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Regression Modeling Strategies: With Applications to Linear Models, Logistic Regression, and Survival Analysis (Springer Series in Statistics)

Frank E. Harrell
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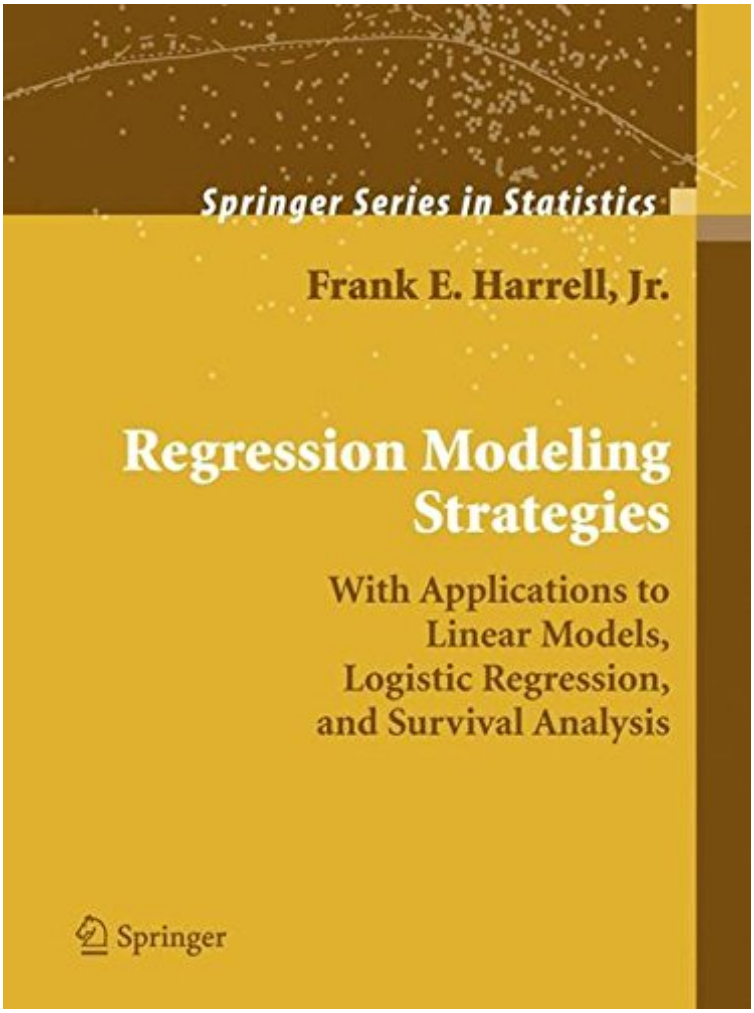

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#1559042 in Books Harrell Frank E Jr 2010-12-01Original language:EnglishPDF # 1 9.25 x 1.35 x 7.01l, 2.24 #File Name: 1441929185572 pagesRegression Modeling Strategies With Applications to Linear Models Logistic Regression and Survival Analysis | File size: 18.Mb

Frank E. Harrell : Regression Modeling Strategies: With Applications to Linear Models, Logistic Regression, and Survival Analysis (Springer Series in Statistics) before purchasing it in order to gage whether or not it would be worth my time, and all praised Regression Modeling Strategies: With Applications to Linear Models, Logistic Regression, and Survival Analysis (Springer Series in Statistics):

0 of 0 people found the following review helpful. Keystone book, essential practice text after having some statistical

theoryBy Jan GalkowskiI bought this text after using and learning about Professor Harrell's contributions through the literature and through the R and S computing communities. Others have written how wonderful Professor Harrell's software is to use, and how carefully he has thought about the entire cycle of doing statistics, including transparent analyses and publication using LaTeX.But the book is a joy, balancing theoretical concerns, a masterful selection of literature, and solid assessments and presentations of actual examples. Professor Harrell demonstrates how powerful these techniques are, and the material moving them. These insights are key in a time when increasingly people want to just dump numbers into a package and get something out of it, an analytical behavior often justified by cost and time pressures. (If it's wrong results you want, it's trivially easy to get those, even if they LOOK wrong.) Professor Harrell shows it needn't be that hard, with tools from the CRAN (the R community source), many good ones which he and colleagues contributed. But he also shows that it's important to keep an eye on the parts of these, and be wary of pitfalls.Professor Harrell is also candid in his assessments, even after giving enthusiasts for a technique he critiques the benefit of the doubt. I find his comparison of cross-validation with bootstrap validation wonderful, and his discussion of standard assessments of models like R^2 refreshing.Check out his lectures, too:[...][...][...]4 of 4 people found the following review helpful. Exceptionally well-written textBy Daniel SommerhauserI found "Regression Modeling Strategies" to be a fantastic treatment of a wide assortment of model selection techniques. Harrell's writing style is quite lucid (assuming you've had graduate-level statistics coursework). Model selection/validation is arguably the most critical component of the statistical literature for many industry statisticians, and it is rare to find a textbook solely devoted to the merging of theory with practice. This is not to discredit other applied statistical texts; they represent a necessary foundation to master before a text like Harrell's can be understood with any depth.It is often said that "All models are wrong but some are useful". To that I would follow with, "In the land of the blind, the one-eyed man is king". Harrell's text will help empower you as a statistical modeler. Personally, I think combining this book with Gelman and Hill's "Data Analysis" text creates about as good of a 1-2 punch that an applied statistician will ever find.0 of 0 people found the following review helpful. Great practical advice for modelersBy Howard DavidsonMy initial temptation is to say this is the best statistics text ever, but it's all relative. It perfectly suits my current needs and state of development. The book claims to be intended for graduate level students in biostatistics and I think that is a fair assessment (I am self-taught, so how am I to know?).I haven't even finished yet, but I am reading the text cover-to-cover after first perusing parts of chapter 10. This linear approach is facilitated by Prof. Harrell's excellent writing style.The text has a practical bent, but with plenty of theory and references to back up the practical advice. You may find Harrell's views to be controversial. I have been forced to reconsider many of my notions about model-building.I note that "r programming language" is a suggested tag for this product. While Harrell's Design and Hmisc packages are available to R users, the text actually refers to the use of S-PLUS and there may be subtle distinctions. As a Stata user, they're both alien to me, but this hasn't affected my enjoyment of the book.

