Book Review

Handbook of Research on Novel Soft Computing Intelligent Algorithms:

Theory and Practical Applications

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INTRODUCTION

Many real optimization problems are hard to solve with enough accuracy in a reasonable time. The main aim of this book is to offer a state-of-the-art chapters' collection that cover themes related to Soft Computing algorithms that could be applied for different hard real problems solving.

ORGANIZATION OF THE BOOK

Efficient solving of various real problems by computers may require different problem solving algorithms, adapted on the specific of the problems type, complexity and the known information about the problems. Soft Computing is one of the most successful paradigms used for different computational hard problems solving. This book contains several chapters about classical algorithms in the field of Soft Computing, like Genetic Algorithms, Fuzzy Logic, or Particle Swarm Optimization. Other chapters contain hybrids algorithms- that is, algorithms build by hybridization between some known Evolutionary Algorithms and other heuristic approaches, in order to obtain their combined advantages. There are hybridizations between Genetic Algorithms and Intuitionistic Fuzzy Logic, between Particle Swarm Optimization and Fuzzy Logic, or between Fuzzy Logic and Evolutionary Algorithms. Finally, other chapters deal with Chaotic Systems, Multi Agent Petri Nets, Reinforcement Learning, or Bayesian Networks.

The book covers a large range of applications in the fields of production planning, supply chain design and management, electric power management, PID control, medical imaging, e-commerce, data mining, car suspension control, wireless sensor networks, or chemical and biological systems.

SUMMARY

I think this book is Highly Recommended for all interested people in the field. They may study both classical optimization methods, and modern methods, with superior results based on different hybridization techniques.

READERSHIP

In my opinion, this book is a must read for engineers, researchers, practitioners and students involved in the field of optimization. Like other books edited or written by Prof. Vasant, this book is a delight for practitioners in the field of optimization and we must bring deep thanks to the authors and to the publisher that have made possible the coming out of this book.

Rustem Popa is an Associate Professor at the Department of Electronics and Telecommunications of the "Dunarea de Jos" University in Galati, Romania ("Low Danube" University in Galati). He received the engineering degree (equivalent with M.S.) from the "Politehnica" University, Faculty of Electronics and Telecommunications, Bucharest, Romania, in 1984. He was a Scientific Researcher at the Research and Design Institute for Shipbuilding in Galati, and since 1990, is with "Dunarea de Jos" University. He received the Ph.D. degree from the "Dunarea de Jos" University in Galati, in 1999, with a thesis on evolutionary algorithms applied on reconfigurable digital systems. His research interests include computational intelligence, evolvable hardware, digital signal processing, medical electronics. He is an author/coauthor/editor of 6 books, 2 journals and more than 50 journal and conference papers.