous improvement in the processes and products of any field of engineering is essential for survival. This book gathers together the full range of statistical techniques required by engineers from all fields. It will assist them to gain sensible statistical feedback on how their processes or products are functioning and to give them realistic predictions of how these could be improved. The handbook will be essential reading for all engineers and engineering-connected managers who are serious about keeping their methods and products at the cutting edge of quality and competitiveness.

Written by a biostatistics expert with over 20 years of experience in the field, Bayesian Methods in Epidemiology presents statistical methods used in epidemiology from a Bayesian viewpoint. It employs the software package WinBUGS to carry out the analyses and offers the code in the text and for download online. The book examines study designs that investigate the association between exposure to risk factors and the occurrence of disease. It covers introductory adjustment techniques to compare mortality between states and regression methods to study the association between various risk factors and disease, including logistic regression, simple and multiple linear regression, categorical/ordinal regression, and nonlinear models. The text also introduces a Bayesian approach for the estimation of survival by life tables and illustrates other approaches to estimate survival, including a parametric model based on the Weibull distribution and the Cox proportional hazards (nonparametric) model. Using Bayesian methods to estimate the lead time of the modality, the author explains how to screen for a disease among individuals that do not exhibit any symptoms of the disease. With many examples and end-of-chapter exercises, this book is the first to introduce epidemiology from a Bayesian perspective. It shows epidemiologists how these Bayesian models and techniques are useful in studying the association between disease and exposure to risk factors.

Theory and Applications

CRC Handbook of Tables for Order Statistics from Inverse Gaussian Distributions with Applications

Reliability and Life Testing Handbook

Reliability & Statistical Analysis for Predicting Life, Safety, Risk, Support Costs, Failures, and Forecasting Warranty Claims, Substantiation and Accelerated Testing, Using Weibull, Log Normal, Crow-AMSAA, Probit, and Kaplan-Meier Models

A Handbook

The majority of medical research involves quantitative methods and so it is essential to be able to understand and interpret statistics. This book shows readers how to develop the skills required to critically appraise research evidence effectively, and how to conduct research and communicate their findings.

The two-volume set LNAl 12084 and 12085 constitutes the thoroughly refereed proceedings of the 24th Pacific-Asia Conference on Knowledge Discovery and Data Mining, PAKDD 2020, which was due to be held in Singapore, in May 2020. The conference was held virtually due to the COVID-19 pandemic. The 135 full papers presented were carefully reviewed and selected from 628 submissions. The papers present new ideas, original research results, and practical development experiences from all KDD related areas, including data mining, data warehousing, machine learning, artificial intelligence, databases, statistics, knowledge engineering, visualization, decision-making systems, and the emerging applications. They are organized in the following topical sections: recommender systems; classification; clustering; mining social networks; representation learning and embedding; mining behavioral data; deep learning; feature extraction and selection; human, domain, organizational and social factors in data mining; mining sequential data; mining imbalanced data; association; privacy and security; supervised learning; novel algorithms; mining multi-media/multi-dimensional data; application; mining graph and network data; anomaly detection and analytics; mining spatial, temporal, unstructured and semi-structured data; sentiment analysis; statistical/graphical model; multi-source/distributed/parallel/cloud computing.

Developed to serve as a text for the System Safety and Reliability Analysis course presented to Nuclear Regulatory Commission personnel and contractors. Codifies and systematizes the fault tree approach, a deductive failure analysis which focuses on one particular undesired event and provides a method for determining the causes of that event.

Survival data consist of a single event for each population unit, namely, end of life, which is modeled with a life distribution. However, many applications involve repeated-events data, where a unit may accumulate numerous events over time. This applied book provides practitioners with basic nonparametric methods for such data.

Applications and Parameter Estimates

Handbooks in Finance

Computational Statistics Handbook with MATLAB

The Weibull Analysis Handbook

Generalized Weibull Distributions

This handbook will provide an understanding of standard and advanced Weibull and Log Normal techniques originally developed for failure analysis.

