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Titolo	Discrete Probability Models and Methods : Probability on Graphs and Trees, Markov Chains and Random Fields, Entropy and Coding / / by Pierre Brémaud
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Descrizione fisica	1 online resource (XIV, 559 p. 92 illus.)
Collana	Probability Theory and Stochastic Modelling, , 2199-3149 ; ; 78
Disciplina	519.2
Soggetti	Probabilities Computer science - Mathematics Mathematical statistics Graph theory Coding theory Information theory Computer networks Probability Theory Probability and Statistics in Computer Science Graph Theory Coding and Information Theory Computer Communication Networks
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Introduction -- 1. Events and probability -- 2. Random variables -- 3. Bounds and inequalities -- 4. Almost-sure convergence -- 5. Coupling and the variation distance -- 6. The probabilistic method -- 7. Codes and trees -- 8. Markov chains -- 9. Branching trees -- 10. Markov fields on graphs -- 11. Random graphs -- 12. Recurrence of Markov chains -- 13. Random walks on graphs -- 14. Asymptotic behaviour of Markov chains -- 15. Monte Carlo sampling -- 16. Convergence rates -- Appendix -- Bibliography.
Sommario/riassunto	The emphasis in this book is placed on general models (Markov chains,

random fields, random graphs), universal methods (the probabilistic method, the coupling method, the Stein-Chen method, martingale methods, the method of types) and versatile tools (Chernoff's bound, Hoeffding's inequality, Holley's inequality) whose domain of application extends far beyond the present text. Although the examples treated in the book relate to the possible applications, in the communication and computing sciences, in operations research and in physics, this book is in the first instance concerned with theory. The level of the book is that of a beginning graduate course. It is self-contained, the prerequisites consisting merely of basic calculus (series) and basic linear algebra (matrices). The reader is not assumed to be trained in probability since the first chapters give in considerable detail the background necessary to understand the rest of the book. .

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