

Book Review

Handbook of Research on Artificial Intelligence Techniques and Algorithms

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Handbook of Research on Artificial Intelligence Techniques and Algorithms

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INTRODUCTION

This book presents meta-heuristic methods, and their applications, inspired by self-emerging organization and coordination. Coverage is wide, ranging from swarm optimization to memetic algorithms to fuzzy logic-based algorithms. Applications offer a guideline for researchers seeking information on the practical application of the techniques from computational intelligence.

ORGANIZATION OF THE BOOK

The book is effectively organized, with the 25 chapters providing coverage at the right level of width and depth, providing the reader with an overview of the most important ideas and the sufficient amount of detail to drive further, focused, study. The optimization problems, which the techniques presented in the book are meant to solve, arise in many different fields such as economy, industrial control, medicine, and chemical engineering, just to name a few. Hence, the treatment of the methods in the book needed to strike a delicate balance between two conflicting objectives – which is quite appropriate for a book on optimization. On the one hand, there is the necessity to include all the most relevant ideas and algorithms. On the other hand, the requisite to give examples of the challenges that can arise, the conditions for a given technique to be applicable to a particular context, and some indication of which method is the most appropriate for a given task.

SUMMARY

Recommend. The book is balanced, with valuable contributions, and adds value to the scientific literature on the subject.

READERSHIP

The primary audience group I anticipate for the book is formed by researchers working in industry or in academic sectors close to industry. All these people can find useful guidance in the practical application of the intriguing ideas coming from the computational intelligence scientific community. While the areas of application of metaheuristics are extremely varied and diverse, each of them endowed with its own challenges, objectives, and constraints, the book will likely mentor researchers through the steps needed to achieve a practical implementation. In addition, some chapters can provide a useful tool for instructors aiming at widening the perspectives of their graduate students.