Automatic Program Repair via Genetic Programming

Description

As stated in [2]: "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 [which used genetic programming] 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 extent currently automated repair strategies are suitable to repair faults in software-intensive systems. 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. 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 state of the art in this area.

References


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