Understand and utilize the latest developments in Weibull inferential methods While the Weibull distribution is widely used in science and engineering, most engineers do not have the necessary statistical training to implement the methodology effectively. Using the Weibull Distribution: Reliability, Modeling, and Inference fills a gap in the current literature on the topic, introducing a self-contained presentation of the probabilistic basis for the methodology while providing powerful techniques for extracting information from data. The author explains the use of the Weibull distribution and its statistical and probabilistic basis, providing a wealth of material that is not available in the current literature. The book begins by outlining the fundamental probability and statistical concepts that serve as a foundation for subsequent topics of coverage, including:
• Optimum burn-in, age and block replacement, warranties and renewal theory
• Exact inference in Weibull regression
• Goodness of fit testing and distinguishing the Weibull from the lognormal
• Inference for the Three Parameter Weibull Throughout the book, a wealth of real-world examples showcases the discussed topics and each chapter concludes with a set of exercises, allowing readers to test their understanding of the presented material. In addition, a related website features the author's own software for implementing the discussed analyses along with a set of modules written in Mathcad®, and additional graphical interface software for performing simulations. With its numerous hands-on examples, exercises, and software applications, Using the Weibull Distribution is an excellent book for courses on quality control and reliability engineering at the upper-undergraduate and graduate levels. The book also serves as a valuable reference for engineers, scientists, and business analysts who gather and interpret data that follows the Weibull distribution.

A new statistical guide on commonly used statistical distributions Fully updated to reflect the latest developments on the topic. Statistical Distributions, Fourth Edition continues to serve as an authoritative guide on the application of statistical methods to research across various disciplines. The book provides a concise presentation of popular statistical distributions along with the necessary knowledge for their successful use in data modeling and analysis. Following a basic introduction, forty popular distributions are outlined in individual chapters that are complete with related facts and formulas. Reflecting the latest changes and trends in statistical distribution theory, the Fourth Edition features: A new chapter on queuing formulas that discusses standard formulas that often arise from simple queueing systems Methods for extending independent modeling schemes to the dependent case, covering techniques for generating complex distributions from simple distributions New coverage of conditional probability, including conditional expectations and joint and marginal distributions Commonly used tables associated with the normal (Gaussian), student-, F, and chi-square distributions Additional reviewing methods for the estimation of unknown parameters, such as the method of percentiles, the method of moments, maximum likelihood inference, and Bayesian inference Statistical Distributions, Fourth Edition is an excellent supplement for upper-undergraduate and graduate level courses on the topic. It is also a valuable reference for researchers and practitioners in the fields of engineering, economics, operations research, and the social sciences who conduct statistical analyses.

Are you buying a car or smartphone or dishwasher? We bet long-term, trouble-free operation (i.e., high reliability) is among the top three things you look for. Reliability problems can lead to everything from minor inconveniences to human disasters. Ensuring high reliability in designing and building manufactured products is principally an engineering challenge-but statistics plays a key role. Achieving Product Reliability explains in a non-technical manner how statistics is used in modern product reliability assurance. Features: Describes applications of statistics in reliability assurance in design, development, validation, manufacturing, and field tracking. Uses real-life examples to illustrate key statistical concepts such as the Weibull and lognormal distributions, hazard rate, and censored data. Demonstrates the use of graphical tools in such areas as accelerated testing, degradation data modeling, and repairable systems data analysis. Presents opportunities for profitably applying statistics in the era of Big Data and Industrial Internet of Things (IIoT) utilizing, for example, the instantaneous transmission of large quantities of field data. Whether you are an intellectually curious citizen, student, manager, budding reliability professional, or academically seeking practical applications, Achieving Product Reliability is a great starting point for a big-picture view of statistics in reliability assurance. The authors are world-renowned experts on this topic with extensive experience as company-wide statistical resources for a global conglomerate, consultants to business and government, and researchers of statistical methods for reliability applications.

Statistical Distributions

Bayesian Methods in Epidemiology

A Key to Business Success

Oxford Handbook of Medical Statistics

This book deals with the development of methodology for the analysis of truncated and censored sample data. It is primarily intended as a handbook for practitioners who need simple and efficient methods for the analysis of incomplete sample data.

