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Altri autori (Persone)	RiskJimmy
Disciplina	519
Soggetti	Social sciences - Mathematics Stochastic processes Machine learning Mathematics in Business, Economics and Finance Stochastic Processes Machine Learning Stochastic Systems and Control Ciències socials Matemàtica Processos estocàstics Aprendentatge automàtic Llibres electrònics
Lingua di pubblicazione	Inglese
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Livello bibliografico	Monografia
Nota di contenuto	- 1. Gaussian Process Preliminaries -- 2. Covariance Kernels -- 3. Advanced GP Modeling Topics -- 4. Option Pricing and Sensitivities -- 5. Optimal Stopping -- 6. Non-Parametric Modeling of Financial Structures -- 7. Stochastic Control.
Sommario/riassunto	This book describes the diverse applications of Gaussian Process (GP) models in mathematical finance. Spurred by the transformative influence of machine learning frameworks, the text aims to integrate GP modeling into the fabric of quantitative finance. The first half of the book provides an entry point for graduate students, established researchers and quant practitioners to get acquainted with GP

methodology. A systematic and rigorous introduction to both GP fundamentals and most relevant advanced techniques is given, such as kernel choice, shape-constrained GPs, and GP gradients. The second half surveys the broad spectrum of GP applications that demonstrate their versatility and relevance in quantitative finance, including parametric option pricing, GP surrogates for optimal stopping, and GPs for yield and forward curve modeling. The book includes online supplementary materials in the form of half a dozen computational Python and R notebooks that provide the reader direct illustrations of the covered material and are available via a public GitHub repository.

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