



Lecture Notes in Networks and Systems

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A New Variable Strength t-Way Strategy Based on the Cuckoo Search Algorithm

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Abstract:

Considering systematic interaction of inputs, t-way testing is a sampling strategy that generates a subset of test cases from a pool of possible tests. Many t-way testing strategies appear in the literature to date ranging from general computational ones to metaheuristic-based. Owing to its performance, the metaheuristicbased t-way strategies have gained significant attention recently (e.g., Particle swarm optimization, genetic algorithm, ant colony algorithm, harmony search, and cuckoo search). Despite much progress, existing strategies have not sufficiently dealt with more than one interaction between input parameters (termed variable strength tway). Complementing existing works, this paper proposes a new variable strength cuckoo search algorithm, called VCS. Experimental results have shown promising results as VCS can compete with many existing works.

Keyword: Software Testing; Variable Strength Interaction; Metaheuristic; Cuckoo Search Algorithm