Handbook of Chemometrics and Qualimetrics

Terms and symbols: General variate relationships: Bernoulli distribution: Beta distribution: Binomial distribution: Cauchy distribution: Chi-squared distribution: Discrete uniform distribution: Erlang distribution: Exponential distribution: Extreme value distribution: Gamma distribution: Geometric distribution: Hypergeometric distribution: Logistic distribution: Lognormal distribution: Multinomial distribution: Negative binomial distribution: Normal distribution: Pareto distribution: Pascal distribution: Poisson distribution: Power function distribution: Student's t distribution: Weibull distribution.

Designed to be used in engineering education and industrial practice, this book provides a comprehensive presentation of reliability engineering for optimized design engineering of products, parts, components and equipment.

Handbook of Monte Carlo Methods

Reliability, Modeling, and Inference

Reliability Modelling and Analysis in Discrete Time

Using the Weibull Distribution

Operations Research Calculations Handbook, Second Edition

An effective reliability programme is an essential component of every product's design, testing and efficient production. From the failure analysis of a microelectronic device to software fault tolerance and from the accelerated life testing of mechanical components to hardware verification, a common underlying philosophy of reliability applies. Defining both fundamental and applied work across the entire systems reliability arena, this state-of-the-art reference presents methodologies for quality, maintainability and dependability. Featuring: Contributions from 60 leading reliability experts in academia and industry giving comprehensive and authoritative coverage. A distinguished international Editorial Board ensuring clarity and precision throughout. Extensive references to the theoretical foundations, recent research and future directions described in each chapter. Comprehensive subject index providing maximum utility to the reader. Applications and examples across all branches of engineering including: power, automotive and aerospace sectors. The handbook's cross-disciplinary scope will ensure that it serves as an indispensable tool for researchers in industrial, electronics, computer, civil, mechanical and systems engineering. It will also aid professional engineers to find creative reliability solutions and management to evaluate systems reliability and to improve processes. For student research projects it will be the ideal starting point whether addressing basic questions of communications and electronics or learning advanced applications in micro-electro-mechanical systems (MEMS), manufacturing and high-assurance engineering systems.

This important book provides an up-to-date comprehensive and down-to-earth survey of the theory and practice of extreme value distributions.OCO one of the most prominent success stories of modern applied probability and statistics. Originated by E J Gumbel in the early forties as a tool for predicting floods, extreme value distributions evolved during the last 50 years into a coherent theory with applications in practically all fields of human endeavor where maximal or minimal values (the so-called extremes) are of relevance. The book is of usefulness both for a beginner with a limited probabilistic background and to expert in the field. Sample Chapter(s): Chapter 1.1: Historical Survey (139 KB). Chapter 1.2: The Three Types of Extreme Value Distributions (146 KB). Chapter 1.3: Limiting Distributions and Domain of Attraction (210 KB). Chapter 1.4: Distribution Function and Moments of Type 1 Distribution (160 KB). Chapter 1.5: Order Statistics, Record Values and Characterizations (175 KB). Contents: Univariate Extreme Value Distributions, Generalized Extreme Value Distributions, Multivariate Extreme Value Distributions. Readership: Applied probabilists, applied statisticians, environmental scientists, climatologists, industrial engineers and management experts."

The Handbooks in Finance are intended to be a definitive source for comprehensive and accessible information in the field of finance. Each individual volume in the series should present an accurate self-contained survey of a sub-field of finance, suitable for use by finance and economics professors and lecturers, professional researchers, graduate students and as a teaching supplement. The goal is to have a broad group of outstanding volumes in various areas of finance. The Handbook of Heavy Tailed Distributions in Finance is the first handbook to be published in this series. This volume presents current research focusing on heavy tailed distributions in finance. The contributions cover methodological issues, i.e., probabilistic, statistical and econometric modelling under non-Gaussian assumptions, as well as the applications of the stable and other non-Gaussian models in finance and risk management.

