Doing Bayesian Data Analysis, Second Edition: A Tutorial with R, JAGS, and Stan

By John Kruschke

Doing Bayesian Data Analysis, Second Edition: A Tutorial with R, JAGS, and Stan By John Kruschke

Doing Bayesian Data Analysis: A Tutorial with R, JAGS, and Stan, Second Edition provides an accessible approach for conducting Bayesian data analysis, as material is explained clearly with concrete examples. Included are step-by-step instructions on how to carry out Bayesian data analyses in the popular and free software R and WinBugs, as well as new programs in JAGS and Stan. The new programs are designed to be much easier to use than the scripts in the first edition. In particular, there are now compact high-level scripts that make it easy to run the programs on your own data sets.

The book is divided into three parts and begins with the basics: models, probability, Bayes' rule, and the R programming language. The discussion then moves to the fundamentals applied to inferring a binomial probability, before concluding with chapters on the generalized linear model. Topics include metric-predicted variable on one or two groups; metric-predicted variable with one metric predictor; metric-predicted variable with multiple metric predictors; metric-predicted variable with one nominal predictor; and metric-predicted variable with multiple nominal predictors. The exercises found in the text have explicit purposes and guidelines for accomplishment.

This book is intended for first-year graduate students or advanced undergraduates in statistics, data analysis, psychology, cognitive science, social sciences, clinical sciences, and consumer sciences in business.

- Accessible, including the basics of essential concepts of probability and random sampling
- Examples with R programming language and JAGS software
- Comprehensive coverage of all scenarios addressed by non-Bayesian textbooks: t-tests, analysis of variance (ANOVA) and comparisons in ANOVA, multiple regression, and chi-square (contingency table analysis)
- Coverage of experiment planning
- R and JAGS computer programming code on website
- Exercises have explicit purposes and guidelines for accomplishment
- Provides step-by-step instructions on how to conduct Bayesian data analyses in

the popular and free software R and WinBugs

Doing Bayesian Data Analysis, Second Edition: A Tutorial with R, JAGS, and Stan

By John Kruschke

Doing Bayesian Data Analysis, Second Edition: A Tutorial with R, JAGS, and Stan By John Kruschke

Doing Bayesian Data Analysis: A Tutorial with R, JAGS, and Stan, Second Edition provides an accessible approach for conducting Bayesian data analysis, as material is explained clearly with concrete examples. Included are step-by-step instructions on how to carry out Bayesian data analyses in the popular and free software R and WinBugs, as well as new programs in JAGS and Stan. The new programs are designed to be much easier to use than the scripts in the first edition. In particular, there are now compact high-level scripts that make it easy to run the programs on your own data sets.

The book is divided into three parts and begins with the basics: models, probability, Bayes' rule, and the R programming language. The discussion then moves to the fundamentals applied to inferring a binomial probability, before concluding with chapters on the generalized linear model. Topics include metric-predicted variable on one or two groups; metric-predicted variable with one metric predictor; metric-predicted variable with multiple metric predictors; metric-predicted variable with one nominal predictor; and metric-predicted variable with multiple nominal predictors. The exercises found in the text have explicit purposes and guidelines for accomplishment.

This book is intended for first-year graduate students or advanced undergraduates in statistics, data analysis, psychology, cognitive science, social sciences, clinical sciences, and consumer sciences in business.

- Accessible, including the basics of essential concepts of probability and random sampling
- Examples with R programming language and JAGS software
- Comprehensive coverage of all scenarios addressed by non-Bayesian textbooks: t-tests, analysis of variance (ANOVA) and comparisons in ANOVA, multiple regression, and chi-square (contingency table analysis)
- Coverage of experiment planning
- R and JAGS computer programming code on website
- Exercises have explicit purposes and guidelines for accomplishment
- Provides step-by-step instructions on how to conduct Bayesian data analyses in the popular and free software R and WinBugs

Doing Bayesian Data Analysis, Second Edition: A Tutorial with R, JAGS, and Stan By John Kruschke Bibliography

