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Titolo	Evolutionary Computation and Complex Networks // by Jing Liu, Hussein A. Abbass, Kay Chen Tan
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ISBN	3-319-60000-1
Edizione	[1st ed. 2019.]
Descrizione fisica	1 online resource (160 pages)
Disciplina	006.3823
Soggetti	Electrical engineering Algorithms Computers Communications Engineering, Networks Algorithm Analysis and Problem Complexity Computation by Abstract Devices
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Part 1: Background -- Evolutionary Computation -- Complex Networks -- Part 2: Using Complex Networks to Analyze Evolutionary Algorithms -- Evolutionary Dynamics on Complex Networks -- Problem Difficulty Prediction based on Complex Networks -- Network-based Problem Difficulty Prediction Measures -- Part 3: Using Evolutionary Algorithms to Solve Problems in Complex Networks -- Evolutionary Community Detection Algorithms -- Evolving Robust Networks using Evolutionary Algorithms -- Other Optimization Problems in Complex Networks.
Sommario/riassunto	This book introduces the linkage between evolutionary computation and complex networks and the advantages of cross-fertilising ideas from both fields. Instead of introducing each field individually, the authors focus on the research that sits at the interface of both fields. The book is structured to address two questions: (1) how complex networks are used to analyze and improve the performance of evolutionary computation methods? (2) how evolutionary computation methods are used to solve problems in complex networks? The authors interweave complex networks and evolutionary computing, using

evolutionary computation to discover community structure, while also using network analysis techniques to analyze the performance of evolutionary algorithms. The book is suitable for both beginners and senior researchers in the fields of evolutionary computation and complex networks. Brings together the fields of evolutionary computation and complex networks, discussing them both qualitatively and quantitatively; Provides novel and efficient computational problem solving techniques that require little computer memory; Provides the pseudo-codes for the computational methods used in the book to enable readers to adopt the codes to their own problems.