With the development of new fitting methods, their increased use in applications, and improved computer languages, the fitting of statistical distributions to data has come a long way since the introduction of the generalized lambda distribution (GLD) in 1969. Handbook of Fitting Statistical Distributions with R presents the latest and best methods

A Handbook for Students and Practitioners

Physics-of-Failure Based Handbook of Microelectronic Systems

Handbook of Reliability, Availability, Maintainability and Safety in Engineering Design

Weibull Models

Handbook of Reliability Engineering

Easy-to-Use Reference and Software for Statistical Modeling and Testing Handbook of Statistical Distributions with Applications, Second Edition provides quick access to common and specialized probability distributions for modeling practical problems and performing statistical calculations. Along with many new examples and results, this edition includes both the author's StatCalc software and R codes to accurately and easily carry out computations. New to the Second Edition Major changes in binomial, Poisson, normal, gamma, Weibull, exponential, logistic, Laplace, and Pareto distributions Updated statistical tests and intervals based on recent publications in statistical journals Enhanced PC calculator StatCalc with electronic help manuals R functions for cases where StatCalc is not applicable, with the codes available online This highly praised handbook integrates popular probability distribution models, formulas, applications, and software to help you compute a variety of statistical intervals. It covers probability and percentiles, algorithms for random number generation, hypothesis tests, confidence intervals, tolerance intervals, prediction intervals, sample size determination, and much more.

The Most Comprehensive Book on the Subject Chronicles the Development of the Weibull Distribution in Statistical Theory and Applied Statistics Exploring one of the most important distributions in statistics, The Weibull Distribution: A Handbook focuses on its origin, statistical properties, and related distributions. The book also presents various approaches to estimate the parameters of the Weibull distribution under all possible situations of sampling data as well as approaches to parameter estimation and goodness-of-fit testing. Describes the Statistical Methods, Concepts, Theories, and Applications of This Distribution Compiling findings from dozens of scientific journals and hundreds of research papers, the author first gives a careful and thorough mathematical description of the Weibull distribution and all of its features. He then deals with Weibull analysis, using classical and Bayesian approaches along with graphical and linear maximum likelihood techniques to estimate the three Weibull parameters. The author also explores the inference of Weibull processes, Weibull parameter testing, and different types of goodness-of-fit tests and methods. Successfully Apply the Weibull Model By using inferential procedures for estimating, testing, forecasting, and simulating data, this self-contained, detailed handbook shows how to solve statistical life science and engineering problems.

The normal distribution is widely known and used by scientists and engineers. However, there are many cases when the normal distribution is not appropriate, due to the data being skewed. Rather than leaving you to search through journal articles, advanced theoretical monographs, or introductory texts for alternative distributions, the Handbook of E

This book gives a description of the group of statistical distributions that have ample application to studies in statistics and probability. Understanding statistical distributions is fundamental for researchers in almost all disciplines. The informed researcher will select the statistical distribution that best fits the data in the study at hand. Some of the distributions are well known to the general researcher and are in use in a wide variety of ways. Other useful distributions are less understood and are not in common use. The book describes when and how to apply each of the distributions in research studies, with a goal to identify the distribution that best applies to the study. The distributions are for continuous, discrete, and bivariate random variables. In most studies, the parameter values are not known a priori, and sample data is needed to estimate parameter values. In other scenarios, no sample data is available, and the researcher seeks some insight that allows the estimate of the parameter values to be gained. This handbook of statistical distributions provides a working knowledge of applying common and uncommon statistical distributions in research studies. These nineteen distributions are: continuous uniform, exponential, Erlang, gamma, beta, Weibull, normal, lognormal, left-truncated normal, right-truncated normal, triangular, discrete uniform, binomial, geometric, Pascal, Poisson, hyper-geometric, bivariate normal, and bivariate lognormal. Some are from continuous data and others are from discrete and bivariate data. This group of statistical distributions has ample application to studies in statistics and probability and practical use in real situations. Additionally, this book explains computing the cumulative probability of each distribution and estimating the parameter values either with sample data or without sample data. Examples are provided throughout to guide the reader. Accuracy in choosing and applying statistical distributions is particularly imperative for anyone who does statistical and probability analysis, including management scientists, market researchers, engineers, mathematicians, physicists, chemists, economists, social science researchers, and students in many disciplines.

