

Bug Localization Approach Using Source Code Structure with Different Structure Fields

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In bug localization approach, the information of the bug was used by developer to modify the source code where the errors occurred. To fix the source code that need to be correct is a problem for developer. Numerous automatic bug localization approaches by using information retrieval have been proposed. In this paper, we propose bug localization approach by combining structure of source code with different structure fields, similarity of bugs and stack-trace. It recommends relevance bug files to fix according to their highest scores. We additionally propose bug localization to consider the source code with three difference structure fields. In recent approaches source code files are consider as a single units. It may cause many noises when the source code file is large. We implement our approach on four open source projects (AspectJ, Eclipse and SWT). We then compute our approach in term of top-N rank, mean average precision (MAP) and mean reciprocal rank (MRR) evaluation metrics. The results show that the proposed system achieves significant results.