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Sommario/riassunto

This book serves as an advanced text for a graduate course on stochastic algorithms for the students of probability and statistics, engineering, economics and machine learning. This second edition gives a comprehensive treatment of stochastic approximation algorithms based on the ordinary differential equation (ODE) approach which analyses the algorithm in terms of a limiting ODE. It has a streamlined treatment of the classical convergence analysis and includes several recent developments such as concentration bounds, avoidance of traps, stability tests, distributed and asynchronous schemes, multiple time scales, general noise models, etc., and a category-wise exposition of many important applications. It is also a useful reference for researchers and practitioners in the field.