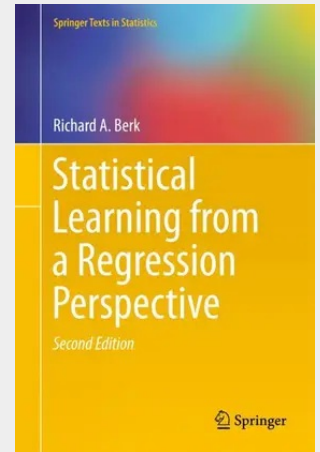


Statistical Learning from a Regression Perspective

This textbook considers statistical learning applications when interest centers on the conditional distribution of the response variable, given a set of predictors, and when it is important to characterize how the predictors are related to the response. This fully revised new edition includes important developments over the past 8 years. Consistent with modern data analytics, it emphasizes that a proper statistical learning data analysis derives from sound data collection, intelligent data management, appropriate statistical procedures, and an accessible interpretation of results. As in the first edition, a unifying theme is supervised learning that can be treated as a form of regression analysis. Key concepts and procedures are illustrated with real applications, especially those with practical implications. The material is written for upper undergraduate level and graduate students in the social and life sciences and for researchers who want to apply statistical learning procedures to scientific and policy problems. The author uses this book in a course on modern regression for the social, behavioral, and biological sciences. All of the analyses included are done in R with code routinely provided.

Statistical Learning from a Regression Perspective considers statistical learning applications when interest centers on the conditional distribution of the response variable, given a set of predictors, and when it is important to characterize how the predictors are related to the response. As a first approximation, this can be seen as an extension of nonparametric regression. Among the statistical learning procedures examined are bagging, random forests, boosting, and support vector machines. Response variables may be quantitative or categorical. Real applications are emphasized, especially those with practical implications. One important theme is the need to explicitly take into account asymmetric costs in the fitting process. For example, in some situations false positives may be far less costly than false negatives. Another important theme is to not automatically cede modeling decisions to a fitting algorithm. In many settings, subject-matter knowledge should trump formal fitting criteria. Yet another important theme is to appreciate the limitation of one's data and not apply statistical learning procedures that require more than the data can provide. The material is written for graduate students in the social and life sciences and for researchers who want to apply statistical learning procedures to scientific and policy problems. Intuitive explanations and visual representations are prominent. All of the analyses included are done in R.



71,68 €

66,99 € (zzgl. MwSt.)

Lieferfrist: bis zu 10 Tage

Artikelnummer: 9783319440477

Medium: Buch

ISBN: 978-3-319-44047-7

Verlag: Springer-Verlag GmbH

Erscheinungstermin: 04.11.2016

Sprache(n): Englisch

Auflage: 2. Auflage 2016

Serie: Springer Texts in Statistics

Produktform: Gebunden

Gewicht: 719 g

Seiten: 347

Format (B x H): 161 x 241 mm

