

## Practical Data Analysis With Jmp

*Introducing the tools of statistics and probability from the ground up An understanding of statistical tools is essential for engineers and scientists who often need to deal with data analysis over the course of their work. Statistics and Probability with Applications for Engineers and Scientists walks readers through a wide range of popular statistical techniques, explaining step-by-step how to generate, analyze, and interpret data for diverse applications in engineering and the natural sciences. Unique among books of this kind, Statistics and Probability with Applications for Engineers and Scientists covers descriptive statistics first, then goes on to discuss the fundamentals of probability theory. Along with case studies, examples, and real-world data sets, the book incorporates clear instructions on how to use the statistical packages Minitab® and Microsoft® Office Excel® to analyze various data sets. The book also features:*

- Detailed discussions on sampling distributions, statistical estimation of population parameters, hypothesis testing, reliability theory, statistical quality control including Phase I and Phase II control charts, and process capability indices
- A clear presentation of nonparametric methods and simple and multiple linear regression methods, as well as a brief discussion on logistic regression method
- Comprehensive guidance on the design of experiments, including randomized block designs, one- and two-way layout designs, Latin square designs, random effects and mixed effects models, factorial and fractional factorial designs, and response surface methodology
- A companion website containing data sets for Minitab and Microsoft Office Excel, as well as JMP® routines and results

*Assuming no background in probability and statistics, Statistics and Probability with Applications for Engineers and Scientists features a unique, yet tried-and-true, approach that is ideal for all undergraduate students as well as statistical practitioners who analyze and illustrate real-world data in engineering and the natural sciences.*

*Solve your pharmaceutical product development and manufacturing problems using JMP®. Pharmaceutical Quality by Design Using JMP®: Solving Product Development and Manufacturing Problems provides broad-based techniques available in JMP to visualize data and run statistical analyses for areas common in healthcare product manufacturing. As international regulatory agencies push the concept of Quality by Design (QbD), there is a growing emphasis to optimize the processing of products. This book uses practical examples from the pharmaceutical and medical device industries to illustrate easy-to-understand ways of incorporating QbD elements using JMP. Pharmaceutical Quality by Design Using JMP® opens by demonstrating the easy navigation of JMP to visualize data through the distribution function and the graph builder and then highlights the following: the powerful dynamic nature of data visualization that enables users to be able to quickly extract meaningful information tools and techniques designed for the use of structured, multivariate sets of experiments examples of complex analysis unique to healthcare products such as particle size distributions/drug dissolution, stability of drug products over time, and blend uniformity/content uniformity. Scientists, engineers, and technicians involved throughout the pharmaceutical and medical device product life cycles will find this book invaluable. This book is part of the SAS Press program.*

*Based on real-world applications, this resource combines statistical instructions with a powerful and popular software platform to solve common problems in engineering and science. This step-by-step format enables users new to statistics or JMP to learn as they go.*

*An interactive guide to the statistical tools used to solve problems during product and process innovation End to End Data Analytics for Product Development is an accessible guide designed for practitioners in the industrial field. It offers an introduction to data analytics and the design of experiments (DoE) whilst covering the basic statistical concepts useful to an understanding of DoE. The text supports product innovation and development across a range of consumer goods and pharmaceutical organizations in order to improve the quality and speed of implementation through data analytics, statistical design and data prediction. The book reviews information on feasibility screening, formulation and packaging development, sensory tests, and more. The authors – noted experts in the field – explore relevant techniques for data analytics and present the guidelines for data interpretation.*

*In addition, the book contains information on process development and product validation that can be optimized through data understanding, analysis and validation. The authors present an accessible, hands-on approach that uses MINITAB and JMP software. The book:*

- *Presents a guide to innovation feasibility and formulation and process development*
- *Contains the statistical tools used to solve challenges faced during product innovation and feasibility*
- *Offers information on stability studies which are common especially in chemical or pharmaceutical fields*
- *Includes a companion website which contains videos summarizing main concepts*

*Written for undergraduate students and practitioners in industry, End to End Data Analytics for Product Development offers resources for the planning, conducting, analyzing and interpreting of controlled tests in order to develop effective products and processes.*

*Introduction to Biostatistics with JMP*

*Practical Data Analysis with JMP, Third Edition, 3rd Edition*

*Unstructured Data Analysis*

*The Basic Practice of Statistics*

*A Guide to Statistics and Data Analysis Using JMP, Sixth Edition*

*Practical Data Analysis with JMP, Third Edition*

Analyze your biostatistics data with JMP! Trevor Bihl's *Biostatistics Using JMP: A Practical Guide* provides a practical introduction on using JMP, the interactive statistical discovery software, to solve biostatistical problems. Providing extensive breadth, from summary statistics to neural networks, this essential volume offers a comprehensive, step-by-step guide to using JMP to handle your data. The first biostatistical book to focus on software, *Biostatistics Using JMP* discusses such topics as data visualization, data wrangling, data cleaning, histograms, box plots, Pareto plots, scatter plots, hypothesis tests, confidence intervals, analysis of variance, regression, curve fitting, clustering, classification, discriminant analysis, neural networks, decision trees, logistic regression, survival analysis, control charts, and metaanalysis. Written for university students, professors, those who perform biological/biomedical experiments, laboratory managers, and research scientists, *Biostatistics Using JMP* provides a practical approach to using JMP to solve your biostatistical problems.

