

A Fast and Efficient Genetic Algorithm to Solve 0-1 Knapsack Problem

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Abstract— Knapsack problem is a typical computer algorithm of NP complete (Nondeterministic Polynomial Completeness) problem. The research of solving this problem has great significance not only in theory, but also in application, for example, resource management, investment decisions and so on. For solving this problem, scholars have developed a number of algorithms, however, they are all have some drawbacks. This paper represents a fast Genetic Algorithm to solve the knapsack problem, and also demonstrate its feasibility and effectiveness through an example.

Keywords— Knapsack Problem, Genetic Algorithm, Computer Simulation.