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Titolo	Statistics Based on Dirichlet Processes and Related Topics [[electronic resource] /] / by Hajime Yamato
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ISBN	981-15-6975-4
Edizione	[1st ed. 2020.]
Descrizione fisica	1 online resource (VIII, 74 p. 7 illus.)
Collana	JSS Research Series in Statistics, , 2364-0057
Disciplina	331.257094
Soggetti	Statistics Probabilities Applied mathematics Engineering mathematics Applied Statistics Statistical Theory and Methods Probability Theory and Stochastic Processes Applications of Mathematics
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Includes index.
Nota di contenuto	Introduction -- Dirichlet process and Chinese restaurant process -- Nonparametric estimation of estimable parameter -- Random partition of positive integer.
Sommario/riassunto	This book focuses on the properties associated with the Dirichlet process, describing its use a priori for nonparametric inference and the Bayes estimate to obtain limits for the estimable parameter. It presents the limits and the well-known U- and V-statistics as a convex combination of U-statistics, and by investigating this convex combination, it demonstrates these three statistics. Next, the book notes that the Dirichlet process gives the discrete distribution with probability one, even if the parameter of the process is continuous. Therefore, there are duplications among the sample from the distribution, which are discussed. Because sampling from the Dirichlet process is described sequentially, it can be described equivalently by the Chinese restaurant process. Using this process, the Donnelly–Tavaré–Griffiths formulas I and II are obtained, both of which give the

Ewens' sampling formula. The book then shows the convergence and approximation of the distribution for its number of distinct components. Lastly, it explains the interesting properties of the Griffiths–Engen–McCloskey distribution, which is related to the Dirichlet process and the Ewens' sampling formula.

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