Abstract

The relationship between object oriented metrics and software maintenance effort is complex and non-linear. Therefore, there is considerable research interest in development and application of sophisticated techniques which can be used to construct models for predicting software maintenance effort. The aim of this paper is to evaluate and compare the application of different soft computing techniques - Artificial Neural Networks, Fuzzy Inference Systems and Adaptive Neuro-Fuzzy Inference Systems to construct models for prediction of Software Maintenance Effort. The maintenance effort data of two commercial software products is used in this study. The dependent variable in our study is maintenance effort. The independent variables are eight Object Oriented metrics. It is observed that soft computing techniques can be used for constructing accurate models for prediction of software maintenance effort and Adaptive Neuro Fuzzy Inference System technique gives the most
accurate model.

Reference

Soft Computing Approaches for Prediction of Software Maintenance Effort

Network", Proceedings of 1st International Conference on Information Technology & Applications (ICITA 2002)


Index Terms

Computer Science

Software Engineering

Key words

Software Maintenance Effort Prediction

Soft Computing

Object Oriented (OO) Metrics

Artificial Neural Networks (ANNs)

Fuzzy Inference Systems (FIS)

Adaptive Neuro-Fuzzy Inference System (ANFIS)