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Titolo	Introduction to empirical processes and semiparametric inference [[electronic resource] /] / Michael R. Kosorok
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Descrizione fisica	1 online resource (495 p.)
Collana	Springer Series in Statistics, , 0172-7397
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Soggetti	Stochastic processes Sampling (Statistics) Probabilities Estimation theory Convergence
Lingua di pubblicazione	Inglese
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Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references (p. [459]-469) and indexes.
Nota di contenuto	Overview -- An Overview of Empirical Processes -- Overview of Semiparametric Inference -- Case Studies I -- Empirical Processes -- to Empirical Processes -- Preliminaries for Empirical Processes -- Stochastic Convergence -- Empirical Process Methods -- Entropy Calculations -- Bootstrapping Empirical Processes -- Additional Empirical Process Results -- The Functional Delta Method -- Z-Estimators -- M-Estimators -- Case Studies II -- Semiparametric Inference -- to Semiparametric Inference -- Preliminaries for Semiparametric Inference -- Semiparametric Models and Efficiency -- Efficient Inference for Finite-Dimensional Parameters -- Efficient Inference for Infinite-Dimensional Parameters -- Semiparametric M-Estimation -- Case Studies III.
Sommario/riassunto	This book provides a self-contained, linear, and unified introduction to empirical processes and semiparametric inference. These powerful research techniques are surprisingly useful for developing methods of statistical inference for complex models and in understanding the properties of such methods. The targeted audience includes

statisticians, biostatisticians, and other researchers with a background in mathematical statistics who have an interest in learning about and doing research in empirical processes and semiparametric inference but who would like to have a friendly and gradual introduction to the area. The book can be used either as a research reference or as a textbook. The level of the book is suitable for a second year graduate course in statistics or biostatistics, provided the students have had a year of graduate level mathematical statistics and a semester of probability. The book consists of three parts. The first part is a concise overview of all of the main concepts covered in the book with a minimum of technicalities. The second and third parts cover the two respective main topics of empirical processes and semiparametric inference in depth. The connections between these two topics is also demonstrated and emphasized throughout the text. Each part has a final chapter with several case studies that use concrete examples to illustrate the concepts developed so far. The last two parts also each include a chapter which covers the needed mathematical preliminaries. Each main idea is introduced with a non-technical motivation, and examples are given throughout to illustrate important concepts. Homework problems are also included at the end of each chapter to help the reader gain additional insights. Michael R. Kosorok is Professor and Chair, Department of Biostatistics, and Professor, Department of Statistics and Operations Research, at the University of North Carolina at Chapel Hill. His research has focused on the application of empirical processes and semiparametric inference to statistics and biostatistics. He is a Fellow of both the American Statistical Association and the Institute of Mathematical Statistics. He is an Associate Editor of the Annals of Statistics, Electronic Journal of Statistics, International Journal of Biostatistics, Statistics and Probability Letters, and Statistics Surveys.
