Advanced Topic Review Abstract (Data analysis in helping software fault prediction)
research-oriented
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Abstract:
In the last decades, the research community has devoted a lot of effort in the definition of approaches able to predict the defect proneness of source code files. Software fault prediction aims to identify fault-prone software modules by using some underlying properties of the software project before the actual testing process begins. It should take software quality assurance as well as best allocate limited testing resources into consideration. At this stage, the probability of fault occurrence is predicted based on the documented information of the software systems that are already tested. By using this prior knowledge, developers and testing teams can better manage the testing process. It helps in obtaining desired software quality with optimized cost and effort.

Moreover, software fault prediction is the most popular research area in software engineering prediction approaches and recently several research centers started new projects on this area. Classification is one of the effective methods for software fault prediction. With the large quantities of software fault datasets, it makes the classification for software fault prediction more feasible with machine learning techniques. The classification models are trained based on the datasets obtained by mining software historical repositories. Usually, the whole process contains two steps: feature selection and instance reduction. Therefore, the objective of this paper is to find a framework to make predicted fault more accuracy with higher performance.

Five Main References:

Other Reference (Optional)