MEMETIC COMPUTING

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Memetic Computing (MC) represents a broad generic framework using the notion of meme(s) as units of information encoded in computational representations for the purpose of problem-solving. In the literature, MC has been successfully manifested as memetic algorithm, where meme has been typically perceived as individual learning procedures, adaptive improvement procedures or local search operators that enhance the capability of population based search algorithms. More recently, novel manifestations of meme in the forms such as knowledge building-block, decision tree, artificial neural works, fuzzy system, graphs, etc., have also been proposed for efficient problem-solving. These meme-inspired algorithms, frameworks and paradigms have demonstrated with considerable success in various real-world application.

The aim of this special session on memetic computing is to provide a forum for researchers in this field to exchange the latest advances in theories, technologies, and practice of memetic computing.

Topics

- Single/Multi-Objective memetic algorithms for continuous or combinatorial optimization,

- Theoretical studies that enhance our understandings on the behaviors of memetic computing,

- Adaptive systems and meme coordination,

- Novel manifestations of memes for problem-solving,

- Cognitive, Brain, individual learning, and social learning inspired memetic computation,

- Self-design algorithms in memetic computing,

- Memetic frameworks using surrogate or approximation methods,

- Memetic automaton, cognitive and brain inspired agent based memetic computing,

- Data mining and knowledge learning in memetic computation paradigm,

- Evolutionary Multi-Tasking,

- Memetic computing for expensive and complex real-world .