

A Survey of Symbolic Executions Techniques

Hallet Adrien Sens Loan

October 9, 2018

References

- [1] Romain Aissat, Frédéric Voisin, and Burkhart Wolff. Infeasible paths elimination by symbolic execution techniques. In Jasmin Christian Blanchette and Stephan Merz, editors, *Interactive Theorem Proving*, pages 36–51, Cham, 2016. Springer International Publishing.
- [2] Andrei Arusoae, Dorel Lucanu, and Vlad Rusu. Symbolic execution based on language transformation. *Computer Languages, Systems and Structures*, 44(PA):48–71, 2015.
- [3] Cristian Cadar, Patrice Godefroid, Sarfraz Khurshid, Corina S. Păsăreanu, Koushik Sen, Nikolai Tillmann, and Willem Visser. Symbolic execution for software testing in practice: Preliminary assessment. In *Proceedings of the 33rd International Conference on Software Engineering, ICSE '11*, pages 1066–1071, New York, NY, USA, 2011. ACM.
- [4] Cristian Cadar and Koushik Sen. Symbolic execution for software testing: Three decades later. 56:82–90, 02 2013.
- [5] Chen Chen, Baojiang Cui, Jinxin Ma, Runpu Wu, Jianchao Guo, and Wenqian Liu. A systematic review of fuzzing techniques. *Computers and Security*, 75:118 – 137, 2018.
- [6] Manuel Costa, Miguel Castro, Lidong Zhou, Lintao Zhang, and Marcus Peinado. Bouncer: Securing software by blocking bad input. pages 117–130, Stevenson, Washington, USA, October 2007. Association for Computing Machinery, Inc.
- [7] I. A. Dudina and A. A. Belevantsev. Using static symbolic execution to detect buffer overflows. *Programming and Computer Software*, 43(5):277–288, Sep 2017.
- [8] Amal Khalil and Juergen Dingel. Chapter four - optimizing the symbolic execution of evolving rhapsody statecharts. volume 108 of *Advances in Computers*, pages 145 – 281. Elsevier, 2018.
- [9] J.C. King. A new approach to program testing. 10:228–233, 06 1975.
- [10] Dorel Lucanu, Vlad Rusu, and Andrei Arusoae. A generic framework for symbolic execution: A coinductive approach. *Journal of Symbolic Computation*, 80:125 – 163, 2017. SI: Program Verification.

- [11] M. Papadakis and N. Malevris. Automatic mutation test case generation via dynamic symbolic execution. In *2010 IEEE 21st International Symposium on Software Reliability Engineering*, pages 121–130, Nov 2010.
- [12] Vlad Rusu, Lydie du Bousquet, and Thierry Jeron. An approach to symbolic test generation. 09 2000.
- [13] E. J. Schwartz, T. Avgerinos, and D. Brumley. All you ever wanted to know about dynamic taint analysis and forward symbolic execution (but might have been afraid to ask). In *2010 IEEE Symposium on Security and Privacy*, pages 317–331, May 2010.
- [14] Asankhaya Sharma. Exploiting undefined behaviors for efficient symbolic execution. In *Companion Proceedings of the 36th International Conference on Software Engineering, ICSE Companion 2014*, pages 727–729, New York, NY, USA, 2014. ACM.
- [15] S. Shen, S. Ramesh, S. Shinde, A. Roychoudhury, and P. Saxena. Neuro-Symbolic Execution: The Feasibility of an Inductive Approach to Symbolic Execution. *ArXiv e-prints*, July 2018.
- [16] David Trabish, Andrea Mattavelli, Noam Rinetzky, and Cristian Cadar. Chopped symbolic execution. In *International Conference on Software Engineering (ICSE 2018)*, 5 2018.
- [17] Mathy Vanhoef and Frank Piessens. Symbolic execution of security protocol implementations: Handling cryptographic primitives. In *12th USENIX Workshop on Offensive Technologies (WOOT 18)*, Baltimore, MD, 2018. USENIX Association.
- [18] Willem Visser, Corina S. Păsăreanu, and Sarfraz Khurshid. Test input generation with java pathfinder. In *Proceedings of the 2004 ACM SIGSOFT International Symposium on Software Testing and Analysis, ISSTA '04*, pages 97–107, New York, NY, USA, 2004. ACM.
- [19] Guowei Yang, Suzette Person, Neha Rungta, and Sarfraz Khurshid. Directed incremental symbolic execution. 2014.
- [20] Rui Zhang and Cynthia Sturton. A recursive strategy for symbolic execution to find exploits in hardware designs. pages 1–9, 06 2018.