Many texts are excellent sources of knowledge about individual statistical tools, but the art of data analysis is about choosing and using multiple tools. Instead of presenting isolated techniques, this text emphasizes problem solving strategies that address the many issues arising when developing multivariable models using real data and not standard textbook examples. It includes imputation methods for dealing with missing data effectively, methods for dealing with nonlinear relationships and for making the estimation of transformations a formal part of the modeling process, methods for dealing with "too many variables to analyze and not enough observations," and powerful model validation techniques based on the bootstrap. This text realistically deals with model uncertainty and its effects on inference to achieve "safe data mining".

From the reviews: TECHNOMETRICS"The book is an ambitious, and mostly successful, attempt to disseminate effective strategies for the use of regression techniques. Many of the examples are from the medical area, in which the author has worked for many years and has accumulated a wealth of experience. It is written in a clear and direct styledefinitely a valuable reference for modern applications of commonly used regression techniques. Data analysis, particularly users of S-PLUS, with experience in the application of these tools will benefit the most from this book." SHORT BOOK REVIEWS "This is a book that leaves one breathless. It demands a lot, but gives plenty in return. ... The book has many sets of programming instructions and printouts, all delivered in a stacato fashion. Sets of data are large. Many different types of models and methods are discussed. There are many printouts and diagrams. Computer oriented readers will like this book immediately. Others may grow to like it. It is an essential reference for the library." STATISTICAL METHODS IN MEDICAL RESEARCH "This is the latest volume in the generally excellent Springer Series in Statistics, and it has to be one of the best. Professor Harrell has produced a book that offers many new and imaginative insights into multiple regression, logistic regression and survival analysis, topics that form the core of much of the statistical analysis carried out in a variety of disciplines, particularly in medicine. ... Regression Modelling Stategies is a book that many statisticians will enjoy and learn from. The problems given at the end of each chapter may also make it suitable for some postgrdauate courses, particularly those for medical students in which S-PLUS is a major component. Working through the case studies in the book will demonstrate what can be achieved with a little

imagination, when modelling complex and challenging data sets. So here we have a truly excellent, informative and attractive text that is highly recommended." MEDICAL DECISION MAKING "Over the past 7 years, I have probably read this book, on its preversion, a half-dozen times, and I refer to it routinely. If my work bookshelf held only one book, it would be this one. The book covers, very completely, the nuances of regression modeling with particular emphasis on binary and ordinal logistic regression and parametric and nonparametric survival analysis...Harrell very nicely walks the reader through numerous analyses, explaining and defining his model-building choices at each step in the process. It is refreshing to have an author present choices and actuallly defend an approach, and in this manner." "This book emphasizes problem solving strategies that address the many issues arising when developing multivariable models . The author has a very motivating style and includes opinions, remarks and summary . The logical path chosen on how to present the material is excellent. considering the fun I had reading the book, I think that the authors aims are met and I highly recommend everybody to have a look at the book. Moreover, I recommend purchasing the book to any library." (Diego Kuonen, Statistical Methods in Medical Research, Vol. 13 (5), 2004) "It is a book that tries to show us how many different tools may be used in combination for regression analysis. The author gives us plenty of references (466!) to textbooks and papers where we may read more about individual topics; most chapters end with suggestions for further reading and problems. Many tools are illustrated in five chapter-long case studies. the author has written a very inspiring book which should be able to teach most of us something ." (Sren Feodor Nielsen, Journal of Applied Statistics, Vol. 30 (1), 2003) "This book could serve as a wonderful textbook for a graduate-level or upper undergraduate-level data-analysis class. There are plenty of hands-on exercises . From a researchers perspective, there are enough interesting ideas to easily stimulate research on other fruitful avenues. From an applied statisticians perspective, the book fills an important gap in the field and would serve as an ideal resource. a well laid-out, enjoyable book. I wholeheartedly recommend it to anyone interested in the strategies of intelligent data analysis." (Sunil J. Rao, Journal of the American Statistical Association, March, 2003) "Regression Modeling Strategies is largely about prediction. The book is incredibly well referenced, with a 466-item bibliography. Harrell very nicely walks the reader through numerous analyses, explaining and defining his model-building choices at each step in the process. It is refreshing to have an author present choices and actually defend an approach . I found his arguments very convincing. Certainly, if you are interested in developing or validating prediction models, you will likely find this book to be very valuable." (Mike Kattan, Medical Decision Making, March/April, 2003) "Professor Harrell provides descriptions of statistical strategies intended for the analysis of data using linear, logistic and proportional hazard regression models. Harrell combines statistical theory with a modest amount of mathematics, data in the form of case studies, implementation of regression models, graphics and interpretation making it attractive to Masters or PhD level graduate students as well as biomedical researchers. this is an excellent book for serious researchers." (Max K. Bulsara, Lab News, August/September, 2002)