Department of Electrical and Computer Engineering

Information Physics

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Research Fields	Soft computing, Data mining, Data analysis, Optimization algorithm
Keywords	entropy maximization, fuzzy theory, fuzzy clustering, fuzzy modeling, simulated annealing, deterministic annealing, quantum annealing, particle swarm optimization, genetic algorithm, genetic programming, tabu search, reinforcement learning

● Research Outline

Data analysis

Statistical mechanics investigates the macroscopic properties of a physical system consisting of several elements. Recently, there has been great research interest in applying statistical mechanical models or tools to information science, especially data analysis.

Accordingly, by applying entropy maximization, the concept of temperature is introduced in computer algorithms, and are statistical mechanically investigated.

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Optimization algorithm

Many engineering problems can be formulated as optimization problems.

Accordingly, modifications and combinations of meta-heuristic approaches, such as annealing methods, particle methods, and evolution methods have been studied to solve those problems.