Effort-Aware Just-In-Time Defect Identification

Description

Just-in-time (JIT) defect identification, a.k.a. change-level defect identification, is referred to as identifying defect-introducing code or commit change of a software at check-in time [4]. One well-known approach for JIT defect identification is the SZZ algorithm, first introduced by Sliwerski, Zimmermann, and Zeller [4], aiming to identify defect-inducing changes in software based on bug reports by traversing the change history associated with a target defect. As developers are suggested to inspect the defective changes after the identification process to give fresh feedbacks, many recent JIT defect identification approaches have been considering the inspection effort of defect-inducing changes as a key factor, which are referred to as effort-aware JIT defect identification [2]. In general, these approaches fall into two directions—supervised [1] and unsupervised [2, 3]. In addition, studies [2, 5] have been conducted to assess their performance with respect to measures such as F1-score.

In this seminar, the student is required to examine and discuss the state-of-the-art effort-aware JIT defect identification approaches, and to compare their, e.g., technical details and performance.

References


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