

Relevancy Propagation through Search Space Reduction

By Finding Constraints on the Input Variables

Using Genetic Algorithm

Akila.P

II year,

M.E Software Engineering,

Anna University,

GKM college of Engineering,
Chennai.

akilakamali@gmail.com

Alice Nithya.A

Assistant Professor,

Department of Computer

Science and Engineering,

GKM college of Engineering,
Chennai.

a.nithii@gmail.com

Ramraj.N

Principal,

GKM college of Engineering,

Chennai.

principal.gkm@gmail.com

Abstract- Software testing is an essential process in software development. Software testing is very costly, often consuming half the financial resources assigned to a project. The most laborious part of software testing is the generation of test-data. GAs lies in their ability to handle input data which may be of complex structure, and predicates which may be complicated and the unknown functions of the input variables. Thus, the proposed system of test data generation is treated entirely as an optimization problem. With the complexity of the software, the cost of testing software is also increased. Thus with automatic test data generation, the cost of testing will dramatically be reduced. Using a genetic algorithm to generate test data automatically and also reducing the input domain size using relevant variables. The greatest advantage is when the density of global optima (solutions) is small compared to entire input search domain.

Key words: Automatic test data generation, Genetic Algorithms (GAs), Input domain reduction.