- Sales Rank: #31500 in Books
- Published on: 2014-11-17
- Original language: English
- Number of items: 1
- Dimensions: 9.30" h x 1.70" w x 7.80" l, 3.70 pounds
- Binding: Hardcover

- 776 pages

Download and Read Free Online Doing Bayesian Data Analysis, Second Edition: A Tutorial with R, JAGS, and Stan By John Kruschke

Editorial Review

Review

"Both textbook and practical guide, this work is an accessible account of Bayesian data analysis starting from the basics…This edition is truly an expanded work and includes all new programs in JAGS and Stan designed to be easier to use than the scripts of the first edition, including when running the programs on your own data sets." --**MAA Reviews,** *Doing Bayesian Data Analysis, Second Edition*

"fills a gaping hole in what is currently available, and will serve to create its own market" Prof. Michael Lee, U. of Cal., Irvine; pres. Society for Mathematical Psych. "has the potential to change the way most cognitive scientists and experimental psychologists approach the planning and analysis of their experiments" Prof. Geoffrey Iverson, U. of Cal., Irvine; past pres. Society for Mathematical Psych. "better than others for reasons stylistic.... buy it -- it's truly amazin'!" James L. (Jay) McClelland, Lucie Stern Prof. & Chair, Dept. of Psych., Stanford U. "the best introductory textbook on Bayesian MCMC techniques" J. of Mathematical Psych. "potential to change the methodological toolbox of a new generation of social scientists" J. of Economic Psych. "revolutionary" British J. of Mathematical and Statistical Psych. "writing for real people with real data. From the very first chapter, the engaging writing style will get readers excited about this topic" PsycCritiques

From the Back Cover

There is an explosion of interest in Bayesian statistics, primarily because recently created computational methods have finally made Bayesian analysis obtainable to a wide audience. Doing Bayesian Data Analysis, A Tutorial Introduction with R and BUGS, provides an accessible approach to Bayesian Data Analysis, as material is explained clearly with concrete examples. The book begins with the basics, including essential concepts of probability and random sampling, and gradually progresses to advanced hierarchical modeling methods for realistic data. The text delivers comprehensive coverage of all scenarios addressed by non-Bayesian textbooks- t-tests, analysis of variance (ANOVA) and comparisons in ANOVA, correlation, multiple regression, and chi-square (contingency table analysis). This book is intended for first year graduate students or advanced undergraduates. It provides a bridge between undergraduate training and modern Bayesian methods for data analysis, which is becoming the accepted research standard. Prerequisite is knowledge of algebra and basic calculus.

About the Author
John K. Kruschke is Professor of Psychological and Brain Sciences, and Adjunct Professor of Statistics, at Indiana University in Bloomington, Indiana, USA. He is eight-time winner of Teaching Excellence Recognition Awards from Indiana University. He won the Troland Research Award from the National Academy of Sciences (USA), and the Remak Distinguished Scholar Award from Indiana University. He has been on the editorial boards of various scientific journals, including Psychological Review, the Journal of Experimental Psychology: General, and the Journal of Mathematical Psychology, among others.

After attending the Summer Science Program as a high school student and considering a career in astronomy, Kruschke earned a bachelor's degree in mathematics (with high distinction in general scholarship) from the University of California at Berkeley. As an undergraduate, Kruschke taught self-designed tutoring sessions

for many math courses at the Student Learning Center. During graduate school he attended the 1988 Connectionist Models Summer School, and earned a doctorate in psychology also from U.C. Berkeley. He joined the faculty of Indiana University in 1989. Professor Kruschke's publications can be found at his Google Scholar page. His current research interests focus on moral psychology.

Professor Kruschke taught traditional statistical methods for many years until reaching a point, circa 2003, when he could no longer teach corrections for multiple comparisons with a clear conscience. The perils of p values provoked him to find a better way, and after only several thousand hours of relentless effort, the 1st and 2nd editions of Doing Bayesian Data Analysis emerged.

