

Mario Polino

Curriculum Vitae

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Rossano (CS) Italy, 17th July 1990



Short Biography

I received my Ph.D. from Politecnico di Milano in Italy, working at NECST laboratory as part of the Computer Security group inside Dipartimento di Elettronica, Informazione e Bioingegneria (DEIB). My main research revolves around malware analysis with a specific attention on behavioral analysis to assist malware analysts. I am interested in various computer security topics, and have worked on several topics ranging from cyber-physical systems to static binary analysis, going through bank fraud analysis and android security. I love playing Capture the Flag competitions, so I spend my free time playing with Politecnico's team, Tower of Hanoi.

Education

- 2013–2017 **PhD Computer Science and Engineering**, Politecnico di Milano, Milano.
- 2011–2013 **Laurea Magistrale Engineering of Computing Systems**, Politecnico di Milano, Milano.
- 2008–2011 **Laurea Computer Engineering**, Politecnico di Milano, Milano.

Experiences

August 2015 – January 2016 **Research Assistant**, *SecLab*, University of California, Santa Barbara.

Teaching Activities

- March – July 2015 **Teaching Assistant**, *Computer Security*, Politecnico di Milano.
- March – July 2014 **Teaching Assistant**, *Computer Security*, Politecnico di Milano.
- March – July 2013 **Tutor**, *Software Engineering*, Politecnico di Milano.

Publications

- 2017 **Experimental security analysis of an industrial robot controller**, *Davide Quarta, Marcello Pogliani, Mario Polino, Federico Maggi, Andrea Maria Zanchettin, and Stefano Zanero.*
In *2017 IEEE Symposium on Security and Privacy (SP)*

- 2017 **Measuring and Defeating Anti-Instrumentation-Equipped Malware**, Mario Polino, Andrea Continella, Sebastiano Mariani, Stefano D'Álessio, Lorenzo Fontata, Fabio Gritti, and Stefano Zanero.
In *Proceedings of the Conference on Detection of Intrusions and Malware and Vulnerability Assessment (DIMVA)*
- 2017 **Prometheus: Analyzing webinject-based information stealers**, Andrea Continella, Michele Carminati, Mario Polino, Andrea Lanzi, Stefano Zanero, and Federico Maggi.
In *Journal of Computer Security*
- 2016 **Sok: (state of) the art of war: Offensive techniques in binary analysis**, Y. Shoshitaishvili, R. Wang, C. Salls, N. Stephens, Mario Polino, A. Dutcher, J. Grosen, S. Feng, C. Hauser, C. Kruegel, and G. Vigna.
In *2016 IEEE Symposium on Security and Privacy (SP)*
- 2016 **Going Native: Using a Large-Scale Analysis of Android Apps to Create a Practical Native-Code Sandboxing Policy**, Vitor Afonso, Antonio Bianchi, Yanick Fratantonio, Adam DoupÁl, Mario Polino, Paulo de Geus, Christopher Kruegel, and Giovanni Vigna.
In *Proceedings of the Symposium on Network and Distributed System Security (NDSS)*
- 2015 **Jackdaw: Towards automatic reverse engineering of large datasets of binaries**, Mario Polino, Andrea Scorti, Federico Maggi, and Stefano Zanero.
In *Proceedings of the Conference on Detection of Intrusions and Malware and Vulnerability Assessment (DIMVA)*

Thesis

- 2017 **Automated Malware Behavioral Analysis**, PhD, Politecnico di Milano.
- 2013 **Jackdaw : automatic behavior extractor and semantic tagger**, Master, Politecnico di Milano.

Awards & Scholarship

- 2013 – 2016 Ph.D. scholarship from M.I.U.R
- 2013 Best M.Sc. Thesis at “Premio tesi ClusIT”

Associations & Activities

- 2009 – today **Tower of Hanoi**, *Capture the Flag Team*, Capture the Flags (CTF) are computer security competitions where students and professionals challenge them selves on solving computer security riddles, reverse-engineer and exploit software vulnerabilities, attack and defend machines against other teams. As member of Tower of Hanoi, after a qualification round, I was invited to final event of RuCTF (2017) in Russia. I also played two Defcon Finals (2014-2015) at Las Vegas and one DCTF Final (2015) in Romania with team Shellphish.
<http://toh.necst.it>

2011 – 2013 **Skyward Experimental Rocketry**, *Student Association*, Skyward Experimental Rocketry is a student association with the goal of designing and realizing small and medium sized experimental sounding rockets. I was member of Electronic Systems Department where I developed the on-board and the ground station software for Rocksanne I-X.
<http://www.skywarder.eu>