Fault Tree Handbook

Achieving Product Reliability

Reliability Engineering Handbook

24th Pacific-Asia Conference, PAKDD 2020, Singapore, May 11-14, 2020, Proceedings, Part I. Lecture Notes in Artificial Intelligence

Reliability Modelling

The objective of this paper is to develop acceptance procedures based on a sequential probability ratio test when the system failures follow Weibull probability distribution. The acceptance procedures in both Military Handbook 108 and MIL-Std-781C are based on exponential distribution of failures. Exponential distribution implies a constant hazard rate. The Weibull distribution is much more comprehensive and, with suitable choice of parameters, can describe constant, increasing or decreasing hazard rates.

A comprehensive overview of Monte Carlo simulation that explores the latest topics, techniques, and real-world applications More and more of today's numerical problems found in engineering and finance are solved through Monte Carlo methods. The heightened popularity of these methods and their continuing development makes it important for researchers to have a comprehensive understanding of the Monte Carlo approach. Handbook of Monte Carlo Methods provides the theory, algorithms, and applications that helps provide a thorough understanding of the emerging dynamics of this rapidly-growing field. The authors begin with a discussion of fundamentals such as how to generate random numbers on a computer. Subsequent chapters discuss key Monte Carlo methods and models, including: Random variable and stochastic process generation Markov chain Monte Carlo, featuring key algorithms such as the Metropolis-Hastings method, the Gibbs sampler, and hit-and-run Discrete-event simulation Techniques for the statistical analysis of simulation data including the delta method, steady-state estimation, and kernel density estimation Variance reduction, including importance sampling, Latin hypercube sampling, and conditional Monte Carlo Estimation of derivatives and sensitivity analysis Advanced topics including cross-entropy, rare events, kernel density estimation, quasi Monte Carlo, particle systems, and randomized optimization The presented theoretical concepts are illustrated with worked examples that use MATLAB®, a related Web site houses the MATLAB® code, allowing readers to work hands-on with the material and also features the author's own lecture notes on Monte Carlo methods. Detailed appendices provide background material on probability theory, stochastic processes, and mathematical statistics as well as the key optimization concepts and techniques that are relevant to Monte Carlo simulation. Handbook of Monte Carlo Methods is an excellent reference for applied statisticians and practitioners working in the fields of engineering and finance who use or would like to learn how to use Monte Carlo in their research. It is also a suitable supplement for courses on Monte Carlo methods and computational statistics at the upper-undergraduate and graduate levels.

A comprehensive perspective on Weibull models The literature on Weibull models is vast, disjointed, andscattered across many different journals. Weibull Models is comprehensive guide that integrates all the different faces ofWeibull models in a single volume. This book will be of great help to practitioners in reliabilityand other disciplines in the context of modeling data sets usingWeibull models. For researchers interested in these modelingtechniques, exercises at the end of each chapter define potentialtopics for future research. Organized into seven distinct parts, Weibull Models:
* Covers model analysis, parameter estimation, model validation, and application
* Serves as both a handbook and a research monograph. As aninbook, it classifies the different models and presents their properties. As a research monograph, it unifies the literature andpresents the results in an integrated manner
* Intertwines theory and application
* Focuses on model identification prior to model parameterestimation
* Discusses the usefulness of the Weibull Probability plot (WPP)in the model selection to model a given data set
* Highlights the use of Weibull models in reliability theory Filled with in-depth analysis, Weibull Models pulls together themost relevant information on this topic to give everyone fromreliability engineers to applied statisticians involved withreliability and survival analysis a clear look at what Weibullmodels can offer.

Handbook of Fitting Statistical Distributions with R

Advances in Knowledge Discovery and Data Mining