Abstract

Software reliability is one of the most important characteristics of software quality. Its measurement and management technologies employed during software life cycle are essential for producing and maintaining quality/reliable software systems. It can also be monitored efficiently using Statistical Process Control (SPC). It assists the software development team to identify and actions to be taken during software failure process and hence, assures better software reliability. In this paper we propose a control mechanism based on the cumulative observations of Interval domain data using mean value function of Pareto type II distribution, which is based on Non-Homogenous Poisson Process (NHPP). The maximum likelihood estimation approach is used to estimate the unknown parameters of the model. We also present an analysis of failure data sets at a particular point.

Refereces

- Goel, A. L., Okumoto, K., 1979. Time-dependent error detection rate model for
Assessing Pareto Type II Software Reliability using SPC


Index Terms

Computer Science
Software Engineering

Keywords

Software Reliability
NHPP
Pareto type II distribution
Parameter Estimation
Interval Domain data
ML Estimation
Statistical Process Control
Mean value function
Control charts