Maintainability Prediction for Software based on Class Diagram using Back Propagation Neural Network and Coco Search Algorithm

Abstract

accuracy and Software quality impacts user satisfaction and development costs, Maintainability has gained its importance as a feature of software quality and the need for early indicators of external quality attributes is a critical necessity. Maintainability of object-oriented software can be predicted through the implementation of advanced modeling techniques. This paper presents a model to predict the understanding and the modifiability as standard the maintainability software from class diagram using the Back propagation neural network with the Coco search algorithm. The results of this model are compared to multiple linear regression model. The results reported that the integration between Back propagation neural network with the Coco search algorithm is an improved maintainability expected with higher accuracy.

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Keywords

Maintainability, Back propagation neural network, Prediction, understanding, modifiability, Cuckoo search algorithm