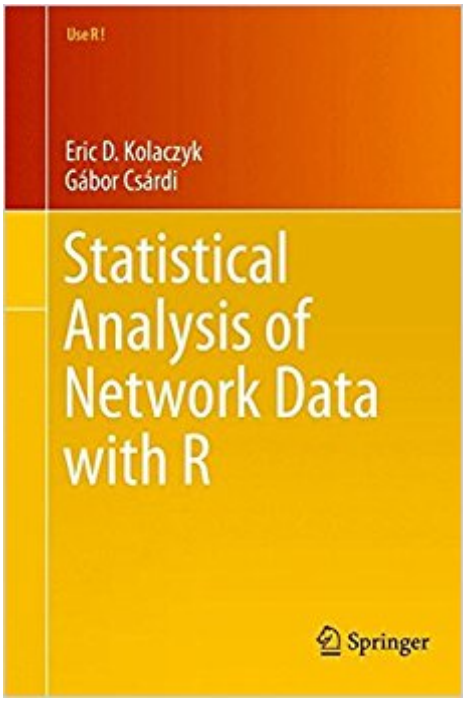
Statistical Analysis Of Network Data With R (Use R!)



Synopsis

Networks have permeated everyday life through everyday realities like the Internet, social networks, and viral marketing. As such, network analysis is an important growth area in the quantitative sciences, with roots in social network analysis going back to the 1930s and graph theory going back centuries. Measurement and analysis are integral components of network research. As a result, statistical methods play a critical role in network analysis. This book is the first of its kind in network research. It can be used as a stand-alone resource in which multiple R packages are used to illustrate how to conduct a wide range of network analyses, from basic manipulation and visualization, to summary and characterization, to modeling of network data. The central package is igraph, which provides extensive capabilities for studying network graphs in R. This text builds on Eric D. Kolaczykâ ™s book Statistical Analysis of Network Data (Springer, 2009).

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â œIf students mastered this material, they would be well positioned to begin working on data and making further progress on their own. â | SANDR covers a lot of basic and important material while teaching the reader how to work with data and models in R. â | The book appears to be the only one available that covers the material at an introductory and practical level. â | On the whole, I am happy to recommend it.â • (Earl C. Lawrence, Journal of the American Statistical Association, June, 2015)â œThis book presents contemporary mathematical and statistical methods of networks analysis and their implementation in R, written by the experts in this field â | . The monograph

presents an excellent description of a wide span of operations possible on networks, and is very useful for researchers and students.â • (Stan Lipovetsky, Technometrics, Vol. 57 (2), May, 2015)â œThis book is a quite practical guide to get started with analyzing networks using the statistical software R. â | Relevant references are conveniently provided at the end of each chapter. â | it is a very nice hands-on introduction to the analysis of network data that gives a good overview suitable for applied scientists and statisticians.â • (Klaus Nordhausen, International Statistical Review, Vol. 83 (1), 2015)

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This is a great introduction to the 'igraph' package for R. Someone who is just a beginner in using R can probably use this book, but it's probably best to have already been using it for some time. The 'igraph' package is pretty extensive, but this book will give you enough tools to explore what else the package can do.It also covers the basics of doing network analyses. It doesn't go very deeply into any topics, really (nor does it have proofs or much theory), so it is best used in conjunction with (or perhaps after reading) Kolaczyk's other text (http://amzn.com/038788145X). I used this after having used the other text.

Great book for network analysis (although you need to know a little bit of R before you can use it).

Very good and concise introduction to the main statistical concepts you'll need to analyze networks and examples well integrated throughout.

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