1. Record Nr. UNINA9911019843303321

Autore	Bosq Denis <1939->
Titolo	Inference and prediction in large dimensions / / Denis Bosq, Delphine Blanke
Pubbl/distr/stampa	Chichester, England ; ; Hoboken, NJ, : John Wiley/Dunod, c2007
ISBN	9786612123092 9781282123090 1282123092 9780470724033 047072403X 9780470724026 0470724021
Descrizione fisica	1 online resource (338 p.)
Collana	Wiley series in probability and statistics
Altri autori (Persone)	BlankeDelphine
Disciplina	519.5/44
Soggetti	Estimation theory Nonparametric statistics Stochastic processes Prediction theory
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	"This work is in the Wiley-Dunod Series co-published between Dunod and John Wiley & Sons, Ltd."
Nota di bibliografia	Includes bibliographical references (p. [299]-307) and index.
Nota di contenuto	Inference and Prediction in Large Dimensions; Contents; List of abbreviations; Introduction; Part I Statistical Prediction Theory; 1 Statistical prediction; 1.1 Filtering; 1.2 Some examples; 1.3 The prediction model; 1.4 P-sufficient statistics; 1.5 Optimal predictors; 1.6 Efficient predictors; 1.7 Loss functions and empirical predictors; 1.7.1 Loss function; 1.7.2 Location parameters; 1.7.3 Bayesian predictors; 1.7.4 Linear predictors; 1.8 Multidimensional prediction; Notes; 2 Asymptotic prediction; 2.1 Introduction; 2.2 The basic problem; 2.3 Parametric prediction for stochastic processes 2.4 Predicting some common processes2.5 Equivalent risks; 2.6 Prediction for small time lags; 2.7 Prediction for large time lags; Notes; Part II Inference by Projection; 3 Estimation by adaptive projection; 3.1 Introduction; 3.2 A class of functional parameters; 3.3 Oracle; 3.4

Parametric rate; 3.5 Nonparametric rates; 3.6 Rate in uniform norm; 3.7 Adaptive projection; 3.7.1 Behaviour of truncation index; 3.7.2 Superoptimal rate; 3.7.3 The general case; 3.7.4 Discussion and implementation; 3.8 Adaptive estimation in continuous time; Notes; 4 Functional tests of fit
4.1 Generalized chi-square tests4.2 Tests based on linear estimators; 4.2.1 Consistency of the test; 4.2.2 Application; 4.3 Efficiency of functional tests of fit; 4.3.1 Adjacent hypotheses; 4.3.2 Bahadur efficiency; 4.4 Tests based on the uniform norm; 4.5 Extensions. Testing regression; 4.6 Functional tests for stochastic processes; Notes; 5 Prediction by projection; 5.1 A class of nonparametric predictors; 5.2 Guilbart spaces; 5.3 Predicting the conditional distribution; 5.4 Predicting the conditional distribution function; Notes; Part III Inference by Kernels
6 Kernel method in discrete time6.1 Presentation of the method; 6.2 Kernel estimation in the i.i.d. case; 6.3 Density estimation in the dependent case; 6.3.1 Mean-square error and asymptotic normality; 6.3.2 Almost sure convergence; 6.4 Regression estimation in the dependent case; 6.4.1 Framework and notations; 6.4.2 Pointwise convergence; 6.4.3 Uniform convergence; 6.5 Nonparametric prediction by kernel; 6.5.1 Prediction for a stationary Markov process of order k; 6.5.2 Prediction for general processes; Notes; 7 Kernelmethodin continuous time
7.1 Optimal and superoptimal rates for density estimation7.1.1 The optimal framework; 7.1.2 The superoptimal case; 7.2 From optimal to superoptimal rates; 7.2.1 Intermediate rates; 7.2.2 Classes of processes and examples; 7.2.3 Mean-square convergence; 7.2.4 Almost sure convergence; 7.2.5 An adaptive approach; 7.3 Regression estimation; 7.3.1 Pointwise almost sure convergence; 7.3.2 Uniform almost sure convergence; 7.4 Nonparametric prediction by kernel; Notes; 8 Kernel method from sampled data; 8.1 Density estimation; 8.1.1 High rate sampling; 8.1.2 Adequate sampling schemes
8.2 Regression estimation

Sommario/riassunto

This book offers a predominantly theoretical coverage of statistical prediction, with some potential applications discussed, when data and/or parameters belong to a large or infinite dimensional space. It develops the theory of statistical prediction, non-parametric estimation by adaptive projection - with applications to tests of fit and prediction, and theory of linear processes in function spaces with applications to prediction of continuous time processes. This work is in the Wiley-Dunod Series co-published between Dunod (www.dunod.com) and John Wil