New Paradigm for Software Reliability Estimation

Abstract

In common parlance, the traditional software reliability estimation methods often rely on assumptions like statistical distributions that are often dubious and unrealistic. This paper analyzes the assumptions of traditional reliability estimation methods and further evaluates the practical viability of the predictions offered by these models in the current scenario. We further propose a novel Finite Automata (FA) based reliability model that implicitly scores over the traditional models on many factors, most importantly due to the fact that it is based on the realistic assumption that a software system in execution is a Finite State Machine (FSM).

References

Index Terms

Computer Science

Keywords

Software Reliability  Software Reliability Growth Model (srgm)  Finite-state Machine (fsm)
Finite State Automata
Automata-based Software Reliability Model