Software Engineering Seminar

# Syntax based Automated Program Repair

## Description

The research field of automated program repair is currently explored using different strategies to tackle the problems. Syntax based automated program repair methods (also frequently referred to as "generate-and-validate" techniques) mostly ignore the semantics of a program and try to generate multiple (often very many) patches that have to be validated against the test suite until a suitable patch is found.

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

## References

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[4] Yuhua Qi, Xiaoguang Mao, Yan Lei, Ziying Dai, and Chengsong Wang. The strength of random search on automated program repair. *Proceedings of the 36th International Conference on Software Engineering - ICSE 2014*, pages 254–265, 2014.

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