Fully revised and updated, this book combines a theoretical background with examples and references to R, MINITAB and JMP, enabling practitioners to find state-of-the-art material on both foundation and implementation tools to support their work. Topics addressed include computer-intensive data analysis, acceptance sampling, univariate and multivariate statistical process control, design of experiments, quality by design, and reliability using classical and Bayesian methods. The book can be used for workshops or courses on acceptance sampling, statistical process control, design of experiments, and reliability. Graduate and post-graduate students in the areas of statistical quality and engineering, as well as industrial statisticians, researchers and practitioners in these fields will all benefit from the comprehensive combination of theoretical and practical information provided in this single volume. *Modern Industrial Statistics: With applications in R, MINITAB and JMP: Combines a practical approach with theoretical foundations and computational support. Provides examples in R using a dedicated package called MISTAT, and also refers to MINITAB and JMP. Includes exercises at*

the end of each chapter to aid learning and test knowledge. Provides over 40 data sets representing real-life case studies. Is complemented by a comprehensive website providing an introduction to R, and installations of JMP scripts and MINITAB macros, including effective tutorials with introductory material: [www.wiley.com/go/modern\\_industrial\\_statistics](http://www.wiley.com/go/modern_industrial_statistics).

Grasp the essentials of JMP to generate rapid results. *JMP Essentials: An Illustrated Guide for New Users, Third Edition*, is designed for new or novice JMP users who need to generate meaningful analysis quickly. The book focuses on the most commonly used platforms and typical workflow of the user, from data importing, exploring, and visualizing to modeling and sharing results with others. Throughout the book, the authors emphasize results over theory, providing just the essential steps with corresponding screenshots. In most cases, each section completes a JMP task, which maximizes the book's utility as a reference. This edition has new instructions and screenshots reflecting the features added to the latest release of JMP software, including updated sections on JMP Dashboard Builder, Query Builder, the Fit Model platform, JMP Public and JMP Live, and a more detailed look at the JMP website. Each chapter contains a family of features that are carefully crafted to first introduce you to basic features and then move on to more advanced topics. *JMP Essentials: An Illustrated Guide for New Users, Third Edition*, is the quickest and most accessible reference book available.

*Building Better Models with JMP® Pro* provides an example-based introduction to business analytics, with a proven process that guides you in the application of modeling tools and concepts. It gives you the "what, why, and how" of using JMP® Pro for building and applying analytic models. This book is designed for business analysts, managers, and practitioners who may not have a solid statistical background, but need to be able to readily apply analytic methods to solve business problems. In addition, this book will greatly benefit faculty members who teach any of the following subjects at the lower to upper graduate level: predictive modeling, data mining, and business analytics.

Novice to advanced users in business statistics, business analytics, and predictive modeling will find that it provides a peek inside the black box of algorithms and the methods used. Topics include: regression, logistic regression, classification and regression trees, neural networks, model cross-validation, model comparison and selection, and data reduction techniques. Full of rich examples, *Building Better Models with JMP Pro* is an applied book on business analytics and modeling that introduces a simple methodology for managing and executing analytics projects. No prior experience with JMP is needed. Make more informed decisions from your data using this newest JMP book.

*Practical Data Analysis with Jmp, Second Edition*

*Analyzing and Interpreting Continuous Data Using JMP*

*JMP for Basic Univariate and Multivariate Statistics*

*Transportation Statistics and Microsimulation*

*A Practical Guide for Fast Consumer Goods Companies, Chemical Industry and Processing Tools Manufacturers*

## A Bag of Tricks

**An authoritative guide to the most recent advances in statistical methods for quantifying reliability Statistical Methods for Reliability Data, Second Edition (SMRD2) is an essential guide to the most widely used and recently developed statistical methods for reliability data analysis and reliability test planning. Written by three experts in the area, SMRD2 updates and extends the long-established statistical techniques and shows how to apply powerful graphical, numerical, and simulation-based methods to a range of applications in reliability. SMRD2 is a comprehensive resource that describes maximum likelihood and Bayesian methods for solving practical problems that arise in product reliability and similar areas of application. SMRD2 illustrates methods with numerous applications and all the data sets are available on the book's website. Also, SMRD2 contains an extensive collection of exercises that will enhance its use as a course textbook. The SMRD2's website contains valuable resources, including R packages, Stan model codes, presentation slides, technical notes, information about commercial software for reliability data analysis, and csv files for the 93 data sets used in the book's examples and exercises. The importance of statistical methods in the area of engineering reliability continues to grow and SMRD2 offers an updated guide for, exploring, modeling, and drawing conclusions from reliability data. SMRD2 features: Contains a wealth of information on modern methods and techniques for reliability data analysis Offers discussions on the practical problem-solving power of various Bayesian inference methods Provides examples of Bayesian data analysis performed using the R interface to the Stan system based on Stan models that are available on the book's website Includes helpful technical-problem and data-analysis exercise sets at the end of every chapter Presents illustrative computer graphics that highlight data, results of analyses, and technical concepts Written for engineers and statisticians in industry and academia, Statistical Methods for Reliability Data, Second Edition offers an authoritative guide to this important topic.**

