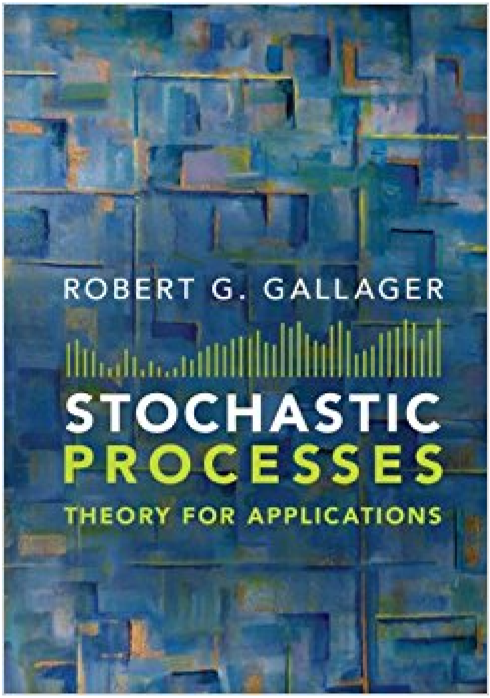
Stochastic Processes



Synopsis

This definitive textbook provides a solid introduction to discrete and continuous stochastic processes, tackling a complex field in a way that instils a deep understanding of the relevant mathematical principles, and develops an intuitive grasp of the way these principles can be applied to modelling real-world systems. It includes a careful review of elementary probability and detailed coverage of Poisson, Gaussian and Markov processes with richly varied queuing applications. The theory and applications of inference, hypothesis testing, estimation, random walks, large deviations, martingales and investments are developed. Written by one of the world's leading information theorists, evolving over 20 years of graduate classroom teaching and enriched by over 300 exercises, this is an exceptional resource for anyone looking to develop their understanding of stochastic processes.

Book Information

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Customer Reviews

There is a wealth of information in here. Very good, patient explanations with pictures and examples galore.The exercises are numerous and quite thoughtful. (The author frequently even tells you what the goal of the exercise is -- this has motivated me to pursue ’unassigned problems’ that I otherwise wouldn’t have done.) Solutions are available to most of the exercises.I really like this book, though it requires considerable patience to get through as there is so much stuff in here.

Stochastic Processes: Theory for Applications is very well written and does an excellent job of bridging the gap between intuition and mathematical rigorousness at the first-year graduate engineering school level. The book is a combination of the material from two MIT courses: (6.262) Discrete Stochastic Process and (6.432) Stochastic Processes, Detection, and Estimation. Because of this, the book shares much in common with Prof. Gallager’s previous textbook: Discrete Stochastic Processes (ISBN-13: 978-0792395836 published 1995). I would not recommend to those interested only in this sub-topic - and who already own DSP - to purchase this new textbook as not much new will be gained. Nevertheless, the new inductee into the stochastic process world will be well served by this excellent update.

The best intro to stochastic processes available, bar none [and I have seen a lot of them] - also a companion to his GREAT, FREE course on the MIT Open Course website. If you buy this book, plan to do the course - if you don’t you are missing out on a massive amount of information.

Great book!!

The book covers puts emphasis on the application side of stochastic process.

Stochastic Simulation: Algorithms and Analysis (Stochastic Modelling and Applied Probability, No. 57) (No. 100) Continuous-time Stochastic Control and Optimization with Financial Applications (Stochastic Modelling and Applied Probability) Stochastic Processes: Theory for Applications Stochastic Processes Fundamentals of Probability, with Stochastic Processes (3rd Edition) Introduction to Stochastic Processes (Dover Books on Mathematics) Probability, Statistics, and Stochastic Processes Essentials of Stochastic Processes (Springer Texts in Statistics) Applied Probability and Stochastic Processes Probability and Stochastic Processes Multidimensional Stochastic Processes as Rough Paths: Theory and Applications (Cambridge Studies in Advanced Mathematics) Stochastic Processes (Dover Books on Mathematics) Introduction to Stochastic

Processes (Chapman & Hall/CRC Probability Series) Introduction to Stochastic Processes with R Stationary and Related Stochastic Processes: Sample Function Properties and Their Applications (Dover Books on Mathematics) Markov Processes for Stochastic Modeling, Second Edition (Elsevier Insights) Stochastic Processes in Physics and Chemistry, Third Edition (North-Holland Personal Library) Stochastic Processes With Applications (Classics in Applied Mathematics) How to Gamble If You Must: Inequalities for Stochastic Processes (Dover Books on Mathematics) A First Course in Stochastic Processes, Second Edition