1.	Record Nr.	UNINA9910299856303321
	Autore	Tao Fei
	Titolo	Configurable intelligent optimization algorithm [[electronic resource]] : design and practice in manufacturing / / by Fei Tao, Lin Zhang, Yuanjun Laili
	Pubbl/distr/stampa	Cham : , , : Springer International Publishing : , : Imprint : Springer, , 2015
	ISBN	3-319-08840-8
	Edizione	[1st ed. 2015.]
	Descrizione fisica	1 online resource (364 p.)
	Collana	Springer Series in Advanced Manufacturing, , 1860-5168
	Disciplina	519.3
	Soggetti	Computer-aided engineering
		Manufactures
		Computer mathematics
		Computer-Aided Engineering (CAD, CAE) and Design
		Manufacturing, Machines, Tools, Processes
		Computational Science and Engineering
	Lingua di pubblicazione	Inglese
	Formato	Materiale a stampa
	Livello bibliografico	Monografia
	Note generali	Description based upon print version of record.
	Nota di bibliografia	Includes bibliographical references at the end of each chapters.
	Nota di contenuto	From the Contents: Brief History and Overview of Intelligent Optimization Algorithms -- Recent Advances of intelligent optimization algorithms in manufacturing -- Dynamic Configuration Intelligent Optimization Algorithms -- Improvement and hybridization of Intelligent Optimization Algorithms DC-OIA.
	Sommario/riassunto	Presenting the concept and design and implementation of configurable intelligent optimization algorithms in manufacturing systems, this book provides a new configuration method to optimize manufacturing processes. It provides a comprehensive elaboration of basic intelligent optimization algorithms, and demonstrates how their improvement, hybridization and parallelization can be applied to manufacturing. Furthermore, various applications of these intelligent optimization algorithms are exemplified in detail, chapter by chapter. The intelligent optimization algorithm is not just a single algorithm; instead it is a general advanced optimization mechanism which is highly scalable with robustness and randomness. Therefore, this book demonstrates the

flexibility of these algorithms, as well as their robustness and reusability in order to solve mass complicated problems in manufacturing. Since the genetic algorithm was presented decades ago, a large number of intelligent optimization algorithms and their improvements have been developed. However, little work has been done to extend their applications and verify their competence in solving complicated problems in manufacturing. This book will provide an invaluable resource to students, researchers, consultants and industry professionals interested in engineering optimization. It will also be particularly useful to three groups of readers: algorithm beginners, optimization engineers and senior algorithm designers. It offers a detailed description of intelligent optimization algorithms to algorithm beginners; recommends new configurable design methods for optimization engineers, and provides future trends and challenges of the new configuration mechanism to senior algorithm designers.