Abstract

Software Testing is continuous process of development and maintenance in life of software. In maintenance phase, regression testing gets exercised with additional resources/time for performance. The prioritization of test cases helps to reduce the cost-time of regression testing. Hence, completing Regression Testing effectively and on schedule is challenge for software
Particle Swarm Optimization with Cross-Over Operator for Prioritization in Regression Testing

tester. In this research paper, the Particle Swarm Optimization (PSO) technology has been studied and used with the blend of Genetic Algorithm (GA) and the hybrid prioritized algorithm has been proposed. The Particle Swarm Optimization is an optimization algorithm based on heuristic search which can be used to solve time-constraint environment of Test Case Prioritization and the concept of Genetic Algorithm will further help in diversifying the solution within whole search space. For finding the effectiveness of hybrid prioritization algorithm: the efficiency %, saving %, reduction % and APFD/APCC has been calculated.

Reference

- Lope, H. S., Coelho, L. S., 2005 Particle Swarm Optimization with fast local search for the blind traveling salesman problem, Proceedings of Fifth International Conference on hybrid intelligent systems (HIS’05), Brazil, pp.: 245-250.
- Aggrawal, K. K., Singh, Y., Kaur, A., 2004 Code coverage based technique for prioritizing
- M. Harman, “Making the case for MORTO: Multi objective Regression Test Optimization”, University College of London, CREST center London, pp.:1-4
- Kong,X., Sun, J., Xu,W., 2006 Particle swarm algorithm for tasks scheduling in distributed heterogeneous system, in Proceedings of Sixth International Conference on ISDA’06, pp.: 690–695.

Index Terms

- Computer Science
- Software Engineering

Key words

- Regression Testing
- Particle Swarm Optimization
- Genetic Algorithms