Verification and Testing Techniques for Automatic Program Repair

Description

As stated in [1]: “The automatic detection of bugs has been a vast research field for decades, with a large spectrum of static and dynamic techniques. Active research on the automatic repair of bugs is more recent. A seminal line of research started in 2009 with the GenProg system [2-4], and at the 2013 International Conference on Software Engineering, there was the first session ever dedicated to automatic program repair.”

The question that should be answered by student is to what verification and testing techniques are currently used to automated repair strategies in software-intensive systems. The provided literature [1-4] can be seen as a starting point and it is expected to extend the literature search and present a coherent view on the current verification and testing techniques in this area. As a practical part of this seminar, it is expected that selected techniques are evaluated by the student based on proof-of-concept implementations and/or small experiments.

References


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