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Autore	Pena Daniel <1948->
Titolo	Statistical learning for big dependent data // Daniel Pena, Ruey S. Tsay
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ISBN	1-119-41741-4 1-119-41740-6 1-119-41739-2
Edizione	[First edition.]
Descrizione fisica	1 online resource (563 pages)
Collana	Wiley series in probability and statistics
Disciplina	005.7
Soggetti	Big data - Mathematics Time-series analysis Data mining - Statistical methods Forecasting - Statistical methods
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Introduction to big dependent data -- Linear univariate time series -- Analysis of multivariate time series -- Handling heterogeneity in many time series -- Clustering and classification of time series -- Dynamic factor models -- Forecasting with big dependent data -- Machine learning of big dependent data -- Spatio-temporal dependent data.
Sommario/riassunto	"This book presents methods useful for analyzing and understanding large data sets that are dynamically dependent. The book will begin with examples of multivariate dependent data and tools for presenting descriptive statistics of such data. It then introduces some useful statistical methods for univariate time series analysis emphasizing on statistical procedures for modeling and forecasting. Both linear and nonlinear models are discussed. Special attention is given to analysis of high-frequency dependent data. The second part of the book considers joint dependency, both contemporaneous and dynamical dependence, among multiple series of dependent data. Special attention will be given to graphical methods for large data, to handling heterogeneity in time series (such as outliers, missing values, and changes in the covariance matrices), and to time-varying parameters for multivariate

time series. The third part of the book is devoted to analysis of high-dimensional dependent data. The focus is on topics that are useful when the number of time series is large. The selected topics include clustering time series, high-dimensional linear regression for dependent data and its applications, and reducing the dimension with dynamic principal components and factor models. Throughout the book, advantages and disadvantages of the methods discussed are given and real examples are used in demonstration. The book will be of interest to graduate students, researchers, and practitioners in business, economics, engineering, and science who are interested in statistical methods for analyzing big dependent data and forecasting"

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