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 a critical necessity ,maintainability of object-oriented software can be Predicted through the implementation of advanced modeling techniques . This paper presents model to a predicting 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

References

1. Dhaka V, AgrawalS, Optimization of Object-Oriented Metrics Using Hopfield Neural Network, International Journal of Soft Computing and Engineering ( 2231-2307) Volume-3,
2. Dubey S, Rana A, A Fuzzy Approach for Evaluation of Maintainability of Object Oriented Software System, International Journal of Computer Applications (0975 – 8887) Volume 49–No.21, July 2012
3. Momeni H, Zahedian SH, Aspect-Oriented Software Maintainability Assessment Using Adaptive Neuro Fuzzy Inference System (ANFIS), Journal of mathematics and computer Science 12 (2014) 243 - 252
4. Rizvi S, Khan R, Maintainability Estimation Model for Object-Oriented Software in Design Phase (MEMOOD), JOURNAL OF COMPUTING, VOLUME 2, ISSUE 4, APRIL 2010, ISSN 2151-9617
5. Dubey S, Rana A, Dash Y, Maintainability Prediction of Object-Oriented Software System by Multilayer Perceptron Model, ACM SIGSOFT Software Engineering Notes, September 2012 Volume 37 Number 5
6. Kumar L, Rath S, Neuro – Genetic Approach for Predicting Maintainability Using Chidamber and Kemerer
7. Software Metrics Suite, Recent Advances in Information and Communication Technology 2015
8. Asadi M, Rashidi H, A Model for Object-Oriented Software Maintainability Measurement, I.J. Intelligent Systems and Applications, 2016, 1, 60-66
9. Dash Y, Dubey S, Maintainability Measurement in Object Oriented Paradigm, International Journal of Advanced Research in Computer Science, 3 (2), March –April, 2012, 207-213
10. P. Hasia, A. Gupta, C. Kung, and J. Peng, “Study on the effect of architecture on maintainability of object- oriented systems”, IEEE Conference on Software Maintenance, pp. 4-11, 1995
11. N. Tagoug, “Maintainability assessment in Object Oriented System design”, International Conference on Information Technology and e-Services (ICITeS), pp 1-5, 2012
12. N.F. Schneidewind, “Methodology for Validating Software Metrics, “IEEE Trans. on Software Engineering, vol. 18, no. 5, pp. 410 - 422, 1992
13. Genero M, Olivas J, Piattini M, Romero F, A controlled experiment for corroborating the usefulness of class diagram metrics at the early phases of OO developments, , Workshop on Decision Support in Software Engineering, vol. 84.Spain, 2001.
14. Singh H, Kumar A, A NOVEL APPROACH TO ENHANCE THE MAINTAINABILITY OF OBJECT ORIENTED SOFTWARE ENGINEERING DURING COMPONENT BASED SOFTWARE ENGINEERING , International Journal of Computer Science and Mobile Computing, Vol.3 Issue.3, March- 2014, pg. 778-786
15. Xin-She, Y.: ‘Cuckoo Search and Firefly Algorithm Theory and Applications’, Studies in computer intelligence, 2013, 516

Index Terms

Computer Science
Algorithms
Keywords

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