Record Nr. UNINA9910304131903321 Autore Birke Hanna Titolo Model-Based Recursive Partitioning with Adjustment for Measurement Error: Applied to the Cox's Proportional Hazards and Weibull Model // by Hanna Birke Wiesbaden:,: Springer Fachmedien Wiesbaden:,: Imprint: Springer Pubbl/distr/stampa Spektrum, , 2015 3-658-08505-3 ISBN Edizione [1st ed. 2015.] Descrizione fisica 1 online resource (259 p.) Collana BestMasters, , 2625-3615 Disciplina 510 518 570.285 614.5999 Soggetti Mathematics - Data processing **Biomathematics** Cancer Computational Mathematics and Numerical Analysis Mathematical and Computational Biology Cancer Biology Lingua di pubblicazione Inglese Materiale a stampa **Formato** Livello bibliografico Monografia Description based upon print version of record. Note generali Nota di bibliografia Includes bibliographical references. Nota di contenuto MOB and Measurement Error Modelling -- Derivation of an Adjusted MOB Algorithm for Covariates Measured with Error for the Cox and Weibull Model -- Implementation of the Suggested Method for the Weibull Model in the Open-Source Programming Language R --Simulation Study Showing the Performance of the Implemented Method. Model-based recursive partitioning (MOB) provides a powerful Sommario/riassunto synthesis between machine-learning inspired recursive partitioning methods and regression models. Hanna Birke extends this approach by allowing in addition for measurement error in covariates, as frequently occurring in biometric (or econometric) studies, for instance, when measuring blood pressure or caloric intake per day. After an introduction into the background, the extended methodology is

developed in detail for the Cox model and the Weibull model, carefully

implemented in R, and investigated in a comprehensive simulation study. Contents MOB and Measurement Error Modelling Derivation of an Adjusted MOB Algorithm for Covariates Measured with Error for the Cox and Weibull Model Implementation of the Suggested Method for the Weibull Model in the Open-Source Programming Language R Simulation Study Showing the Performance of the Implemented Method Target Groups Researchers and students in the fields of statistics and cognate disciplines with interest in advanced modelling in combination with measurement error in covariates Data analysts of complex biometric or econometric studies with variables that are difficult to measure in practice The Author Hanna Birke wrote her master thesis under the supervision of Prof. Dr. Thomas Augustin at the department of statistics of the LMU Munich and is currently working on her doctoral thesis.