Comparative Study between Flower Pollination Algorithm and Cuckoo Search Algorithm for *t*-way Test Data Generation

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T-way testing is a sampling approach for test data generation. Recently, adapting meta-heuristic algorithms for t-way testing is very attractive in order to find a minimum subset of test data that can test a system overall. As a consequence, several meta-heuristic algorithms have been used as the basis of t-way strategies. In order to guide software tester (and engineers in general) to select the best algorithm for the problem at hand, there is a need to evaluate and benchmark the performance of each strategy against common case studies. This paper presents a comparative study between two meta-heuristic strategies for t-way test data generation: Flower Pollination Algorithm (FPA) and Cuckoo Search (CS). Our experiments have performed on a real-world case study. Experimental results demonstrate that FPA appears to produce better results in most of the test cases in term of test suite size and convergence rate owing to its ability for controlling local and global search.

Keywords: Meta-heuristic algorithms, Cuckoo Search, Flower Pollination Algorithm, T-way testing.