**Understand the concepts and techniques of analysis while learning to reason statistically. Being an effective analyst requires that you know how to properly define a problem and apply suitable statistical techniques, as well as clearly and honestly communicate the results with information-rich visualizations and precise language. Being a well-informed consumer of analyses requires the same set of skills so that you can recognize credible, actionable research when you see it. Robert Carver's Practical Data Analysis with JMP, Second Edition uses the powerful interactive and visual approach of JMP to introduce**

readers to the logic and methods of statistical thinking and data analysis. It enables you to discriminate among and to use fundamental techniques of analysis, enabling you to engage in statistical thinking by analyzing real-world problems. "Application Scenarios" at the end of each chapter challenge you to put your knowledge and skills to use with data sets that go beyond mere repetition of chapter examples, and three new review chapters help readers integrate ideas and techniques. In addition, the scope and sequence of the chapters have been updated with more coverage of data management and analysis of data. The book can stand on its own as a learning resource for professionals or be used to supplement a standard college-level introduction-to-statistics textbook. It includes varied examples and problems that rely on real sets of data, typically starting with an important or interesting research question that an investigator has pursued. Reflective of the broad applicability of statistical reasoning, the problems come from a wide variety of disciplines, including engineering, life sciences, business, economics, among Practical Data Analysis with JMP, Second Edition introduces you to the major platforms and essential features of JMP and will leave you with a sufficient background and the confidence to continue your exploration independently. This book is part of the SAS Press program.

Unstructured data is the most voluminous form of data in the world, and several elements are critical for any advanced analytics practitioner leveraging SAS software to effectively address the challenge of deriving value from that data. This book covers the five critical elements of entity extraction, unstructured data, entity resolution, entity network mapping and analysis, and entity management. By following examples of how to apply processing to unstructured data, readers will derive tremendous long-term value from this book as they enhance the value they realize from SAS products.

Since the publication of the second edition of Applied Reliability in 1995, the ready availability of inexpensive, powerful statistical software has changed the way statisticians and engineers look at and analyze all kinds of data. Problems in reliability that were once difficult and time consuming even for experts can now be solved with a few well

**50 Essential Concepts**

**A Key to Business Success**

**A Case Study Approach**

**Fundamentals of Predictive Analytics with JMP, Second Edition**

**Data Mining for Business Analytics**

## **Practical Data Analysis with JMP**

**Written for students in undergraduate and graduate statistics courses, as well as for the practitioner who wants to make better decisions from data and models, this updated and expanded second edition of Fundamentals of Predictive Analytics with JMP(R) bridges the gap between courses on basic statistics, which focus on univariate and bivariate analysis, and courses on data mining and predictive analytics. Going beyond the theoretical foundation, this book gives you the technical knowledge and problem-solving skills that you need to perform real-world multivariate data analysis. First, this book teaches you to recognize when it is appropriate to use a tool, what variables and data are required, and what the results might be. Second, it teaches you how to interpret the results and then, step-by-step, how and where to perform and evaluate the analysis in JMP . Using JMP 13 and JMP 13 Pro, this book offers the following new and enhanced features in an example-driven format: an add-in for Microsoft Excel Graph Builder dirty data visualization regression ANOVA logistic regression principal component analysis LASSO elastic net cluster analysis decision trees k-nearest neighbors neural networks bootstrap forests boosted trees text mining association rules model comparison With today's emphasis on business intelligence, business analytics, and predictive analytics, this second edition is invaluable to anyone who needs to expand his or her knowledge of statistics and to apply real-world, problem-solving analysis. This book is part of the SAS Press program.**

**Quantifying exergy losses in the energy supply system of buildings reveals the potential for energy improvement, which cannot be discovered using conventional energy analysis. Thermoeconomics combines economic and thermodynamic analysis by applying the concept of cost (an economic concept) to exergy, as exergy is a thermodynamic property fit for this purpose, in that it combines the quantity of energy with its quality factor. Exergy Analysis and Thermoeconomics of Buildings applies exergy analysis methods and thermoeconomics to the built environment. The mechanisms of heat transfer throughout the envelope of buildings are analyzed from an exergy perspective and then to the building thermal installations, analyzing the different components, such as condensing boilers, absorption refrigerators, microgeneration plants, etc., including solar installations**

and finally the thermal facilities as a whole. A detailed analysis of the cost formation process is presented, which has its physical roots firmly planted in the second law of thermodynamics. The basic principles and the rules of cost allocation, in energy units (exergy cost), in monetary units (exergoeconomic cost), and in CO<sub>2</sub> emissions (exergoenvironmental cost), based on the so-called Exergy Cost Theory are presented and applied to thermal installations of buildings. Clear and rigorous in its exposition, *Exergy Analysis and Thermoeconomics of Buildings* discusses exergy analysis and thermoeconomics and the role they could play in the analysis and design of building components, either the envelope or the thermal facilities, as well as the diagnosis of thermal installations. This book moves progressively from introducing the basic concepts to applying them. *Exergy Analysis and Thermoeconomics of Buildings* provides examples of specific cases throughout this book. These cases include real data, so that the results obtained are useful to interpret the inefficiencies and losses that truly occur in actual installations; hence, the assessment of their effects encourages the manner to improve efficiency. Applies exergy analysis methods for the installation of building thermal facilities equipment components, including pipes, valves, heat exchangers, boilers and heat pumps Helps readers determine the operational costs of heating and cooling building systems Includes exergy analysis methods that are devoted to absorption refrigerators, adsorption cooling systems, basic air conditioning processes, ventilation systems and solar systems, either thermal and PV Discusses the direct application of exergy analysis concepts, including examples of buildings with typical heating, DHW and air conditioning installations With the powerful interactive and visual functionality of JMP, you can dynamically analyze market data to transform it into actionable and useful information with clear, concise, and insightful reports and displays. *Market Data Analysis Using JMP* is a unique example-driven book because it has a specific application focus: market data analysis. A working knowledge of JMP will help you turn your market data into vital knowledge that will help you succeed in a highly competitive, fast-moving, and dynamic business world. This book can be used as a stand-alone resource for working professionals, or as a supplement to a business school course in market data research. Anyone who works with market data will benefit from reading and

