Abstract

There are several issues related to the software maintenance but a more important critical one highlighted in this work is tracking over the behavior of software maintenance. This is because inferring the knowledge about the maintenance of software products in advance is really a difficult process which is pointed out by many researchers. Considering this issue the main purpose of this work is inspired based on Bio-Inspirational behavior-based optimization technique with an objective to predict software maintainability. In this paper, an attempt has been made to use subset of class-level object-oriented metrics in order to predicting software maintainability. Here, different subset of Object-Oriented software metrics have been considered to provide requisite input data to design the models for predicting maintainability using Neuro-Particle Swarm Optimization algorithm (NPSO). This technique is applied to estimate maintainability on dataset collected from two different case studies such as Quality Evaluation System (QUES) and User Interface System (UIMS). The performance parameters used in this technique has been evaluated based on the basis of Magnitude of Relative Error (MRE), Mean Magnitude of Relative Error (MMRE) and Prediction.
References


Index Terms

Computer Science Software Engineering

Keywords

PSO, NPSO, QUES, UIMS, MRE, MMRE