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Automated Priority Assessment For Software Defect Reports

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Abstract

Software projects, whether open or closed, often include defects. These defects can degrade the quality and performance of the software systems. In practice, it is hard to design software that is defect-free. Many projects will inevitably be delivered with defects because bugs are ubiquitous in software. Developers allowed users to report defects via the bug tracking system(BTS) so that improvements can be made to the next release of the system. Thousands of issues are submitted every day in the (BTS). Quality engineers in the industry assign priority to the defect report manually. Therefore, this task takes substantial time to do, and there is also a high possibility of constructing a mistake. To overcome this issue, it is critical to developing a method for automatically predicting the priority of a bug report.

This research project presents an innovative supervised deep learning and natural language processing-based technique for assigning priority to software defect reports, which is currently a manual process in most industrial companies. This proposed system divides the importance of defect reports into five levels: P1, P2, P3, P4, and P5. It will be an excellent companion for quality engineers, making their lives easier.

Keywords: Defect Report, Bug, Priority, Deep Learning, Natural Language Processing