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Soggetti	Probabilities Software engineering Computer logic Computer system failures Computers Mathematical statistics Probability Theory and Stochastic Processes Software Engineering Logics and Meanings of Programs System Performance and Evaluation Computation by Abstract Devices Probability and Statistics in Computer Science
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Livello bibliografico	Monografia
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Nota di bibliografia	Includes bibliographical references.
Nota di contenuto	Interactive Processes -- Markov Chains -- Interactive Markov Chains -- Algebra of Interactive Markov Chains -- Interactive Markov Chains in Practice -- Conclusion -- Proofs for Chapter 3 and Chapter 4 -- Proofs for Chapter 5.
Sommario/riassunto	Markov Chains are widely used as stochastic models to study a broad spectrum of system performance and dependability characteristics. This monograph is devoted to compositional specification and analysis of Markov chains. Based on principles known from process algebra, the author systematically develops an algebra of interactive Markov chains. By presenting a number of distinguishing results, of both theoretical

and practical nature, the author substantiates the claim that interactive Markov chains are more than just another formalism: Among other, an algebraic theory of interactive Markov chains is developed, devise algorithms to mechanize compositional aggregation are presented, and state spaces of several million states resulting from the study of an ordinary telephone system are analyzed.
