



Comparative Performance Analysis of Flower Pollination Algorithm and Harmony Search based strategies: A Case Study of Applying Interaction Testing in the Real World

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Abstract

The main purpose of software testing is to detect software failures to ensure that a product functions work as expected. Therefore, there is need to test huge possible number of input combinations. T-way testing is a sampling approach to minimize input combinations. Recently, adapting optimization algorithm for T-way testing is very interested. As a consequence, many t-way optimization algorithm based strategies have been designed and implemented. In order to guide software tester to choose the best software testing strategy, there is a need to evaluate and benchmark the performance of each strategy against common case studies. In this paper, we present a comparison between two strategies, Harmony Search (HS) and Flower Pollination Algorithm (FPA) based strategies. Our experiments have performed on a real-world case study. Experiments results demonstrate that the performance is almost the same for both strategies and there is no one strategy can always be the best; however HS-based strategy performs better than FPA-based in many cases.

Keywords: Software Testing, T-way Test Suite Generation, Harmony Search HS, Flower Pollination Algorithm FPA, Flower Strategy.

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