Abstract

Software reliability is one of the most important characteristics of software quality. Its measurement and management technologies employed during the software life cycle are essential for producing and maintaining quality/reliable software systems. Over the last several decades, many Software Reliability Growth Models (SRGMs) have been developed to greatly
facilitate engineers and managers in tracking and measuring the growth of reliability as software is being improved. In this paper we proposed Pareto type II based software reliability growth model with interval domain data. The maximum likelihood (ML) estimation approach is used to estimate the unknown parameters of the model. This paper presents estimation procedures to access reliability of a software system using Pareto type II distribution, which is based on Non Homogenous Poisson Process (NHPP). We also present an analysis of two software failure data sets.

Reference


Index Terms

Computer Science
Software Engineering

Key words

Software Reliability
NHPP
Pareto type II
distribution
Parameter estimation
Interval domain data
ML estimation