

MARCELLO MAUGERI

SECURITY RESEARCHER

[MARCELLOMAUGERI.GITHUB.IO](https://marcellomaugeri.github.io)

MARCELLO.MAUGERI@PHD.UNICT.IT

INTERESTS Systems Security, Fuzzing, AI for Security, Network Security, Vulnerability Research

EDUCATION **University of Catania**, Italy

PhD in Computer Science, Fuzzing and Software Security, supervisor: [prof. G. Bella](#) 2021/exp. 2024

M.Sc. in Computer Science, 110/110 cum laude, advisor: [prof. G. Bella](#) 2019/2021

B.Sc. in Computer Science, 110/110 cum laude, advisor: [Prof. C. Santoro](#), [Prof. F. Santoro](#) 2016/2019

King's College London, United Kingdom

Research visitor in the Cybersecurity Group supervised by [Prof. Fabio Pierazzi](#) 10/2023-03/2024

Poznań University of Technology, Poland

Attended courses: [IoT Security](#) (07/2023), [Agile Management for Industry 4.0](#) (09/2022)

University of Genoa, Italy

Attended PhD courses: [Mobile Security](#), [IoT Security](#), [Network Monitoring and Inspection](#) 07/2022

University College Dublin, Ireland

Attended courses (Erasmus+): [Deep Learning](#), [Data Science in Python](#), [Secure Software Engineering](#) 01/2021-

[Mobile App Dev - Cocoa Touch](#), [Advances in Wireless Networking](#) 05/2021

PAPERS PUBLISHED

[Wendigo: Deep Reinforcement Learning for Denial-of-Service Query Discovery in GraphQL](#) (DLSP 2024)

[User-Empowered Federated Learning in Automotive](#) (TRUSTCHAIN 2024)

[Fuzzing Matter\(s\): A White Paper for Fuzzing the Matter Protocol](#) (ICISSP 2024)

[Forkfuzz: Leveraging the Fork-Awareness in Coverage-Guided Fuzzing](#) (SecAssure 2023)

[Evaluating the Fork-Awareness of Coverage-Guided Fuzzers](#) (ICISSP 2023)

[Embedded fuzzing: a review of challenges, tools, and solutions](#) (Springer Cybersecurity 2022)

RELEVANT EXPERIENCE

Project Manager @ Helpcode (IT), 03/2023 - 11/2023: Led the project for the educational platform "The Water Code" using agile methods.

Mobile Software Engineer @ Codedix (IT), 05/2020 - 09/2021: Delivered and launched 3 applications, leveraging a diverse range of technologies including Kotlin, Swift, and Objective-C for programming and Firebase for back-end.

Research Intern @ Robert Bosch GmbH (DE): Developed a fuzzing approach using Honggfuzz and QEMU for shared memory IPC methods, successfully finding undisclosed bugs in Eclipse Iceoryx IPC (05/21-08/21). Conducted a comprehensive systematic review of 42 state-of-the-art embedded systems fuzzing papers and tools (10/20-12/20).

Teaching Assistant @ University of Catania (IT): Programming 2 (03-07/2024), Fundamentals of Computer Science (03-07/2024), Network Security [CyberChallenge.IT] (02-05/2023), Cryptography [CyberChallenge.IT] (02-05/2022), Internet Security (04-06/21), Computer Science 101 Course (10/2020), Programming 2 (09/20)

RELEVANT SKILLS

- **Coverage-Guided Fuzzing:** AFL++, Honggfuzz, LibAFL, AFLNet, ChatAFL
- **Programming Languages:** C, C++, Python3, Kotlin, Swift, Objective-C, Rust
- **Machine Learning:** Pytorch, Gymnasium, Flower, Keras

AWARDS

- 1st place tie in the local CyberChallenge.IT 2020 CTF, 11th place in the national team competition
- Achieved 6th place in 2022 and 5th place in 2023 at Eurobot international competition as a Software Engineer in the UniCT-Team, the robotics team of the University of Catania.

CERTIFICATIONS

[Google Cybersecurity Specialization](#), [Google Project Management](#), IELTS Academic 7.5, Cisco IT Essential, Cisco Routing & Switching, Cisco Routing & Switching Essentials

SERVICE

- Team member of the project NGI Trustchain "[PECS \(Privacy Enrooted Car Systems\)](#)". Engineered solutions using Federated Learning to enhance privacy in the automotive sector.
- Peer-reviewed scientific papers for: CCS (Artifact Evaluation), CMC Journal, ITASEC 2024, ESORICS 2024, ICECET 2024, NeurIPS 2023 Workshop - New in ML, ESORICS 2023, ITASEC 2023.
- Session chair at international conferences: ICISSP 2023, IEEE Cybermatics 2024