Bayesian Missing Data Problems: EM, Data Augmentation and Noniterative Computation (Chapman Hall/CRC Biostatistics Series)

Ming T. Tan, Guo-Liang Tian, Kai Wang Ng
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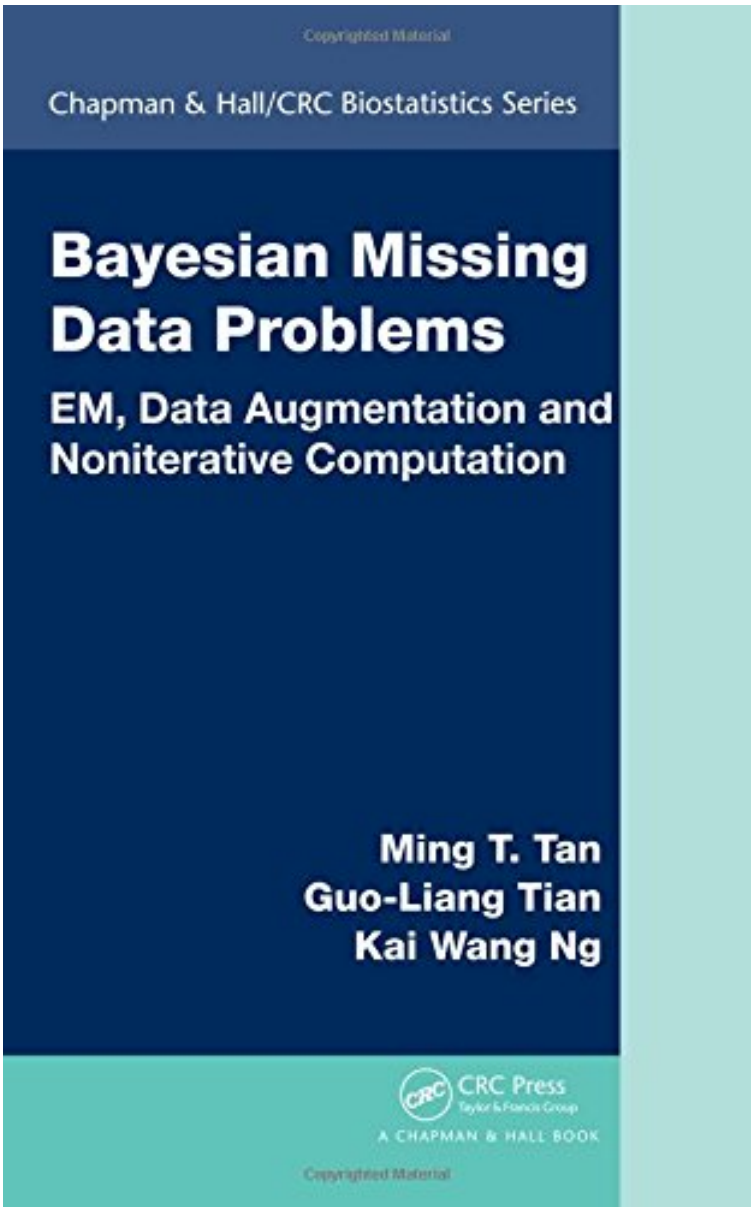

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Ming T. Tan, Guo-Liang Tian, Kai Wang Ng : Bayesian Missing Data Problems: EM, Data Augmentation and Noniterative Computation (Chapman Hall/CRC Biostatistics Series) before purchasing it in order to gage whether or not it would be worth my time, and all praised Bayesian Missing Data Problems: EM, Data Augmentation and

Noniterative Computation (Chapman Hall/CRC Biostatistics Series):

2 of 2 people found the following review helpful. An Excellent TextBy R FreyAs someone who is vexed with missing and censored data, this text is a well organized and clear exposition of the subject.

Bayesian Missing Data Problems: EM, Data Augmentation and Noniterative Computation presents solutions to missing data problems through explicit or noniterative sampling calculation of Bayesian posteriors. The methods are based on the inverse Bayes formulae discovered by one of the author in 1995. Applying the Bayesian approach to important real-world problems, the authors focus on exact numerical solutions, a conditional sampling approach via data augmentation, and a noniterative sampling approach via EM-type algorithms. After introducing the missing data problems, Bayesian approach, and posterior computation, the book succinctly describes EM-type algorithms, Monte Carlo simulation, numerical techniques, and optimization methods. It then gives exact posterior solutions for problems, such as nonresponses in surveys and cross-over trials with missing values. It also provides noniterative posterior sampling solutions for problems, such as contingency tables with supplemental margins, aggregated responses in surveys, zero-inflated Poisson, capture-recapture models, mixed effects models, right-censored regression model, and constrained parameter models. The text concludes with a discussion on compatibility, a fundamental issue in Bayesian inference. This book offers a unified treatment of an array of statistical problems that involve missing data and constrained parameters. It shows how Bayesian procedures can be useful in solving these problems.

In Bayesian Missing Data Problems, the authors provide a new and appealing approach to handle missing data problems (MDPs), based on noniterative methods. the examples and real applications following key theorems and concepts are useful for readers to further understand the results and pinpoint major advantages or drawbacks about the proposed methodology. I recommend this book as a valuable reference for researchers interested in MDPs, and I believe that the methodology described in the book should be included in the up-to-date literature on missing data. the book stimulated my interest, suggesting an alternative way to think about MDPs. Biometrics, June 2011 [this book] sits nicely alongside Tanners Tools for Statistical Inference. For those interested in Bayesian computational methods, this book will be of great interest. International Statistical (2010), 78, 3About the AuthorMing T. Tan is Professor of Biostatistics in the Department of Epidemiology and Preventive Medicine at the University of Maryland School of Medicine and Director of the Division of Biostatistics at the University of Maryland Greenebaum Cancer Center. Guo-Liang Tian is Associate Professor in the Department of Statistics and Actuarial Science at the University of Hong Kong. Kai Wang Ng is Professor and Head of the Department of Statistics and Actuarial Science at the University of Hong Kong.