**studying this book, then using JMP to apply the dynamic analytical concepts to their market data. After reading this book, you will be able to quickly and effortlessly use JMP to: prepare market data for analysis use and interpret sophisticated statistical methods build choice models estimate regression models to turn data into useful and actionable information Market Data Analysis Using JMP will teach you how to use dynamic graphics to illustrate your market data analysis and explore the vast possibilities that your data can offer! This book uses the powerful interactive and visual approach of JMP to introduce readers to the logic and methods of statistical thinking and data analysis. It enables you to discriminate among and to use fundamental techniques of analysis, enabling you to engage in statistical thinking by analyzing real-world problems. "Application Scenarios" at the end of each chapter challenge you to put your knowledge and skills to use with data sets that go beyond mere repetition of chapter examples, and three new review chapters help readers integrate ideas and techniques. In addition, the scope and sequence of the chapters have been updated with more coverage of data management and analysis of data. The book can stand on its own as a learning resource for professionals or be used to supplement a standard college-level introduction-to-statistics textbook. Reflective of the broad applicability of statistical reasoning, the problems included in the book come from a wide variety of disciplines, including engineering, life sciences, business, economics, among others, and include a number of international and historical examples. --**

**with applications in R, MINITAB and JMP**

**Building Better Models with JMP Pro**

**Solving Product Development and Manufacturing Problems**

**Graphs, Descriptive Statistics and Probability**

**Applied Reliability**

**Discovering Partial Least Squares with JMP**

Practical Data Analysis with Jmp, Second Edition  
Sas Inst  
Statistical methods are a key part of of data science, yet very few data scientists have any formal statistics training. Courses and books on basic statistics rarely cover the topic from a data science perspective. This practical guide explains how to apply various statistical methods to data science, tells you how to avoid their misuse, and gives you advice on what's important and what's not. Many data science resources incorporate statistical methods but lack a

deeper statistical perspective. If you're familiar with the R programming language, and have some exposure to statistics, this quick reference bridges the gap in an accessible, readable format. With this book, you'll learn: Why exploratory data analysis is a key preliminary step in data science How random sampling can reduce bias and yield a higher quality dataset, even with big data How the principles of experimental design yield definitive answers to questions How to use regression to estimate outcomes and detect anomalies Key classification techniques for predicting which categories a record belongs to Statistical machine learning methods that "learn" from data Unsupervised learning methods for extracting meaning from unlabeled data Using JMP statistical discovery software from SAS, Discovering Partial Least Squares with JMP explores Partial Least Squares and positions it within the more general context of multivariate analysis. This book motivates current and potential users of JMP to extend their analytical repertoire by embracing PLS. Dynamically interacting with JMP, you will develop confidence as you explore underlying concepts and work through the examples. The authors provide background and guidance to support and empower you on this journey.

Students in the sciences, economics, psychology, social sciences, and medicine take introductory statistics. Statistics is increasingly offered at the high school level as well. However, statistics can be notoriously difficult to teach as it is seen by many students as difficult and boring, if not irrelevant to their subject of choice. To help dispel these misconceptions, Gelman and Nolan have put together this fascinating and thought-provoking book. Based on years of teaching experience the book provides a wealth of demonstrations, examples and projects that involve active student participation. Part I of the book presents a large selection of activities for introductory statistics courses and combines chapters such as, 'First week of class', with exercises to break the ice and get students talking; then 'Descriptive statistics', collecting and displaying data; then follows the traditional topics - linear regression, data collection, probability and inference. Part II gives tips on what does and what doesn't work in class: how to set up effective demonstrations and examples, how to encourage students to participate in class and work effectively in

group projects. A sample course plan is provided. Part III presents material for more advanced courses on topics such as decision theory, Bayesian statistics and sampling.

**Dark Data**

**Practical Statistics for Data Scientists**

**Optimal Design of Experiments**

**Statistical Methods for Reliability Data**

**Teaching Statistics**

**Methods for Researchers and Social Scientists, Second Edition**

Understand the concepts and techniques of analysis while learning to reason statistically. Being an effective analyst requires that you know how to properly define a problem and apply suitable statistical techniques, as well as clearly and honestly communicate the results with information-rich visualizations and precise language. Being a well-informed consumer of analyses requires the same set of skills so that you can recognize credible, actionable research when you see it.

Robert Carver's Practical Data Analysis with JMP, Second Edition uses the powerful interactive and visual approach of JMP to introduce readers to the logic and methods of statistical thinking and data analysis. It enables you to discriminate among and to use fundamental techniques of analysis, enabling you to engage in statistical thinking by analyzing real-world problems.

"Application Scenarios" at the end of each chapter challenge you to put your knowledge and skills to use with data sets that go beyond mere repetition of chapter examples, and three new review chapters help readers integrate ideas and techniques. In addition, the scope and sequence of the chapters have been updated with more coverage of data management and analysis of data. The book can stand on its own as a learning resource for professionals or be used to supplement a standard college-level introduction-to-statistics textbook. It includes varied examples and problems that rely on real sets of data, typically starting with an important or interesting research question that an investigator has pursued. Reflective of the broad applicability of statistical reasoning, the problems come from a wide variety of disciplines, including engineering, life sciences, business, economics, among others, and include a number of international and historical examples. Practical Data Analysis with JMP, Second Edition introduces you to the major platforms and essential features of JMP and will leave you with a sufficient background and the confidence to continue your exploration independently. This book is part of the SAS Press program.

