

# Fabio Pagani

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AFFILIATION	Postdoctoral Researcher, University of California Santa Barbara (UCSB)	
CONTACT INFORMATION	University of California, Santa Barbara Department of Computer Science 2104 Harold Frank Hall Santa Barbara, CA 93106-5110 United States of America	✉ <a href="mailto:pagani@ucsb.edu">pagani@ucsb.edu</a> 🌐 <a href="https://pagabuc.me">https://pagabuc.me</a> 🐦 @pagabuc 📺 FabioPagani
BIO	<p>I am a postdoctoral researcher working with Giovanni Vigna and Christopher Kruegel in the SecLab at UC Santa Barbara. My current research interests focus on several aspects of systems security: automated vulnerability discovery, human-assisted cyber reasoning systems, and malware analysis are all topics that spark my curiosity.</p> <p>I earned a Ph.D at EURECOM, where I was advised by Davide Balzarotti. Among other things, we investigated how non-atomic acquisitions impact the consistency of memory dumps, how to discover and to assess the quality of memory forensics heuristics, and how to automatically generate profiles for memory forensics.</p> <p>When I am away from keyboard, I enjoy hiking, rock climbing, surfing, and playing chess.</p>	
EDUCATION	<b>Postdoctoral Researcher</b> University of California, Santa Barbara, US	<i>Jan 2020-Current</i>
	<b>Doctor in Philosophy (PhD)</b> Eurecom, France Thesis: Advances in Memory Forensics	<i>Jan 2016-Sept 2019</i>
	<b>MSc in Computer Science</b> Università degli Studi di Milano, Italy Thesis: Defeating Return Oriented Programming Attacks Using Program Analysis Techniques Graduated with a final grade of 110/110 cum laude	<i>Feb 2013-Oct 2015</i>
	<b>Internship</b> Eurecom, France	<i>Feb 2015-May 2015</i>
	<b>Erasmus</b> Uppsala University, Sweden	<i>Jan 2014-Jun 2014</i>
	<b>BSc in Computer Science</b> Università degli Studi di Milano, Italy Thesis: When Hardware Meets Software: A Bulletproof Solution to Forensic Memory Acquisition Graduated with a final grade of 107/110	<i>Sep 2009-Feb 2013</i>
PUBLICATIONS	<p>[9] <b>Fabio Pagani</b>, Davide Balzarotti. AutoProfile: Towards Automated Profile Generation For Memory Analysis. ACM Transactions on Privacy and Security (TOPS) 25, no. 1 (2022)</p> <p>[8] Robert McLaughlin, <b>Fabio Pagani</b>, Noah Spahn, Christopher Kruegel, Giovanni Vigna. Regulator: Dynamic Analysis To Detect ReDoS. In Proceedings of the 31st USENIX Security Symposium (USENIX Security 22)</p> <p>[7] Fabio Gritti, Lorenzo Fontana, Eric Gustafson, <b>Fabio Pagani</b>, Andrea Continella, Christopher Kruegel, Giovanni Vigna. SYMBION: Interleaving Symbolic With Concrete Execution. In Proceedings of the IEEE Conference on Communications and Network Security (CNS) 2020</p>	

	<p>[6] <b>Fabio Pagani</b>, Davide Balzarotti. Back to the Whiteboard: a Principled Approach for the Assessment and Design of Memory Forensic Techniques. In Proceedings of the 28th USENIX Security Symposium (USENIX Security 19) 2019</p> <p>[5] <b>Fabio Pagani</b>, Oleksii Fedorov, Davide Balzarotti. Introducing the Temporal Dimension to Memory Forensics. ACM Transactions on Privacy and Security (TOPS) 22, no. 2 (2019)</p> <p>[4] <b>Fabio Pagani</b>, Matteo Dell'Amico, Davide Balzarotti. Beyond Precision and Recall: Understanding Uses (and Misuses) of Similarity Hashes in Binary Analysis. In Proceedings of the Eighth ACM Conference on Data and Application Security and Privacy (CODASPY) 2018</p> <p>[3] Marius Muench, <b>Fabio Pagani</b>, Yan Shoshitaishvili, Christopher Kruegel, Giovanni Vigna, Davide Balzarotti. Taming Transactions: Towards Hardware-Assisted Control Flow Integrity Using Transactional Memory. In International Symposium on Research in Attacks, Intrusions, and Defenses (RAID) 2016</p> <p>[2] <b>Fabio Pagani</b>, Matteo De Astis, Mariano Graziano, Andrea Lanzi, Davide Balzarotti. Measuring the Role of Greylisting and Nolisting in Fighting Spam. In Proceedings of the 46th Annual IEEE/IFIP International Conference on Dependable Systems and Networks (DSN) 2016</p> <p>[1] Alessandro Reina, Aristide Fattori, <b>Fabio Pagani</b>, Lorenzo Cavallaro, Danilo Bruschi. When Hardware Meets Software: a Bulletproof Solution to Forensic Memory Acquisition. In Proceedings of the 28th Annual Computer Security Applications Conference (ACSAC) 2012</p>	
TALKS	<p>[2] Nicola Ruaro, <b>Fabio Pagani</b>, Stefano Ortolani, Giovanni Vigna. Symbexcel: Bringing the Power of Symbolic Execution to the Fight Against Malicious Excel 4 Macros. Black Hat USA 2021</p> <p>[1] <b>Fabio Pagani</b>. Memory Smearing: Myth Or Reality?. SANS DFIR Europe Summit 2019</p>	
AWARDS	<p>[3] Distinguished Reviewer Award - DIMVA 2021</p> <p>[2] Volatility Plugin Contest 2019, 5th place</p> <p>[1] Black Hat Europe 2016 Student Scholarship</p>	
SERVICE	<p>Digital Forensics Research Workshop (DFRWS) USA 2022</p> <p>IEEE Workshop on Offensive Technologies (WOOT) 2022</p> <p>Workshop on Binary Analysis Research (BAR) 2022</p> <p>Detection of Intrusions and Malware &amp; Vulnerability Assessment (DIMVA) 2021</p> <p>Computers &amp; Security (COSE)</p>	
TEACHING EXPERIENCE	<p><b>Lecture on Memory Forensics (Cybercrime and Computer Forensics)</b> Eurecom, France</p> <p><b>Lecture on Python Optimization and Integration (Software Development)</b> Eurecom, France</p> <p><b>Lecture on Memory Forensics (Cybercrime and Computer Forensics)</b> Eurecom, France</p> <p><b>Lecture on Python Optimization and Integration (Software Development)</b> Eurecom, France</p> <p><b>Lecture on Python Optimization and Integration (Software Development)</b> Eurecom, France</p>	<p><i>Apr. 2019</i></p> <p><i>Dec. 2018</i></p> <p><i>May 2018</i></p> <p><i>Dec. 2017</i></p> <p><i>Dec. 2016</i></p>

## Computer Programming - Teaching Assistant

Università degli Studi di Milano, Italy

*Sept. 2014 - Feb. 2015*

## HACKING COMPETITIONS

I am a core member of the NOPS team. Along with my teammates, I qualified twice for the CSAW Europe Finals (in 2017 we got 2nd place) and **won** hxp CTF 2018.