Theory of Ridge Regression Estimation with Applications

A guide to the systematic analytical results for ridge, LASSO, preliminary test, and Stein-type estimators with applications

Theory of Ridge Regression Estimation with Applications offers a comprehensive guide to the theory and methods of estimation. Ridge regression and LASSO are at the center of all penalty estimators in a range of standard models that are used in many applied statistical analyses. Written by noted experts in the field, the book contains a thorough introduction to penalty and shrinkage estimation and explores the role that ridge, LASSO, and logistic regression play in the computer intensive area of neural network and big data analysis.

Designed to be accessible, the book presents detailed coverage of the basic terminology related to various models such as the location and simple linear models, normal and rank theory-based ridge, LASSO, preliminary test and Stein-type estimators. The authors also include problem sets to enhance learning. This book is a volume in the Wiley Series in Probability and Statistics series that provides essential and invaluable reading for all statisticians. This important resource:

- Offers theoretical coverage and computer-intensive applications of the procedures presented
- Contains solutions and alternate methods for prediction accuracy and selecting model procedures
- Presents the first book to focus on ridge regression and unifies past research with current methodology

Written for graduate students, practitioners, and researchers in various fields of science, *Theory of Ridge Regression Estimation with Applications* is an authoritative guide to the theory and methodology of statistical estimation.

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