The Basic Practice of Statistics has become a bestselling textbook by focusing on how statistics are gathered, analyzed, and applied to real problems and situations—and by confronting student anxieties about the course's relevance and difficulties head on. With David Moore's pioneering "data analysis" approach (emphasizing statistical thinking over computation), engaging narrative and case studies, current problems and exercises, and an accessible level of mathematics, there is no more effective textbook for showing students what working statisticians do and what accurate interpretations of data can reveal about the world we live in. In the new edition, you will once again see how everything fits together. As always, Moore's text offers balanced content, beginning with data analysis, then covering probability and inference in the context of statistics as a whole. It provides a wealth of opportunities for students to work with data from a wide range of disciplines and real-world settings, emphasizing the big ideas of statistics in the context of learning specific skills used by professional statisticians. Thoroughly updated throughout, the

new edition offers new content, features, cases, data sources, and exercises, plus new media support for instructors and students—including the latest version of the widely-adopted StatsPortal. The full picture of the contemporary practice of statistics has never been so captivatingly presented to an uninitiated audience.

Explore biostatistics using JMP® in this refreshing introduction Presented in an easy-to-understand way, Introduction to Biostatistics with JMP® introduces undergraduate students in the biological sciences to the most commonly used (and misused) statistical methods that they will need to analyze their experimental data using JMP. It covers many of the basic topics in statistics using biological examples for exercises so that the student biologists can see the relevance to future work in the problems addressed. The book starts by teaching students how to become confident in executing the right analysis by thinking like a statistician then moves into the application of specific tests. Using the powerful capabilities of JMP, the book addresses problems requiring analysis by chi-square tests, t tests, ANOVA analysis, various regression models, DOE, and survival analysis. Topics of particular interest to the biological or health science field include odds ratios, relative risk, and survival analysis. The author uses an engaging, conversational tone to explain concepts and keep readers interested in learning more. The book aims to create bioscientists who can competently incorporate statistics into their investigative toolkits to solve biological research questions as they arise.

Data Mining for Business Analytics: Concepts, Techniques, and Applications in Python presents an applied approach to data mining concepts and methods, using Python software for illustration Readers will learn how to implement a variety of popular data mining algorithms in Python (a free and open-source software) to tackle business problems and opportunities. This is the sixth version of this successful text, and the first using Python. It covers both statistical and machine learning algorithms for prediction, classification, visualization, dimension reduction, recommender systems, clustering, text mining and network analysis. It also includes: A new co-author, Peter Gedeck, who brings both experience teaching business analytics courses using Python, and expertise in the application of machine learning methods to the drug-discovery process A new section on ethical issues in data mining Updates and new material based on feedback from instructors teaching MBA, undergraduate, diploma and executive courses, and from their students More than a dozen case studies demonstrating applications for the data mining techniques described End-of-chapter exercises that help readers gauge and expand their comprehension and competency of the material presented A companion website with more than two dozen data sets, and instructor materials including exercise solutions, PowerPoint slides, and case solutions Data Mining for Business Analytics: Concepts, Techniques, and Applications in Python is an ideal textbook for graduate and upper-undergraduate level courses in data mining, predictive analytics, and business analytics. This new edition is also an excellent reference for analysts, researchers, and practitioners working with quantitative methods in the fields of business, finance, marketing, computer science, and information technology. “ This book has by far the most comprehensive review of business analytics methods that I have ever seen, covering everything from classical approaches such as linear and logistic regression, through to modern methods like neural networks, bagging and boosting, and even much more business specific procedures such as social network analysis and text mining. If not the bible, it is at the least a definitive manual on the subject. ” —Gareth M. James, University of Southern California and co-author (with Witten, Hastie and Tibshirani) of the best-selling book An Introduction to Statistical Learning, with Applications in R  
A Step-by-step Guide

Practical Data Analysis with JMP®, Second Edition  
End-to-end Data Analytics for Product Development  
Market Data Analysis Using JMP

Practical Data Analysis with JMP, Second Edition, 2nd Edition

Exergy Analysis and Thermoconomics of Buildings

***Learn how to manage JMP data and perform the statistical analyses most commonly used in research in the social sciences and other fields with JMP for Basic Univariate and Multivariate Statistics: Methods for Researchers and Social Scientists, Second Edition. Updated for JMP 10 and including new features on the statistical platforms, this book offers clearly written instructions to guide you through the basic concepts of research and data analysis, enabling you to easily perform statistical analyses and solve problems in real-world research. Step by step, you'll discover how to obtain descriptive and inferential statistics, summarize results clearly in a way that is suitable for publication, perform a wide range of JMP analyses, interpret the results, and more. Topics include screening data for errors selecting subsets computing the coefficient alpha reliability index (Cronbach's alpha) for a multiple-item scale performing bivariate analyses for all types of variables performing a one-way analysis of variance (ANOVA), multiple regression, and a one-way multivariate analysis of variance (MANOVA) Advanced topics include analyzing models with interactions and repeated measures. There is also comprehensive coverage of principle components with emphasis on graphical interpretation. This user-friendly book introduces researchers and students of the social sciences to JMP and to elementary statistical procedures, while the more advanced statistical procedures that are presented make it an invaluable reference guide for experienced researchers as well. Learn how to perform basic statistical analyses using the powerful JMP software. Elementary Statistics Using JMP bridges the gap between statistics texts and JMP documentation. Author Sandra Schlotzhauer opens with an explanation of the basics of JMP data tables, demonstrating how to use JMP for descriptive statistics and graphs. The author continues with a lucid discussion of fundamental statistical concepts, including normality and hypothesis testing. Using a step-by-step approach, she shows analyses for comparing two groups, comparing multiple groups, fitting regression equations, and exploring contingency tables. For each analysis, the author clearly explains assumptions, the statistical approach, the JMP steps and results, and how to make conclusions from the results. Statistical methods include: \*histograms, box plots, descriptive statistics, stem-and-leaf plots \*mosaic plots, bar charts, and treemaps \*t-tests and Wilcoxon tests to compare two independent or paired groups \*one-way ANOVA and Kruskal-Wallis tests, and selected multiple comparison techniques \*Pearson and***

