

Visualization and Imputation of Missing Values

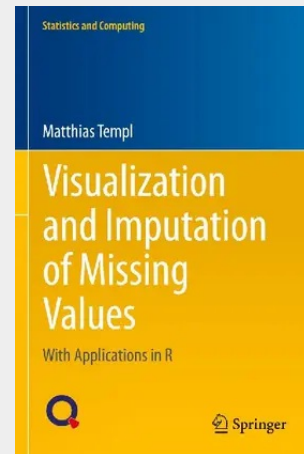
With Applications in R

This book explores visualization and imputation techniques for missing values and presents practical applications using the statistical software R. It explains the concepts of common imputation methods with a focus on visualization, description of data problems and practical solutions using R, including modern methods of robust imputation, imputation based on deep learning and imputation for complex data. By describing the advantages, disadvantages and pitfalls of each method, the book presents a clear picture of which imputation methods are applicable given a specific data set at hand.

The material covered includes the pre-analysis of data, visualization of missing values in incomplete data, single and multiple imputation, deductive imputation and outlier replacement, model-based methods including methods based on robust estimates, non-linear methods such as tree-based and deep learning methods, imputation of compositional data, imputation quality evaluation from visual diagnostics to precision measures, coverage rates and prediction performance and a description of different model- and design-based simulation designs for the evaluation. The book also features a topic-focused introduction to R and R code is provided in each chapter to explain the practical application of the described methodology.

Addressed to researchers, practitioners and students who work with incomplete data, the book offers an introduction to the subject as well as a discussion of recent developments in the field. It is suitable for beginners to the topic and advanced readers alike.

This book explores visualization and imputation techniques for missing values and presents practical applications using the statistical software R. It explains the concepts of common imputation methods with a focus on visualization, description of data problems and practical solutions using R, including modern methods of robust imputation, imputation based on deep learning and imputation for complex data. By describing the advantages, disadvantages and pitfalls of each method, the book presents a clear picture of which imputation methods are applicable given a specific data set at hand. The material covered includes the pre-analysis of data, visualization of missing values in incomplete data, single and multiple imputation, deductive imputation and outlier replacement, model-based methods including methods based on robust estimates, non-linear methods such as tree-based and deep learning methods, imputation of compositional data, imputation quality evaluation from visual diagnostics to precision measures, coverage rates and prediction performance and a description of different model- and design-based simulation designs for the evaluation. The book also features a topic-focused introduction to R and R code is provided in each chapter to explain the practical application of the described methodology. Addressed to researchers, practitioners and students who work with incomplete data, the book offers an introduction to the subject as well as a discussion of recent developments in the field. It is suitable for beginners to the topic and advanced readers alike.



171,19 €

159,99 € (zzgl. MwSt.)

Lieferfrist: bis zu 10 Tage

Artikelnummer: 9783031300752

Medium: Buch

ISBN: 978-3-031-30075-2

Verlag: Springer

Erscheinungstermin: 30.11.2024

Sprache(n): Englisch

Auflage: Erscheinungsjahr 2024

Serie: Statistics and Computing

Produktform: Kartoniert

Gewicht: 727 g

Seiten: 462

Format (B x H): 155 x 235 mm

