Abstract

The problem of estimating the effort for software packages is one of the most significant challenges encountering software designers. The precision in estimating the effort or cost can have a huge impact on software development. Various methods have been investigated in order to discover good enough solutions to this problem; lately evolutionary intelligent techniques are explored like Genetic Algorithms, Genetic Programming, Neural Networks, and Swarm Intelligence. In this work, Gene Expression Programming (GEP) is investigated to show its efficiency in acquiring equations that best estimates software effort. Datasets employed are taken from previous projects. The comparisons of learning and testing results are carried out with COCOMO, Analogy, GP and four types of Neural Networks, all show that GEP outperforms all these methods in discovering effective functions for the estimation with robustness and efficiency.


20. Nancy Merlo, Schett, (2002), "COCOMO (Constructive Cost Model)", Requirements Engineering Research Group, Department of Computer Science, University of Zurich, Switzerland.


Index Terms

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Keywords

Effort Estimation, Software Engineering, Artificial Intelligence, Gene Expression Programming.