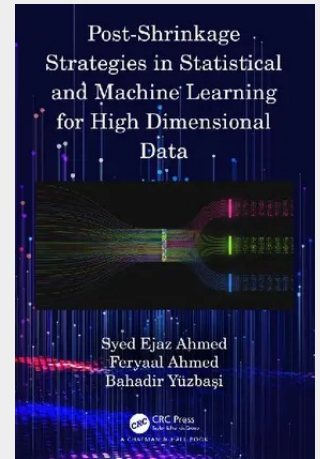


## Post-Shrinkage Strategies in Statistical and Machine Learning for High Dimensional Data

This book presents some post-estimation and predictions strategies for the host of useful statistical models with applications in data science. It combines statistical learning and machine learning techniques in a unique and optimal way. It is well-known that machine learning methods are subject to many issues relating to bias, and consequently the mean squared error and prediction error may explode. For this reason, we suggest shrinkage strategies to control the bias by combining a submodel selected by a penalized method with a model with many features. Further, the suggested shrinkage methodology can be successfully implemented for high dimensional data analysis. Many researchers in statistics and medical sciences work with big data. They need to analyse this data through statistical modelling. Estimating the model parameters accurately is an important part of the data analysis. This book may be a repository for developing improve estimation strategies for statisticians. This book will help researchers and practitioners for their teaching and advanced research, and is an excellent textbook for advanced undergraduate and graduate courses involving shrinkage, statistical, and machine learning. - The book succinctly reveals the bias inherited in machine learning method and successfully provides tools, tricks and tips to deal with the bias issue. - Expertly sheds light on the fundamental reasoning for model selection and post estimation using shrinkage and related strategies. - This presentation is fundamental, because shrinkage and other methods appropriate for model selection and estimation problems and there is a growing interest in this area to fill the gap between competitive strategies. - Application of these strategies to real life data set from many walks of life. - Analytical results are fully corroborated by numerical work and numerous worked examples are included in each chapter with numerous graphs for data visualization. - The presentation and style of the book clearly makes it accessible to a broad audience. It offers rich, concise expositions of each strategy and clearly describes how to use each estimation strategy for the problem at hand. - This book emphasizes that statistics/statisticians can play a dominant role in solving Big Data problems, and will put them on the precipice of scientific discovery. - The book contributes novel methodologies for HDDA and will open a door for continued research in this hot area. - The practical impact of the proposed work stems from wide applications. The developed computational packages will aid in analyzing a broad range of applications in many walks of life.

This book presents post-estimation and predictions strategies for the host of useful statistical models with applications in data science. Combining statistical learning and machine learning techniques in a unique and optimal way, it will help professionals in their teaching and advanced research.



**184,90 €**

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Lieferfrist: bis zu 10 Tage

**Artikelnummer:** 9780367763442

**Medium:** Buch

**ISBN:** 978-0-367-76344-2

**Verlag:** Chapman and Hall/CRC

**Erscheinungstermin:** 25.05.2023

**Sprache(n):** Englisch

**Auflage:** 1. Auflage 2023

**Produktform:** Gebunden

**Gewicht:** 963 g

**Seiten:** 408

**Format (B x H):** 183 x 260 mm

