

1. Record Nr.	UNISA996630872303316
Autore	Castillo Ismaël
Titolo	Bayesian Nonparametric Statistics : École d'Été de Probabilités de Saint-Flour LI - 2023 / / by Ismaël Castillo
Pubbl/distr/stampa	Cham : , : Springer Nature Switzerland : , : Imprint : Springer, , 2024
ISBN	9783031740350 9783031740343
Edizione	[1st ed. 2024.]
Descrizione fisica	1 online resource (225 pages)
Collana	École d'Été de Probabilités de Saint-Flour ; ; 2358
Disciplina	519.5
Soggetti	Statistics Machine learning Mathematical optimization Calculus of variations Statistical physics Probabilities Statistical Theory and Methods Machine Learning Calculus of Variations and Optimization Statistical Physics Probability Theory Estadística bayesiana Estadística no paramètrica Llibres electrònics
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	-1. Introduction, rates I.-2. Rates II and first examples.-3. Adaptation I: smoothness.-4. Adaptation II: high-dimensions and deep neural networks -- 5. Bernstein-von Mises I: functionals -- 6. Bernstein-von Mises II: multiscale and applications -- 7. classification and multiple testing -- 8. Variational approximations.
Sommario/riassunto	This up-to-date overview of Bayesian nonparametric statistics provides both an introduction to the field and coverage of recent research

topics, including deep neural networks, high-dimensional models and multiple testing, Bernstein-von Mises theorems and variational Bayes approximations, many of which have previously only been accessible through research articles. Although Bayesian posterior distributions are widely applied in astrophysics, inverse problems, genomics, machine learning and elsewhere, their theory is still only partially understood, especially in complex settings such as nonparametric or semiparametric models. Here, the available theory on the frequentist analysis of posterior distributions is outlined in terms of convergence rates, limiting shape results and uncertainty quantification. Based on lecture notes for a course given at the St-Flour summer school in 2023, the book is aimed at researchers and graduate students in statistics and probability. .
