

Computer Age Statistical Inference: Algorithms, Evidence, and Data Science By Bradley Efron 'Big data' 'data science' and 'machine learning' have become familiar terms in the news as statistical methods are brought to bear upon the enormous data sets of modern science and commerce. How did we get here? And where are we going? This book takes us on an exhilarating journey through the revolution in data analysis following the introduction of electronic computation in the 1950s. Beginning with classical inferential theories - Bayesian frequentist Fisherian - individual chapters take up a series of influential topics: survival analysis logistic regression empirical Bayes the jackknife and bootstrap random forests neural networks Markov chain Monte Carlo inference after model selection and dozens more. Computer Age Statistical Inference: Algorithms Evidence and Data Science Two experts from Stanford have written a great historical/philosophical/mathematical overview of modern statistics that compares and contrasts frequentist Bayesian and computer intensive algorithmic approaches to data analysis. If you have already read An Introduction to Statistical Learning and Applied Predictive Modeling and Kruschke or Gelman on Bayesian data analysis and Benjamini and Hochberg's paper on FDR then by all means read this book.

The twenty-first century has seen a breathtaking expansion of statistical methodology both in scope and in influence. The distinctly modern approach integrates methodology and algorithms with statistical inference, The book ends with speculation on the future direction of statistics and data science: I've fooled with all this stuff but it's a pleasure having professors this smart tie it all together, There are good examples and a very small amount of R code. The book from Cambridge U press is also very well produced. 1107149894 This is a little like Larry Wasserman's books in breadth: 1107149894 This is a well written beautiful book that I enjoyed reading very much. Its best use is to tie together disparate concepts that you are already familiar with: As a 450 page survey of 100+ years of statistics it will not be accessible unless you already know about most of the topics it covers. I suggest looking at the table of contents first and proceeding only when all the chapter headings are familiar to you. The entire book is also available as a free PDF directly from the authors. I was disappointed to find that around chapter 16 the quality of the writing seemed to fall off as if the last part of the book had been hurried: I nonetheless recommend it on the strength of the first 2/3. 1107149894 Brings forward an amazing clarity its an experience worth going through: (Of course given that I am an extremely mediocre person using Google helped me get the most out of this book). It seems like it must have been an Herculean task. 1107149894

