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An Expert System Designed to Be Used with MOEAs for Efficient Portfolio Selection

Authors : Kostas Metaxiotis, Kostas Liagkouras

Abstract : This study presents an Expert System specially designed to be used with Multiobjective Evolutionary Algorithms (MOEAs) for the solution of the portfolio selection problem. The validation of the proposed hybrid System is done by using data sets from Hang Seng 31 in Hong Kong, DAX 100 in Germany and FTSE 100 in UK. The performance of the proposed system is assessed in comparison with the Non-dominated Sorting Genetic Algorithm II (NSGAII). The evaluation of the performance is based on different performance metrics that evaluate both the proximity of the solutions to the Pareto front and their dispersion on it. The results show that the proposed hybrid system is efficient for the solution of this kind of problems.

Keywords : expert systems, multi-objective optimization, evolutionary algorithms, portfolio selection
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