

HYBRID EVOLUTIONARY SYSTEMS

Call for Book Chapters (Springer SCI Series)

Evolutionary Computation has become an important problem solving methodology among many researchers working in the area of computational intelligence. The population based collective learning process, self adaptation and robustness are some of the key features of evolutionary algorithms when compared to other global optimization techniques. Evolutionary computation has been widely accepted for solving several important practical applications in engineering, business, commerce etc. As we all know, the problems of the future will be more complicated in terms of complexity and data volume.

Hybridization of evolutionary algorithms is getting popular due to their capabilities in handling several real world problems involving complexity, noisy environment, imprecision, uncertainty and vagueness. A fundamental stimulus to the investigations of hybrid approach is the awareness that combined approaches will be necessary to solve some of the real world problems. This edited volume is targeted to present the latest state-of-the-art methodologies in 'Hybrid Evolutionary Systems'. Editors invite authors to submit their original and unpublished work that communicates current research on 'Hybrid Evolutionary Systems', regarding both the theoretical and methodological aspects, as well as various applications to many real world problems from science, technology, business or commerce.

Topics of interest include but not limited to the following:

I. Optimizing the Performance of Evolutionary Algorithms

- * Neural networks assisted evolutionary computation
- * Bayesian methods assisted evolutionary computation
- * Fuzzy system assisted evolutionary computation
- * Rough sets assisted evolutionary computation
- * Hybridization of evolutionary algorithms with particle swarm optimization
- * Hybridization of evolutionary algorithms with other global optimization techniques (simulated annealing, Tabu search, GRASP etc.)
- * Hybridization of evolutionary algorithms with bacterial foraging
- * Hybridization of evolutionary algorithms with molecular computing (DNA computing and membrane computing)
- * Hybridization of evolutionary algorithms with quantum computing
- * Hybridization of evolutionary algorithms with optical computing
- * Hybridization of evolutionary algorithms with other bionics

II. Optimization of Intelligent Systems Using Evolutionary Computation

- * Evolutionary artificial neural networks
- * Evolutionary fuzzy systems (genetic fuzzy systems)
- * Integration with connectionist learning and fuzzy inference systems
- * Integration of evolutionary computation with case-based reasoning, inductive logic programming, grammatical inference etc.
- * Integration with Multi-Agent Systems

III. This volume is also oriented towards real world applications where a direct approach might fail.

- * Multiobjective optimization applications
- * Financial modeling
- * Intrusion detection and cryptography
- * NP hard problems
- * Bioinformatics
- * Data mining
- * Knowledge management
- * Natural language processing
- * Image processing
- * Nonlinear network problems
- * Planning and scheduling
- * Brain-computer interface technologies

Chapters Submission

The book is intended to be published in the Springer Verlag, Series - 'Studies in Computational Intelligence'. Please prepare the manuscript using the author guidelines and format given in the following link: www.softcomputing.net/cec06.

**** Author Guidelines and Format ****

Authors are invited to submit their original and unpublished work by email to <computational.intelligence@gmail.com>. Papers have to be no more than 40 pages length. All chapters will be peer - reviewed by three or more independent referees.

The time schedule for this publication is given below.

Deadlines:

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Notification of Acceptance: April 30, 2006

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