Metric's thresholds for encoding evolutionary computing representation in software engineering problem

ABSTRACT

Recently, evolutionary computing is gaining more interest from software engineering community for using it to solve various types of related problems. The software metrics selection problem is among the problems implemented using this technique. For the problem to be implemented using this method, the initial process called representation should be established. Currently, the conversion of the problem into binary representation is done using human experts. However, experts' opinions in categorizing the defect and non-defect prone classes into bits are always questionable due to human weakness. This paper presents metrics thresholds encoding algorithm as an alternative to replace human experts in developing problem representation. Algorithm was tested to metric selection problem using Genetic Algorithm and the results obtained are promising.

Keyword: Genetic algorithm; Software metrics; Software metrics thresholds; Evolutionary computation; Representation