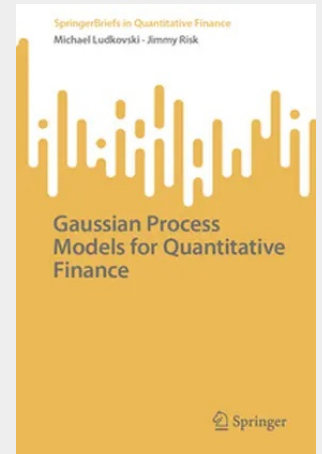


## Gaussian Process Models for Quantitative Finance

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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**53,49 €**

49,99 € (zzgl. MwSt.)

Lieferfrist: bis zu 10 Tage

**Artikelnummer:** 9783031808739

**Medium:** Buch

**ISBN:** 978-3-031-80873-9

**Verlag:** Springer Nature Switzerland

**Erscheinungstermin:** 07.03.2025

**Sprache(n):** Englisch

**Auflage:** Erscheinungsjahr 2025

**Serie:** SpringerBriefs in Quantitative Finance

**Produktform:** Kartoniert

**Gewicht:** 270 g

**Seiten:** 138

**Format (B x H):** 155 x 235 mm

