

Springer Series

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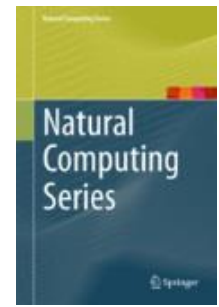
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Overview

Natural Computing is one of the most exciting developments in computer science, and there is a growing consensus that it will become a major field in this century.

This series includes monographs, textbooks, and state-of-the-art collections covering the whole spectrum of the subject, and ranging from theory to applications.

Contacts

We welcome proposals for new projects, please contact Ronan Nugent, Executive Editor, Springer (ronan.nugent@springer.com), or one of the Series Editors, Thomas Bäck (t.h.w.baeck@liacs.leidenuniv.nl) or Lila Kari (lila@uwaterloo.ca).

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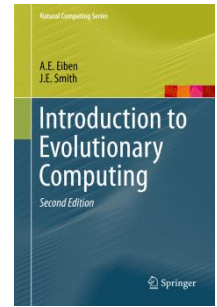
Selected Published Books

Introduction to Evolutionary Computing, 2nd ed.

Gusz Eiben, Jim Smith (ISBN 978-3-662-44873-1)

In this second edition the authors reorganized the material to focus on problems, how to represent them, and then how to choose and design algorithms for different representations. The overall structure is three-tier: Part I presents the basics, Part II is concerned with methodological issues, and Part III discusses advanced topics.

Suitable for undergraduate and graduate courses in artificial intelligence and computational intelligence, and for self-study by practitioners and researchers engaged with all aspects of bioinspired design and optimization.

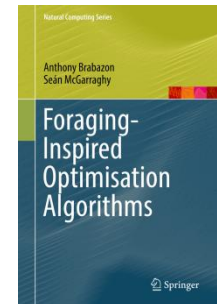


Foraging-Inspired Optimisation Algorithms

Anthony Brabazon, Seán McGarraghy (ISBN 978-3-319-59155-1)

An introduction to relevant aspects of the foraging literature for algorithmic design, and an overview of key families of optimization algorithms that stem from a foraging metaphor.

The authors first offer perspectives on foraging and foraging-inspired algorithms for optimization, they then explain the techniques inspired by the behaviors of vertebrates, invertebrates, and non-neuronal organisms, and they then discuss algorithms based on formal models of foraging, how to evolve a foraging strategy, and likely future developments.

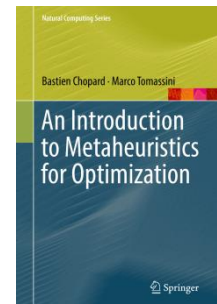


An Introduction to Metaheuristics for Optimization

Bastien Chopard, Marco Tomassini (ISBN 978-3-319-93072-5)

Stresses the relative simplicity, efficiency, flexibility of use, and suitability of various approaches used to solve difficult optimization problems.

The authors are experienced, interdisciplinary lecturers and researchers and in their explanations they demonstrate many shared foundational concepts among the key methodologies.

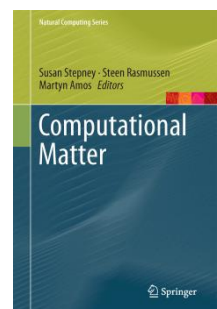


Computational Matter

Susan Stepney, Steen Rasmussen, Martyn Amos (eds) (ISBN 978-3-319-65824-7)

Concerned with computing in materio: that is, unconventional computing performed by directly harnessing the physical properties of materials.

It offers an overview of the field, covering four main areas of interest: theory, practice, applications and implications.

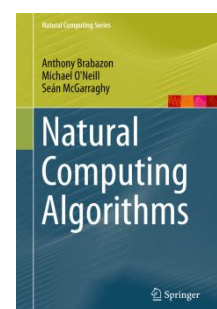


Natural Computing Algorithms

Anthony Brabazon, Michael O'Neill, Seán McGarraghy (ISBN 978-3-662-43630-1)

A comprehensive introduction to natural computing algorithms.

Suitable for academic and industrial researchers and for undergraduate and graduate courses on natural computing in computer science, engineering and management science.





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