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Applied Regression Analysis and Generalized Linear Models (2nd ed.).

John FOX. Thousand Oaks, CA: Sage Publications, 2008. ISBN 978-0761930426. xxi + 665 pp. $96.95 (H).

The first edition of Fox's well-received text was published in 1997 and was entitled *Applied Regression Analysis, Linear Models, and Related Methods*. The change in title for the second edition reflects an increased emphasis on generalized linear models. Although the phrase *Related Methods* has been dropped from the original title, the text has actually expanded its coverage of modeling procedures closely associated with traditional linear regression, such as timeseries regression, nonlinear regression, nonparametric regression, and robust regression.

Fox is trained as a sociologist and holds a professorship in a Department of Sociology, yet his knowledge of regression, linear models, and generalized linear models is staggering in its breadth and depth. Because of his background and expertise as a social scientist, his treatment of applications is both thorough and practical. However, his treatment of methodology is equally substantive. Moreover, he does not shy away from theory, and seems eager to tackle topics that are conceptually complex. Fox has geared his book towards "students and researchers in the social sciences," yet it could be used quite effectively as a text for a master's-level statistics or biostatistics course in regression techniques. The second edition adds a new chapter on generalized linear models, as well as new chapters on missing data and on model selection, averaging, and validation. Sections from the first edition on time-series regression, nonlinear regression, nonparametric regression, robust regression, and bootstrapping have been augmented and expanded to form complete chapters.

The figures have also been updated (using R). In general, the book is graphically rich, and Fox shows unusual skill in his use of figures to illustrate and enhance his explanations. His reliance on figures to facilitate methodological and conceptual understanding is particularly impressive. In fact, in a review of the first edition, Gray (1998) wrote "The geometrical diagrams and interpretations provided by the author are some of the best I have ever seen for pedagogical purposes." This is quite a high compliment, and one which is very well deserved.

In summary, this is an excellent text on regression applications and methods, written with authority, lucidity, and eloquence. The second edition provides substantive and topical updates, and makes the book suitable for courses designed to emphasize both the classical and the modern aspects of regression.

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REFERENCE

Gray, B. J. (1998), Review of *Applied Regression Analysis, Linear Models, and Related Methods*, by J. Fox, *Technometrics*, 40, 156.