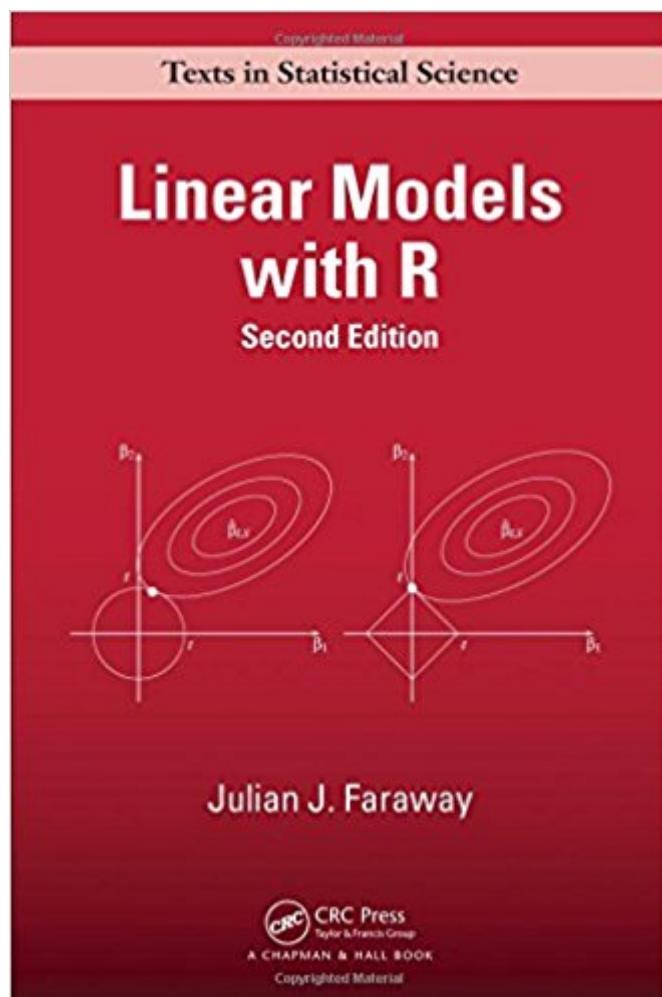The book was found

Linear Models With R, Second Edition (Chapman & Hall/CRC Texts In Statistical Science)

Synopsis

A Hands-On Way to Learning Data Analysis Part of the core of statistics, linear models are used to make predictions and explain the relationship between the response and the predictors. Understanding linear models is crucial to a broader competence in the practice of statistics. Linear Models with R, Second Edition explains how to use linear models in physical science, engineering, social science, and business applications. The book incorporates several improvements that reflect how the world of R has greatly expanded since the publication of the first edition. New to the Second Edition Reorganized material on interpreting linear models, which distinguishes the main applications of prediction and explanation and introduces elementary notions of causality Additional topics, including QR decomposition, splines, additive models, Lasso, multiple imputation, and false discovery rates Extensive use of the ggplot2 graphics package in addition to base graphics   Like its widely praised, best-selling predecessor, this edition combines statistics and R to seamlessly give a coherent exposition of the practice of linear modeling. The text offers up-to-date insight on essential data analysis topics, from estimation, inference, and prediction to missing data, factorial models, and block designs. Numerous examples illustrate how to apply the different methods using R.

Book Information

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Customer Reviews

"After 10 years, a new edition of Farawayâ ™s excellent Linear Models with R is now available.. .

There are several major changes in this edition. The material on interpreting linear models has been reorganized to emphasize the distinction between prediction and explanation; this was done with the addition of two new chapters . . . Several other chapters benefit from the addition of new material. . . Finally, most chapters conclude with more exercises than in the previous edition."â •The AmericanÂ Statistician, 2016 "This book is a must-have tool for anyone interested in understanding and applying linear models. The logical ordering of the chapters is well thought out and portrays Farawayâ ™s wealth of experience in teaching and using linear models. â | The reorganization of the material in this second edition presents linear models with R in a coherent and easy-to-follow way. In summary, this book provides an excellent basis for understanding and applying linear models. It lays down the material in a logical and intricate manner and makes linear modeling appealing to researchers from virtually all fields of study."â •Biometrical Journal, 2015 "The book provides an excellent introduction of the various aspects of linear models with many interesting examples.The explanations are clear enough for beginners with little statistical background and are accompanied by worked examples with associated R code. This is an important contribution since it provides readers/students an opportunity to replicate the analyses and results of an example. There are many books written on the topic of linear models, but this book takes an applied approach and explains the concepts intuitively using graphical explanations and examples.Overall, this is a nicely written book, which can lay a strong foundation for senior undergraduate and beginning graduate students. This book can be recommended as a textbook for computational linear regression courses. It will also be useful for practitioners who want to get started on applying regression models for studying associations among different variables, estimation of regression coefficients, and prediction. It offers insightful interpretations and discussions with examples worked using the R software."â •MAA Reviews, January 2015 Praise for the First Edition:"One danger with applied books such as this is that they become recipe lists of the kind 'press this key to get that result.' This is not so with Faraway's book. Throughout, it gives plenty of insight on what is going on, with comments that even the seasoned practitioner will appreciate. Interspersed with R code and the output that it produces one can find many little gems of what I think is sound statistical advice, well epitomized with the examples chosenâ |I read it with delight and think that the same will be true with anyone who is engaged in the use or teaching of linear modelsâ |I find this book a valuable buy for anyone who is involved with R and linear models, and it is essential in any university library where those topics are taught."-Journal of the Royal Statistical Society"Linear Models with R is well written and, given the increasing popularity of R, it is an important contribution."-Technometrics, Vol. 47, No. 3, August 2005 "There are many books on regression and analysis of variance on the market,

