1.	Record Nr.	UNINA9910254210003321
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	Titolo	Applications of Evolutionary Computation in Image Processing and Pattern Recognition / / by Erik Cuevas, Daniel Zaldívar, Marco Perez-Cisneros
	Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2016
	ISBN	9783319264622 3319264621
	Edizione	[1st ed. 2016.]
	Descrizione fisica	1 online resource (284 p.)
	Collana	Intelligent Systems Reference Library, , 1868-4408 ; ; 100
	Disciplina	006.3823
	Soggetti	Computational intelligence Artificial intelligence Signal processing Computer vision Mathematical optimization Calculus of variations Computational Intelligence Artificial Intelligence Signal, Speech and Image Processing Computer Vision Calculus of Variations and Optimization
	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	Introduction -- Image Segmentation Based on Differential Evolution Optimization.-Motion Estimation Based on Artificial Bee Colony (ABC) -- Ellipse Detection on Images Inspired by the Collective Animal Behavior -- Template Matching by Using the States of Matter Algorithm -- Estimation of Multiple View Relations Considering Evolutionary Approaches -- Circle Detection on Images Based on an Evolutionary Algorithm that Reduces the Number of Function Evaluations -- Otsu and Kapur Segmentation Based on Harmony Search Optimization -- Leukocyte Detection by Using Electromagnetism-Like Optimization --

Automatic Segmentation by Using an Algorithm Based on the Behavior of Locust Swarms.

Sommario/riassunto	This book presents the use of efficient Evolutionary Computation (EC) algorithms for solving diverse real-world image processing and pattern recognition problems. It provides an overview of the different aspects of evolutionary methods in order to enable the reader in reaching a global understanding of the field and, in conducting studies on specific evolutionary techniques that are related to applications in image processing and pattern recognition. It explains the basic ideas of the proposed applications in a way that can also be understood by readers outside of the field. Image processing and pattern recognition practitioners who are not evolutionary computation researchers will appreciate the discussed techniques beyond simple theoretical tools since they have been adapted to solve significant problems that commonly arise on such areas. On the other hand, members of the evolutionary computation community can learn the way in which image processing and pattern recognition problems can be translated into an optimization task. The book has been structured so that each chapter can be read independently from the others. It can serve as reference book for students and researchers with basic knowledge in image processing and EC methods.