authors briefly review various methods and refer readers to works such as Little (1995) for details. The analyses presented are based on certain assumptions, such that the available GEE software can be applied. Chapter 4 gives a thorough discussion on model selection and testing and graphical methods for residual diagnostics.

Overall, **Generalized Estimating Equations** is a good introductory book for analyzing continuous and discrete correlated data using GEE methods. The authors discuss the differences among the four commercial software programs and provide suggestions and cautions for users. This book is easy to read, and it assumes that the reader has some background in GLM. Many examples are drawn from biomedical studies and survey studies, and so it provides good guidance for analyzing correlated data in these and other areas.

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REFERENCES


The stated aim of this book is to introduce readers to the use of regression methods for time series analysis, with a target audience of mixed-level graduate students with a masters-level background in statistical inference and applied stochastic processes. The book can be divided into two distinct parts. The first four chapters deal with the use of generalized linear models (GLMs) in the context of modeling discrete-valued time series. Basic ideas underlying the use of GLMs for time series are introduced through a discussion of the partial likelihood concept, based on work of Cox (1975). Chapter 1 is devoted to a treatment of inference based on the partial likelihood asymptotic theory for the obtained estimators, as well as hypothesis testing and model diagnostics. Quasi-partial likelihood is also briefly discussed. The next three chapters go into much greater detail of these concepts in the framework of hidden Markov models, mixture models, autoregressive conditional heteroscedastic (ARCH) models, and mixed models for longitudinal data. The inclusion of these topics—in particular, ARCH models—is arbitrary, except for the fact that they represent fairly recent developments in time series modeling.

Chapter 6 discusses state-space models, with particular attention given to nonlinear and non-Gaussian state-space models. The book concludes with an extended description of the EM algorithm and its variations, illustrated using many datasets taken from the literature. The examples include multivariate normal data, partially classified contingency tables, and normal and nonnormal data, all ignoring the missing-data mechanism. There is also a chapter on models for nonignorable missing data. A brief discussion is devoted to settings such as factor analysis, where the data are fully observed but can be thought of as missing-data problems by the introduction of unobserved latent variables.