Software Engineering Seminar

Automated Repair with Mined Patches
– PAR –

Description

Automated program repair is a very difficult task, and the number of different possible bugs makes it seemingly hard to *manually* develop bug fixes (patches) for each of these bugs. Having this in mind, various techniques were developed in the recent past that try to learn bug fixes from *existing projects* in publicly available repositories like, for example, GITHUB.

The goal of this topic is to examine the tool PAR which tries to repair bugs in Java-programs with the support of templates that were learned from bug-fixes in existing open source projects.

References

[1] Dongsun Kim, Jaechang Nam, Jaewoo Song, and Sunghun Kim. Automatic patch generation learned from human-written patches. *Proceedings - International Conference on Software Engineering*, 1(c):802–811, 2013.

[2] Martin Monperrus. A Critical Review of "Automatic Patch Generation Learned from Human-written Patches": Essay on the Problem Statement and the Evaluation of Automatic Software Repair. *Proceedings of the 36th International Conference on Software Engineering*, pages 234–242, 2014.

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