***Spearman correlation coefficients \*regression models for lines, curves, and multiple variables \*residuals plots and lack-of-fit tests for regression \*Chi-square tests, Fisher's Exact test, and measures of association for contingency tables. Understand how to interpret both the graphs and text reports, as well as how to customize JMP results to meet your needs. Packed with examples from a broad range of industries, this text is ideal for novice to intermediate JMP users. Prior statistical knowledge, JMP experience, or programming skills are not required.***

***"This is an engaging and informative book on the modern practice of experimental design. The authors' writing style is entertaining, the consulting dialogs are extremely enjoyable, and the technical material is presented brilliantly but not overwhelmingly. The book is a joy to read. Everyone who practices or teaches DOE should read this book." - Douglas C. Montgomery, Regents Professor, Department of Industrial Engineering, Arizona State University "It's been said: 'Design for the experiment, don't experiment for the design.' This book ably demonstrates this notion by showing how tailor-made, optimal designs can be effectively employed to meet a client's actual needs. It should be required reading for anyone interested in using the design of experiments in industrial settings."***

***—Christopher J. Nachtsheim, Frank A Donaldson Chair in Operations Management, Carlson School of Management, University of Minnesota This book demonstrates the utility of the computer-aided optimal design approach using real industrial examples. These examples address questions such as the following: How can I do screening inexpensively if I have dozens of factors to investigate? What can I do if I have day-to-day variability and I can only perform 3 runs a day? How can I do RSM cost effectively if I have categorical factors? How can I design and analyze experiments when there is a factor that can only be changed a few times over the study? How can I include both ingredients in a mixture and processing factors in the same study? How can I design an experiment if there are many factor combinations that are impossible to run? How can I make sure that a time trend due to warming up of equipment does not affect the conclusions from a study? How can I take into account batch information in when designing experiments involving multiple batches? How can I add runs to a botched experiment to resolve ambiguities? While answering these questions the book also shows how to evaluate and compare designs. This allows researchers to make sensible trade-offs between the cost of experimentation and the amount of information they obtain.***

***Although many books currently available describe statistical models and methods for analyzing longitudinal data, they do not highlight connections between various research threads in the statistical literature. Responding to this void, Longitudinal Data Analysis***

***provides a clear, comprehensive, and unified overview of state-of-the-art theory and applications. It also focuses on the assorted challenges that arise in analyzing longitudinal data. After discussing historical aspects, leading researchers explore four broad themes: parametric modeling, nonparametric and semiparametric methods, joint models, and incomplete data. Each of these sections begins with an introductory chapter that provides useful background material and a broad outline to set the stage for subsequent chapters. Rather than focus on a narrowly defined topic, chapters integrate important research discussions from the statistical literature. They seamlessly blend theory with applications and include examples and case studies from various disciplines. Destined to become a landmark publication in the field, this carefully edited collection emphasizes statistical models and methods likely to endure in the future. Whether involved in the development of statistical methodology or the analysis of longitudinal data, readers will gain new perspectives on the field. Statistics and Probability with Applications for Engineers and Scientists***

***A Practical Guide to Data Mining for Business and Industry Concepts, Techniques, and Applications with XLMiner***

### ***JMP Start Statistics***

#### ***Pharmaceutical Quality by Design Using JMP***

Data Mining for Business Analytics: Concepts, Techniques, and Applications in XLMiner®, Third Edition presents an applied approach to data mining and predictive analytics with clear exposition, hands-on exercises, and real-life case studies. Readers will work with all of the standard data mining methods using the Microsoft® Office Excel® add-in XLMiner® to develop predictive models and learn how to obtain business value from Big Data. Featuring updated topical coverage on text mining, social network analysis, collaborative filtering, ensemble methods, uplift modeling and more, the Third Edition also includes: Real-world examples to build a theoretical and practical understanding of key data mining methods End-of-chapter exercises that help readers better understand the presented material Data-rich case studies to illustrate various applications of data mining techniques Completely new chapters on social network analysis and text mining A companion site with additional data sets, instructors material that include solutions to exercises and case studies, and Microsoft PowerPoint® slides <https://www.dataminingbook.com> Free 140-day license to use XLMiner for Education software Data Mining for Business Analytics: Concepts, Techniques, and Applications in XLMiner®, Third Edition is an ideal textbook for upper-undergraduate and graduate-level courses as well as professional programs on data mining, predictive modeling, and Big Data analytics. The new edition is also a unique reference for analysts, researchers,

and practitioners working with predictive analytics in the fields of business, finance, marketing, computer science, and information technology. Praise for the Second Edition "...full of vivid and thought-provoking anecdotes... needs to be read by anyone with a serious interest in research and marketing."—

Research Magazine "Shmueli et al. have done a wonderful job in presenting the field of data mining - a welcome addition to the literature." –