Users Review

From reader reviews:

Anna Gann:

Beside that Doing Bayesian Data Analysis, Second Edition: A Tutorial with R, JAGS, and Stan in your phone, it might give you a way to get more close to the new knowledge or info. The information and the knowledge you may got here is fresh from the oven so don't always be worry if you feel like an old people live in narrow small town. It is good thing to have Doing Bayesian Data Analysis, Second Edition: A Tutorial with R, JAGS, and Stan because this book offers to you personally readable information. Do you oftentimes have book but you seldom get what it's exactly about. Oh come on, that won't happen if you have this in the hand. The Enjoyable arrangement here cannot be questionable, including treasuring beautiful island. Techniques you still want to miss the item? Find this book and read it from today!

Melvin Robinson:

This Doing Bayesian Data Analysis, Second Edition: A Tutorial with R, JAGS, and Stan is completely new way for you who has intense curiosity to look for some information given it relief your hunger details. Getting deeper you upon it getting knowledge more you know or else you who still having little bit of digest in reading this Doing Bayesian Data Analysis, Second Edition: A Tutorial with R, JAGS, and Stan can be the light food for yourself because the information inside this kind of book is easy to get through anyone. These books create itself in the form that is certainly reachable by anyone, yeah I mean in the e-book type. People who think that in book form make them feel sleepy even dizzy this e-book is the answer. So you cannot find any in reading a e-book especially this one. You can find actually looking for. It should be here for you. So , don't miss it! Just read this e-book variety for your better life along with knowledge.

Dominick Tran:

In this particular era which is the greater person or who has ability in doing something more are more valuable than other. Do you want to become one among it? It is just simple strategy to have that. What you must do is just spending your time little but quite enough to experience a look at some books. One of the books in the top list in your reading list is actually Doing Bayesian Data Analysis, Second Edition: A Tutorial with R, JAGS, and Stan. This book that is certainly qualified as The Hungry Inclines can get you closer in turning into precious person. By looking up and review this publication you can get many advantages.

Debra Durso:

A lot of guide has printed but it differs from the others. You can get it by world wide web on social media. You can choose the very best book for you, science, amusing, novel, or whatever by means of searching from it. It is identified as of book Doing Bayesian Data Analysis, Second Edition: A Tutorial with R, JAGS, and Stan. You'll be able to your knowledge by it. Without making the printed book, it may add your knowledge and make a person happier to read. It is most essential that, you must aware about reserve. It can bring you from one place to other place.

Download and Read Online Doing Bayesian Data Analysis, Second Edition: A Tutorial with R, JAGS, and Stan By John Kruschke #SEA6TOF1U5H

Read Doing Bayesian Data Analysis, Second Edition: A Tutorial with R, JAGS, and Stan By John Kruschke for online ebook

Doing Bayesian Data Analysis, Second Edition: A Tutorial with R, JAGS, and Stan By John Kruschke Free PDF d0wnl0ad, audio books, books to read, good books to read, cheap books, good books, online books, books online, book reviews epub, read books online, books to read online, online library, greatbooks to read, PDF best books to read, top books to read Doing Bayesian Data Analysis, Second Edition: A Tutorial with R, JAGS, and Stan By John Kruschke books to read online.

Online Doing Bayesian Data Analysis, Second Edition: A Tutorial with R, JAGS, and Stan By John Kruschke ebook PDF download

Doing Bayesian Data Analysis, Second Edition: A Tutorial with R, JAGS, and Stan By John Kruschke Doc

Doing Bayesian Data Analysis, Second Edition: A Tutorial with R, JAGS, and Stan By John Kruschke Mobipocket

Doing Bayesian Data Analysis, Second Edition: A Tutorial with R, JAGS, and Stan By John Kruschke EPub

SEA6TOF1U5H: Doing Bayesian Data Analysis, Second Edition: A Tutorial with R, JAGS, and Stan By John Kruschke