Software Engineering Seminar

Semantics based Automated Program Repair

Description

The research field of automated program repair is currently explored using different strategies to tackle the problems. One interesting and promising method uses semantic information to repair a fault, i.e., it analyzes the behavior of the given program in some way. The methodology behind this repair approach is that a repair candidate (a patch) is synthesized by using semantic information that is provided by, for example, symbolic execution and constraint solving. A state-of-the-art semantics based repair tool is Angelix [1] which is the successor to SemFix [2]. A main goal of Angelix is to scale to larger, real-world programs to be able to compete with other repair strategies like, for example, search-based automated repair.

The student is to examine and discuss the current state of semantics based automated program repair.

References


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