

Gabriele Digregorio

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Education

- 2023 – now 📖 **Ph.D. Computer Science and Engineering**, Politecnico di Milano, Milano.
Advisors: Stefano Zanero, Stefano Longari
- 2020 – 2023 📖 **M.Sc. Computer Science and Engineering**, Politecnico di Milano, Milano.
Thesis title: Tarallo: An End-to-End Framework for Malware Behavior Obfuscation.
Advisor: Michele Carminati
Grade: 110/110 cum laude.
- 2017 – 2020 📖 **B.Sc. Computer and Automation Engineering**, Politecnico di Bari, Bari.
Thesis title (original): Analisi delle prestazioni della tecnologia NB-IoT adattata alle comunicazioni satellitari.
Thesis title (eng): Analysis of the performance of NB-IoT technology adapted for satellite communications.
Advisor: Gennaro Boggia
Grade: 110/110 cum laude.

Experience

Teaching Activities

- Feb 2024 - May 2024 📖 **Supplementary Education Activities - Politecnico di Milano** for the MSc Degree Course in Computer Security (UIC 587).
- May 2024 📖 **Teaching - Fondazione Politecnico di Milano** Summer School Tech-Camp@POLIMI: the first project in Italy to bring high school students closer to technology courses - **Cybersecurity** Track.
- Mar 2024 📖 **Teacher - MADE S.c.a.r.l.** Introduction to Computer Security for the "Cyber and Industrial Security" course.
- Oct 2023 📖 **Co-Teacher - Cefriel S.c.a.r.l.** Master Deloitte Security course.

Experience (continued)

Talks and Seminars

- Jun 2024 📖 **Speaker** at the IEEE 99th Vehicular Technology Conference. VTC2024-Spring. Marina Bay Sands Hotel, Singapore, Singapore. "Evaluating the Impact of Privacy-Preserving Federated Learning on CAN Intrusion Detection".
- Jul 2024 📖 **Speaker** at the 21st Conference on Detection of Intrusions and Malware & Vulnerability Assessment. DIMVA '24. EPFL, Lausanne, Switzerland. "Tarallo: Evading behavioral malware detectors in the problem space"

Advisory Activities

- 2023 - now 📖 **Co-Advisor** for M.Sc.Theses.

Reviewer Activities

- 📖 **Reviewer** for "Journal of parallel and distributed computing".

Research Publications




Conference Proceedings

- 1 **G. Digregorio**, E. Cainazzo, S. Longari, M. Carminati, and S. Zanero, "Evaluating the impact of privacy-preserving federated learning on can intrusion detection," in *2024 IEEE 99th Vehicular Technology Conference (VTC2024-Spring)*, 2024.
- 2 **G. Digregorio**, S. Maccarrone, M. D'Onghia, *et al.*, "Tarallo: Evading behavioral malware detectors in the problem space," in *International Conference on Detection of Intrusions and Malware, and Vulnerability Assessment*, Springer, 2024, pp. 128–149.


Associations & Activities

I actively participate in Capture The Flag (CTF) competitions with the **mhackeroni** and **Tower of Hanoi** teams. A CTF is a cybersecurity competition where participants have to find a hidden string (the flag) within purposefully vulnerable programs or websites. During CTFs, I usually challenge myself by reversing or exploiting binaries, among other tasks.




Associations & Activities (continued)

- 2022 - now  **mhackeroni**, union of several CTF Italian teams.
Web-site: <https://mhackeroni.it>.
Played CTFs:
- **Hack-A-Sat 4** by the Air Force Research Laboratory (the primary scientific research and development center of the United States Department of the Air Force) - World's First CTF in Space - **1st Worldwide Place**,
 - **DEF CON 32 Finals** and **DEF CON 31 Finals**, the most prestigious CTF event in the world,
 - many others.
- 2021 - now  **Tower of Hanoi**, CTF team from Politecnico di Milano.
Web-site: <https://toh.necst.it>.
Played CTFs:
- Reply CTF 2023 - 3rd place,
 - CSAW 2022 - 1st Place in Europe,
 - MoleCon CTF 2022 - 2nd place,
 - Reply CTF 2022 - 2nd place,
 - many others.
- 2024 - now  **CyberChallenge**, CTF Training Program by Cybersecurity National Lab.
Instructor at Politecnico di Milano's Section.
Web-site: <https://cyberchallenge.it>

Projects

- 2023 - now  **Maintainer of libdebug**, an open-source Python library to automate the debugging of binary executables, used by experts worldwide.
GitHub: <https://github.com/libdebug/libdebug>
PyPI: <https://pypi.org/project/libdebug/>

Courses

- 2023  **International Summer School on Security & Correctness**, at Graz University of Technology - Austria.
- 2022  **CyberChallenge**, CTF Training Program by Cybersecurity National Lab.
- 2021  **Cyber Security Academy**, with Reply, WindTre, Intesa Sanpaolo, BV TECH.

Scholarship

2023 - now



Ph.D. scholarship.

Languages



Italian



English