Abstract

This paper investigates fault predictions in the cross-project context focusing on the object oriented metrics for the companies that do not track fault related data or have no historical records available. In this study, empirical analysis is carried out to validate object-oriented Chidamber and Kemerer (CK) design metrics for cross project fault prediction. The machine learning techniques used for evaluation are J48, NB, SVM, RF, K-NN and DT. The results indicate CK metrics can be used as initial guideline for the projects where no previous fault data is available. Overall, the results of cross company is comparable to the within company data learning. Our analysis is in favour of reusability in object oriented technology and it has been empirically shown that object oriented metric data can be used for cross company fault prediction in initial stage when previous fault data of the project is not available.
Cross Company and within Company Fault Prediction using Object Oriented Metrics

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Index Terms

Computer Science

Information Systems

Keywords

Fault prediction  cross company  Software metric  open source software