but this one is unique and has a novel approach to these statistical methods. The author uses R throughout the text to teach data analysisâ |The text also contains a wealth of references for the reader to pursue on related issues. This book is recommended for all who wish to use R for statistical investigations."-Short Book Reviews of the International Statistical Institute"The book is very comprehensibly written and can therefore be recommended for beginners in linear models. It is clearly and simply explained how to use R and which packages are necessary to analyze linear models. â |All in all, this book is recommendable as a textbook for computational linear regression courses and therefore for students and lecturers, but also for applied statisticians who want to get started on regression analysis using the software R."-Biometrics"Dr. Faraway uses many examples and graphical procedures to illustrate the methods. This is a great strength of the book. â | Linear Models with R is one of several books appearing to make R more accessible by bringing together functions from a number of packages and illustrating their use. From this perspective alone it is an important contribution. â |I feel this book does a nice job of describing the methods available in linear modeling and illustrating the realistic implementation of these methods in a careful data analysis. â |"-Statistics in Medicine, 2006

tl;dr if you're a professor, don't use this book for a first regression courseÃ¢Â Â"use it for a statistical programming course or to supplement a second course in regression.My applied regression course uses this as the primary text. It doesn't work for that.Faraway filled the textbook with code, and added some exposition that breaks up the code. He omits proofs, his explanations aren't always clear, and there are plenty of times where he has you download a random R package to solve something. (The classic "just accept it" response from professors who don't want to spend time explaining.) Midway through the semester, I can code well, but I don't always understand what I'm doing.Here's the problem: Faraway trades intuition and exposition for code.If you're already familiar with linear regression, the theory behind it, and its limitations, this book will probably work for you. I wouldn't recommend it if you aren't familiar with RÃ¢Â Â"and you should definitely stay away if you've never programmed beforeÃ¢Â Â"but it's great if you need to learn how to apply what you've learned in an earlier regression course.BUT, Faraway can throw code at you and not explain what the code does, or why it does what it does. That can make the exercises difficult. (You'll see things like: "this package uses a genetic algorithm to find the best matches and..." OK. No I'm really confused.) Sometimes, to solve the chapter exercises, you just need to change the data set and run code in the chapter. Other times you need to substantially modify the code; if Faraway doesn't explain the code well, that can be a major challenge.So, use it if you've programmed R before and

you understand more than just the gist of linear regression. Otherwise a more traditional, theory-based textbook will serve you better.

Very didactic, I'm a physician running clinical research and found this material very easy to use, not excessively theoric but rather right to the point and very well grounded at the same time. Thanks a lot!

Faraway has written a great book. Not only does it allow me to review some of the theory behind linear models, it also shows how I can implement this in R.

If you want a book with rigorous prrofs, look for another one, but this one does a nice job of touching many topics without delving into them too deeply.

great bok

good

This is an excellent text on linear regression techniques. Rather than teaching R step by step, Dr. Faraway jumps right in with analysis of specific data sets, listing the R commands needed to generate the given output. An hour or so after getting the book, I downloaded R and the free package from Dr. Faraway containing all of the data sets used in the book (I followed the directions in the very short Appendix A), and I, too, was trying out the given commands on the data sets referred to in the exercises for the first chapter.Dr. Faraway is particularly good in his discussions of interpreting the output from linear regression problems. A standout chapter is the one on using regression for modelling vs. using regression for prediction. I also learned a lot from the chapter on principal components, a topic I remember covering in Grad school, but which I confess I didn't really understand at the time. Dr. Faraway's explanation of the procedure is excellent, and he uses an example in which it is possible to explain what the selected components represent in terms of the original problem, but he points out that this is not always possible; sometimes you just have to be content with accurate predictions, but no ideas as to what the principal components represent. I wish I had been told this the first time I learned the procedure.If I like the book so much, why only four stars? Well, I do have a few minor quibbles. I would have liked an index of R commands, so that if you remember a command, but can't remember the correct syntax for using the command,

you could find the page on which it first appeared. I would also have liked an index of data sets, so that I could quickly find every exercise set that referenced the teengamb data set, say. But these are minor complaints.I reviewed a lot of material I already knew, and learned quite a few things I did not know. And, I went from never having used R before, to being able to use it for some rather complicated analyses. I do not teach a course at a level appropriate for the use of this text, but if I did, I would certainly consider using it.Recommended.

This is a great resource with plenty of well-thought-out exercises.

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