ComputingReviews.com "Excellent choice for business analysts...The book is a perfect fit for its intended audience." – Keith McCormick, Consultant and Author of SPSS Statistics For Dummies, Third Edition and SPSS Statistics for Data Analysis and Visualization Galit Shmueli, PhD, is Distinguished Professor at National Tsing Hua University 's Institute of Service Science. She has designed and instructed data mining courses since 2004 at University of Maryland, Statistics.com, The Indian School of Business, and National Tsing Hua University, Taiwan. Professor Shmueli is known for her research and teaching in business analytics, with a focus on statistical and data mining methods in information systems and healthcare. She has authored over 70 journal articles, books, textbooks and book chapters. Peter C. Bruce is President and Founder of the Institute for Statistics Education at [www.statistics.com](http://www.statistics.com). He has written multiple journal articles and is the developer of Resampling Stats software. He is the author of Introductory Statistics and Analytics: A Resampling Perspective, also published by Wiley. Nitin R. Patel, PhD, is Chairman and cofounder of Cytel, Inc., based in Cambridge, Massachusetts. A Fellow of the American Statistical Association, Dr. Patel has also served as a Visiting Professor at the Massachusetts Institute of Technology and at Harvard University. He is a Fellow of the Computer Society of India and was a professor at the Indian Institute of Management, Ahmedabad for 15 years.

Access and clean up data easily using JMP®! Data acquisition and preparation commonly consume approximately 75% of the effort and time of total data analysis. JMP provides many visual, intuitive, and even innovative data-preparation capabilities that enable you to make the most of your organization's data. Preparing Data for Analysis with JMP® is organized within a framework of statistical investigations and model-building and illustrates the new data-handling features in JMP, such as the Query Builder. Useful to students and programmers with little or no JMP experience, or those looking to learn the new data-management features and techniques, it uses a practical approach to getting started with plenty of examples. Using step-by-step demonstrations and screenshots, this book walks you through the most commonly used data-management techniques that also include lots of tips on how to avoid common problems. With this book, you will learn how to: Manage database operations using the JMP Query Builder Get data into JMP from other formats, such as Excel, csv, SAS, HTML, JSON, and the web Identify and avoid problems with the help of JMP 's visual and automated data-exploration tools Consolidate data from multiple sources with Query Builder for tables Deal with

common issues and repairs that include the following tasks: reshaping tables (stack/unstack) managing missing data with techniques such as imputation and Principal Components Analysis cleaning and correcting dirty data computing new variables transforming variables for modelling reconciling time and date Subset and filter your data Save data tables for exchange with other platforms

Master the concepts and techniques of statistical analysis using JMP(R) Practical Data Analysis with JMP(R), Third Edition, highlights the powerful interactive and visual approach of JMP to introduce readers to statistical thinking and data analysis. It helps you choose the best technique for the problem at hand by using real-world cases. It also illustrates best-practice workflow throughout the entire investigative cycle, from asking valuable questions through data acquisition, preparation, analysis, interpretation, and communication of findings. The book can stand on its own as a learning resource for professionals, or it can be used to supplement a college-level textbook for an introductory statistics course. It includes varied examples and problems using real sets of data. Each chapter typically starts with an important or interesting research question that an investigator has pursued. Reflecting the broad applicability of statistical reasoning, the problems come from a wide variety of disciplines, including engineering, life sciences, business, and economics, as well as international and historical examples. Application Scenarios at the end of each chapter challenge you to use your knowledge and skills with data sets that go beyond mere repetition of chapter examples. New in the third edition, chapters have been updated to demonstrate the enhanced capabilities of JMP, including projects, Graph Builder, Query Builder, and Formula Depot.

By discussing statistical concepts in the context of transportation planning and operations, Transportation Statistics and Microsimulation provides the necessary background for making informed transportation-related decisions. It explains the why behind standard methods and uses real-world transportation examples and problems to illustrate key conc

Statistics with JMP

Design and Analysis for Sustainable Energy Systems

Longitudinal Data Analysis

Preparing Data for Analysis with JMP

Modern Industrial Statistics

Biostatistics Using JMP

"Data describe and represent the world. However, no matter how big they may be, data sets don't - indeed cannot - capture everything. Data are measurements - and, as such, they represent only what has been measured. They don't necessarily capture all the information that is relevant to the questions we may want to ask. If we do not take into account what may be missing/unknown in the data we have, we may find ourselves unwittingly asking questions that our data cannot actually address, come to mistaken conclusions, and make disastrous decisions. In this book, David Hand looks at the

ubiquitous phenomenon of "missing data." He calls this "dark data" (making a comparison to "dark matter" - i.e., matter in the universe that we know is there, but which is invisible to direct measurement). He reveals how we can detect when data is missing, the types of settings in which missing data are likely to be found, and what to do about it. It can arise for many reasons, which themselves may not be obvious - for example, asymmetric information in wars; time delays in financial trading; dropouts in clinical trials; deliberate selection to enhance apparent performance in hospitals, policing, and schools; etc. What becomes clear is that measuring and collecting more and more data (big data) will not necessarily lead us to better understanding or to better decisions. We need to be vigilant to what is missing or unknown in our data, so that we can try to control for it. How do we do that? We can be alert to the causes of dark data, design better data-collection strategies that sidestep some of these causes - and, we can ask better questions of our data, which will lead us to deeper insights and better decisions"--

Master the concepts and techniques of statistical analysis using JMP Practical Data Analysis with JMP, Third Edition, highlights the powerful interactive and visual approach of JMP to introduce readers to statistical thinking and data analysis. It helps you choose the best technique for the problem at hand by using real-world cases. It also illustrates best-practice workflow throughout the entire investigative cycle, from asking valuable questions through data acquisition, preparation, analysis, interpretation, and communication of findings. The book can stand on its own as a learning resource for professionals, or it can be used to supplement a college-level textbook for an introductory statistics course. It includes varied examples and problems using real sets of data. Each chapter typically starts with an important or interesting research question that an investigator has pursued. Reflecting the broad applicability of statistical reasoning, the problems come from a wide variety of disciplines, including engineering, life sciences, business, and economics, as well as international and historical examples. Application Scenarios at the end of each chapter challenge you to use your knowledge and skills with data sets that go beyond mere repetition of chapter examples. New in the third edition, chapters have been updated to demonstrate the enhanced capabilities of JMP, including projects, Graph Builder, Query Builder, and Formula Depot.

