Abstract

The fault prediction model grants assistance during the software development by providing recourse to the present faults with the Bayesian Interference. All faults prediction techniques get a help in this study with the designing of Logistic regression model and Bayesian inference altogether. It is also told as fact that Bayesian inference graph can be represented for probabilistic approach for the faults both presented and identified for the upcoming release. For Probabilistic reliability analysis, Bayesian inference is intended to be evaluated for risk related data. These findings suggest that there is a relationship between faulty classes and object-oriented metrics. This study demonstrates as the performance evaluation technique for any piece of software. We examine the open source Eclipse system, which has a strong industrial usage. The focus of the study is to design Bayesian Inference graph and predict faults for next piece of software.

References

- Raed Shatnawi1, Wei Li, James Swain.; Finding software metrics threshold values using ROC curves; JOURNAL OF SOFTWARE MAINTENANCE AND EVOLUTION:
Analysis of CK Metrics to Predict Software Fault-Proneness using Bayesian Inference

- Ganesh J. Pai, Member, IEEE, and Joanne Bechta Dugan, &quot;Empirical Analysis of Software Fault Content and Fault Proneness Using Bayesian Methods;&quot;, IEEE TRANSACTIONS ON SOFTWARE ENGINEERING, VOL. 33, NO. 10, OCTOBER 2007
- Satwinder Singh and K. S. Kahlon, &quot;Effectiveness of Encapsulation and Object-oriented Metrics to Refactor Code and Identify Error Prone Classes using Bad Smells;&quot;, ACM SIGSOFT Software Engineering Notes Volume 36, Number 5, September 2011
- Norman Fenton, Martin Neil, William Marsh, Peter Hearty, David Marquez, Paul Krause, Rajat Mishra, &quot;Predicting software defects in varying development lifecycles using Bayesian nets;&quot;, Information and Software Technology 49 (2007) 32–43
- Ramanath Subramanyam and M. S. Krishnan, &quot;Empirical Analysis of CK Metrics for Object-Oriented Design Complexity: Implications for Software Defects;&quot; IEEE TRANSACTIONS ON SOFTWARE ENGINEERING, VOL. 29, NO. 4, APRIL 2003
- T. R. Gopalakrishnan Nair, R. Selvarani, &quot;Defect proneness estimation and feedback approach for software design quality improvement;&quot;, Information and Software Technology 54 (2012) 274–285
- Shyam R. Chidamber, David P. Darcy, and Chris F. Kemerer, &quot;Managerial Use of Metrics for Object-Oriented Software: An Exploratory Analysis;&quot; IEEE TRANSACTIONS ON SOFTWARE ENGINEERING, VOL. 24, NO. 8, AUGUST 1998
- Hector M. Olague, Letha H. Etzkorn, Senior Member, IEEE, Sampson Gholston, and Stephen Quattlebaum, &quot;Empirical Validation of Three Software Metrics Suites to Predict Fault-Proneness of Object-Oriented Classes Developed Using Highly Iterative or Agile Software Development Processes;&quot;
- Mohammad Alshayeb, Member and Wei Li, &quot;An Empirical Validation of Object-Oriented Metrics in Two Different Iterative Software Processes;&quot;, IEEE TRANSACTIONS ON SOFTWARE ENGINEERING, VOL. 29, NO. 11, NOVEMBER 2003
- Raed Shatnawi, &quot;A Quantitative Investigation of the Acceptable Risk Levels of Object-Oriented Metrics in Open-Source Systems;&quot; IEEE TRANSACTIONS ON SOFTWARE ENGINEERING, VOL. 36, NO. 2, MARCH/APRIL 2010
- Tibor Gyimóth, Rudolf Ferenc, and István Siket, &quot;Empirical Validation of Object-Oriented Metricson Open Source Software for Fault Prediction;&quot;, IEEE TRANSACTIONS ON SOFTWARE ENGINEERING, VOL. 31, NO. 10, OCTOBER 2005
Index Terms

Computer Science  Artificial Intelligence

Keywords

Bayesian Inference  Fault Prediction  Software reliability  CK metrics