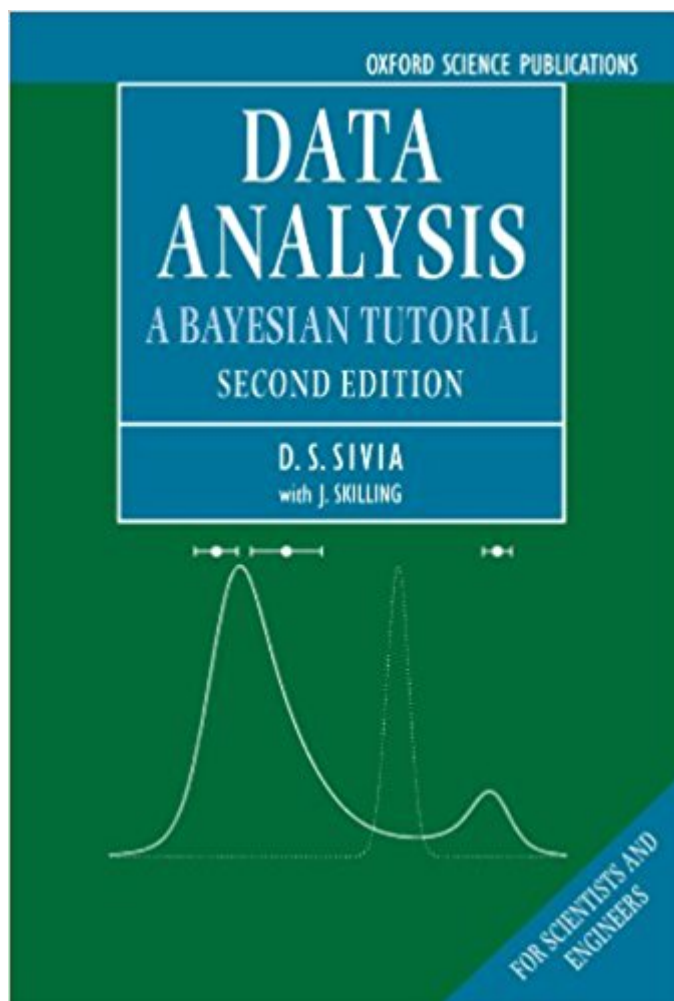


The book was found

Data Analysis: A Bayesian Tutorial



Synopsis

Statistics lectures have been a source of much bewilderment and frustration for generations of students. This book attempts to remedy the situation by expounding a logical and unified approach to the whole subject of data analysis. This text is intended as a tutorial guide for senior undergraduates and research students in science and engineering. After explaining the basic principles of Bayesian probability theory, their use is illustrated with a variety of examples ranging from elementary parameter estimation to image processing. Other topics covered include reliability analysis, multivariate optimization, least-squares and maximum likelihood, error-propagation, hypothesis testing, maximum entropy and experimental design. The Second Edition of this successful tutorial book contains a new chapter on extensions to the ubiquitous least-squares procedure, allowing for the straightforward handling of outliers and unknown correlated noise, and a cutting-edge contribution from John Skilling on a novel numerical technique for Bayesian computation called 'nested sampling'.

Book Information

Paperback: 264 pages

Publisher: Oxford University Press; 2 edition (July 27, 2006)

Language: English

ISBN-10: 0198568320

ISBN-13: 978-0198568322

Product Dimensions: 9.2 x 0.8 x 6.1 inches

Shipping Weight: 1.1 pounds (View shipping rates and policies)

Average Customer Review: 4.4 out of 5 stars 19 customer reviews

Best Sellers Rank: #70,808 in Books (See Top 100 in Books) #2 in Books > Science & Math > Physics > Entropy #38 in Books > Textbooks > Science & Mathematics > Biology & Life Sciences > Botany #106 in Books > Science & Math > Biological Sciences > Botany

Customer Reviews

"Review from previous edition Providing a clear rationale for some of the most widely used procedures."--European Journal of Engineering Education
"This small (less than 200 pages) but much-needed book contains a wealth of worked-out numerical examples of Bayesian treatments of data, expounded from a theoretical standpoint identical to ours. It should be considered an adjunct to the present work, supplying a great deal of practical advice for the beginner, at an elementary level that will be grasped readily by every science or engineering student."--Ed Jaynes in

'Probability Theory: The Logic of Science', CUP 2003

Devinderjit Singh Sivia Rutherford Appleton Laboratory Chilton Oxon OX11 5DJ John

Skilling Maximum Entropy Data Consultants 42 Southgate Street Bury St Edmunds Suffolk IP33 2AZ