Praise for the First Edition "...[t]he book is great for readers who need to apply the methods and models presented but have little background in mathematics and statistics." -MAA Reviews Thoroughly updated throughout, Introduction to Time Series Analysis and Forecasting, Second Edition presents the underlying theories of time series analysis that are needed to analyze time-oriented data and construct real-world short- to medium-term statistical forecasts. Authored by highly-experienced academics and professionals in engineering statistics, the Second Edition features discussions on both popular and modern time series methodologies as well as an introduction to Bayesian methods in forecasting. Introduction to Time Series Analysis and Forecasting, Second Edition also includes: Over 300 exercises from diverse disciplines including health care, environmental studies, engineering, and finance More than 50 programming algorithms using JMP®, SAS®, and R that illustrate the theory and practicality of forecasting techniques in the context of time-oriented data New material on frequency domain and spatial temporal data analysis Expanded coverage of the

variogram and spectrum with applications as well as transfer and intervention model functions A supplementary website featuring PowerPoint® slides, data sets, and select solutions to the problems Introduction to Time Series Analysis and Forecasting, Second Edition is an ideal textbook upper-undergraduate and graduate-levels courses in forecasting and time series. The book is also an excellent reference for practitioners and researchers who need to model and analyze time series data to generate forecasts.

Peter Goos, Department of Statistics, University of Leuven, Faculty of Bio-Science Engineering and University of Antwerp, Faculty of Applied Economics, Belgium David Meintrup, Department of Mathematics and Statistics, University of Applied Sciences Ingolstadt, Faculty of Mechanical Engineering, Germany Thorough presentation of introductory statistics and probability theory, with numerous examples and applications using JMP JMP: Graphs, Descriptive Statistics and Probability provides an accessible and thorough overview of the most important descriptive statistics for nominal, ordinal and quantitative data with particular attention to graphical representations. The authors distinguish their approach from many modern textbooks on descriptive statistics and probability theory by offering a combination of theoretical and mathematical depth, and clear and detailed explanations of concepts. Throughout the book, the user-friendly, interactive statistical software package JMP is used for calculations, the computation of probabilities and the creation of figures. The examples are explained in detail, and accompanied by step-by-step instructions and screenshots. The reader will therefore develop an understanding of both the statistical theory and its applications. Traditional graphs such as needle charts, histograms and pie charts are included, as well as the more modern mosaic plots, bubble plots and heat maps. The authors discuss probability theory, particularly discrete probability distributions and continuous probability densities, including the binomial and Poisson distributions, and the exponential, normal and lognormal densities. They use numerous examples throughout to illustrate these distributions and densities. Key features: Introduces each concept with practical examples and demonstrations in JMP. Provides the statistical theory including detailed mathematical derivations. Presents illustrative examples in each chapter accompanied by step-by-step instructions and screenshots to help develop the reader ' s understanding of both the statistical theory and its applications. A supporting website with data sets and other teaching materials. This book is equally aimed at students in engineering, economics and natural sciences who take classes in statistics as well as at masters/advanced students in applied statistics and probability theory. For teachers of applied statistics, this book provides a rich resource of course material, examples and applications.

JMP Essentials

Introduction to Time Series Analysis and Forecasting

Entity Resolution and Regular Expressions in SAS

Why What You Don ' t Know Matters

Achieving Product Reliability

Elementary Statistics Using JMP

**Data mining is well on its way to becoming a recognized discipline in the overlapping areas of IT, statistics, machine learning, and AI. Practical Data Mining for Business presents a user-friendly approach to data mining methods, covering the typical uses to**

which it is applied. The methodology is complemented by case studies to create a versatile reference book, allowing readers to look for specific methods as well as for specific applications. The book is formatted to allow statisticians, computer scientists, and economists to cross-reference from a particular application or method to sectors of interest.

"Practical Data Analysis with JMP" uses the powerful interactive and visual approach of JMP to introduce readers to the logic and methods of statistical thinking and data analysis. The book can stand on its own or be used to supplement a standard introduction-to-statistics textbook.

This book provides hands-on tutorials with just the right amount of conceptual and motivational material to illustrate how to use the intuitive interface for data analysis in JMP. Each chapter features concept-specific tutorials, examples, brief reviews of concepts, step-by-step illustrations, and exercises. Updated for JMP 13, JMP Start Statistics, Sixth Edition includes many new features, including: The redesigned Formula Editor. New and improved ways to create formulas in JMP directly from the data table or dialogs. Interface updates, including improved menu layout. Updates and enhancements in many analysis platforms. New ways to get data into JMP and to save and share JMP results. Many new features that make it easier to use JMP.

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 academician 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.

Concepts, Techniques and Applications in Python  
An Illustrated Guide for New Users, Third Edition  
A Practical Guide