Software Engineering Seminar

Interactive Automated Debugging

Description

Debugging usually is a very tedious and time consuming task. Naturally, multiple (semi-)automated techniques have been proposed to support developers with their debugging tasks. One of the most recent proposed techniques *iteratively and interactively communicates* with the developer, using their *feedback* to close in on the occurring fault [2].

The student is to examine and to discuss the techniques given in the provided papers, to evaluate their capabilities and to compare them to each other and to other automated debugging approaches.

References

[1] Andrew J. Ko and Brad A. Myers. Designing the whyline: A debugging interface for asking questions about program behavior. In *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems*, CHI '04, pages 151–158, New York, NY, USA, 2004. ACM.

[2] Xiangyu Li, Shaowei Zhu, Marcelo d'Amorim, and Alessandro Orso. Enlightened debugging. In *Proceedings of the 40th International Conference on Software Engineering*, ICSE '18, pages 82–92, New York, NY, USA, 2018. ACM.

[3] Yun Lin, Jun Sun, Yinxing Xue, Yang Liu, and Jinsong Dong. Feedback-based debugging. In *Proceedings of the 39th International Conference on Software Engineering*, ICSE '17, pages 393–403, Piscataway, NJ, USA, 2017. IEEE Press.

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