As a physics student I was frustrated by statistics with its apparent lack of conceptual foundation and the toolbox approach to data analysis. A little more than 15 years ago, I picked up the first edition of this book and learned Bayesian data analysis from it. The topic is introduced from a practical perspective designed for someone who wants to use these methods for data analysis applied to real problems. This relatively small book clearly, cogently, and pleasantly covers the concepts, the theory and practice. I was pleased to be able to use this text to guide me in applying Bayesian data analysis methods to my own problems. Today, as an experienced practitioner, I find myself still referring to it. For the last seven years, I have taught an upper level undergraduate/graduate level course on Bayesian Data Analysis in the physics and computer science departments at the University at Albany (SUNY). This text is required reading, and I find the students to be more than grateful for it. It is perfect for someone who wants to hit the ground running in applying these methods to real problems. This book is extremely valuable. I most highly recommend it!

A friend of mine introduced me to Bayesian analysis as a framework for handling the acoustic analysis problems which we deal with. He recommended this text as a good introduction to the theory and he is correct. I am working my way through the text and am trying to implement the exploration of the parameter spaces that must be explored. The book does not have code to help you get started, but that was not my purpose for getting the book. Sivia provides a very readable and comprehensive explanation of the Bayesian methods.

This book is a tremendous resource. The relevant theory is presented through a series of explicit examples, in clear and concise language. The only background needed is some multivariate calculus. Highly recommended.

I really learned to appreciate Bayesian statistics by working the insightful example problems provided in the first few sections of the book. Read Jaynes for his argumentation and philosophical underpinnings. Read Sivia to jump start your inner Bayesian.

Awesome book on Bayesian stats. Calculus is a prerequisite to understanding it.

Hard to understand; not for a beginner.

This book is well written and comprehensive. I am enjoying reading it for the first time, and plan to use it as a reference in the future. I am a professional researcher in the physical sciences.

Solid introduction to Bayesian statistics with several examples from the physical sciences. This very well written text is self contained. The Bayesian method is motivated from first principles and basic probability. A good companion to other "classical" Bayesian statistics books such as BDA by Gelman et al.

[Download to continue reading...](#)

Analytics: Data Science, Data Analysis and Predictive Analytics for Business (Algorithms, Business Intelligence, Statistical Analysis, Decision Analysis, Business Analytics, Data Mining, Big Data) Doing Bayesian Data Analysis, Second Edition: A Tutorial with R, JAGS, and Stan Data Analysis: A Bayesian Tutorial Data Analytics: What Every Business Must Know About Big Data And Data Science (Data Analytics for Business, Predictive Analysis, Big Data Book 1) Data Analytics: Applicable Data Analysis to Advance Any Business Using the Power of Data Driven Analytics (Big Data Analytics, Data Science, Business Intelligence Book 6) Analytics: Business Intelligence, Algorithms and Statistical Analysis (Predictive Analytics, Data Visualization, Data Analytics, Business Analytics, Decision Analysis, Big Data, Statistical Analysis) Big Data For Business: Your Comprehensive Guide to Understand Data Science, Data Analytics and Data Mining to Boost More Growth and Improve Business - Data Analytics Book, Series 2 Data Analytics For Beginners: Your Ultimate Guide To Learn and Master Data Analysis. Get Your Business Intelligence Right â “ Accelerate Growth and Close More Sales (Data Analytics Book Series) Bayesian Decision Analysis: Principles and Practice Bayesian Survival Analysis (Springer Series in Statistics) Data Science for Business: What You Need to Know about Data Mining and Data-Analytic Thinking Data Science and Big Data Analytics: Discovering, Analyzing, Visualizing and Presenting Data Data Analytics and Python Programming: 2 Bundle Manuscript: Beginners Guide to Learn Data Analytics, Predictive Analytics and Data Science with Python Programming Discovering Knowledge in Data: An Introduction to Data Mining (Wiley Series on Methods and Applications in Data Mining) Image Formation in Low-Voltage Scanning Electron Microscopy (SPIE Tutorial Text Vol. TT12) (Tutorial

Texts in Optical Engineering) Analytics: Data Science, Data Analysis and Predictive Analytics for Business Statistics, Data Mining, and Machine Learning in Astronomy: A Practical Python Guide for the Analysis of Survey Data (Princeton Series in Modern Observational Astronomy) Data Analysis and Signal Processing in Chromatography, Volume 21 (Data Handling in Science and Technology) Python for Data Analysis: Data Wrangling with Pandas, NumPy, and IPython Data Analytics for Beginners: Your Ultimate Guide to Learn and Master Data Analysis

[Contact Us](#)

[DMCA](#)

[Privacy](#)

[FAQ & Help](#)