

ZMATH 2013e.00684

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Markov processes for stochastic modeling.

Amsterdam: Elsevier/Academic Press (ISBN 978-0-12-374451-7/hbk). xiv, 490 p. (2009).

The book brings into one volume the different Markovian models that are individually scattered across many books, it is intended to students and researchers in different fields having the desire to apply Markov models in their investigations. It is a combination of theory and applications and presents the essential details of these models. It contains the chapters: 1. Basic probability concepts; 2. Introduction to Markov processes; 3. Discrete-time Markov chains; 4. Continuous-time Markov chains; 5. Markovian queueing systems; 6. Markov renewal processes; 7. Markovian arrival processes; 8. Random walk; 9. Brownian motion and diffusion processes; 10. Controlled Markov processes; 11. Hidden Markov models; 12. Markov random fields; 13. Markov point processes; 14. Markov chain Monte Carlo. It is a good textbook for students and reference book for researchers and practitioners, it provides an introduction to a wide range of topics including the classical and the most actual ones, and the reader who is interested in more information in any particular topic is advised to consult any of specialized books in the references.

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Classification: K65 K95 M15

Keywords: Markov processes; stochastic modeling