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Mediative Fuzzy Logic for Controlling Population Size in Evolutionary Algorithms

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ABSTRACT
In this paper we are presenting an intelligent method for controlling population size in evolutionary algorithms. The method uses Mediative Fuzzy Logic for modeling knowledge from experts about what should be the behavior of population size through generations based on the fitness variance and the number of generations that the algorithm is being stuck. Since, it is common that this kind of knowledge expertise can be susceptible to disagreement in a minor or a major part. We selected Mediative Fuzzy Logic (MFL) as a fuzzy method to achieve the inference. MFL is a novelty fuzzy inference method that can handle imperfect knowledge in a broader way than traditional fuzzy logic does.

KEYWORDS
mediative fuzzy logic, dynamic population size, HEM

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