Francesco Pollicino

EDUCATION AND TRAINING

2019 – 2023 Modena, Italy

Ph.D. in Information and Communication Technologies (ICT) University of Modena and Reggio Emilia

Main research interests:
- secure communication protocols for embedded systems and constrained devices;
- cybersecurity for intra- and inter-vehicular communications

Website https://weblab.ing.unimore.it/people/pollicino/

WORK EXPERIENCE

03/2023 – CURRENT Switzerland

Cybersecurity tester Siemens - R&D BP

- Security assessment of OT/cloud applications
- Automation of security tests
- Secure code review

2019 – 03/2023 Italy

Researcher CRIS Unimore

Research activities in the field of automotive cybersecurity and secure communications protocols.

Link https://cris.unimore.it/index.php

03/2022 – 07/2022 Lisbon, Portugal

Visiting researcher INESC-ID

Research activities in the field of verification and validation of vehicles' position in vehicular networks.

Link https://www.inesc-id.pt/

10/2021 – 03/2022 Italy

Security assessment System Ceramics

Security analysis of the architecture and software of an industrial digital twin.

01/2021 – 03/2021 Italy

Consulting service - ISO/SAE 21434 Drivesec

Assessment of the compliance of an automotive supplier to the ISO/SAE 21434 risk management requirements.

ADDITIONAL INFORMATION

Roles in funded research projects

2019 – 2022

Protection and valorization of industrial data

I participated in the research activities of the "Protection and valorization of industrial data" project funded by System Ceramics. This project aims to develop new models, methodologies, and architectural solutions to handle the protection and valorization of continuously generated data that will become a critical asset for any modern

enterprise. Within this project, I participated in the security assessment of the architecture and code of a digital twin.

2018 – 2021

Security for Industry 4.0

I participated in the research activities of the research project "Industria 4.0 Sicura", funded by the Emilia Romagna Region. The I4S project intends to mitigate the IT risks caused by the adoption of industrial paradigms 4.0. Within this project, I participated in the definition of a vulnerability assessment framework targeted to connected production plants and machinery.

Link https://www.i4s-project.it/

2019 – 2021

H2020 NGI_TRUST COSCA: Conceptualizing Secure Cars

I participated in the research activities of the research project "COSCA", funded by the European Union within the H2020 program. COSCA outputs a Conceptual Framework for car security, drivers' privacy, and trust enhancement, thus orienting the Next Generation Internet at its core. Within this project, I participated in the definition of V2V requirements for secure vehicular communications.

Link https://cosca-project.dmi.unict.it/

2019 – 2020

D-SWAP - Distributed Smart Working Application Platform

I participated in the research activities of the research project D-SWAP, funded by the Emilia Romagna region. The project aims at studying and analyzing video conference and data-sharing platforms for organizations that need strong security and privacy guarantees. Within this project, I participated in the analysis of the Matrix open standard (matrix.org), focusing on the end-to-end encryption protocol.

Link https://www.netservice.eu/it/ricerca-e-sviluppo/d-swap

Conferences and seminars

2022 IEEE VTC2022-Spring, Helsinki, Finland

Talk in conference: "On the effectiveness of BSM communications in V2V emergency scenarios" Assessment of the effectiveness of V2V communications in reducing the travel time and safety-relevant events of emergency vehicles

2021 IEEE NCA 2021, Online

Talk in conference: "Accountable and privacy-aware flexible car sharing and rental services" Proposal of an accountable protocol that extends standard delegated authorizations and integrate with Security Credential Management Systems (SCMS), while considering the requirements and constraints of vehicular networks.

2021 IEEE VTC22021-Spring, Online

Talk in conference: "SixPack: Abusing ABS to avoid Misbehavior detection in VANETs" Presentation of SixPack, a cyber attack to VANET communications that is able to go undetected by the current state-of-the-art anomaly detectors.

2020 IEEE VTC2020-Fall, Online

Talk in conference: "An experimental analysis of ECQV performance on VANETs" Performance evaluation of the cryptographic protocols included in the IEEE 1609.2 standard in realistic VANETs scenario.

Teaching activities

2019 – 2021

Teacher for the 'Computer Programming' course - Ragazze Digitali summer camp

The "Ragazze Digitali" (Digital Girls) Summer Camp aims at closing gender gap in STEM disciplines by involving young girls (16-18) in a one month hands-on introductory programming course.

Link https://www.ragazzedigitali.it/

2021

CTF Competion organizer

Conception and development of four VMs for a CTF dedicated to the master students of the "Cybersecurity" course with a total prize of almost 2000€ funded by Certego.

2021

Teaching for the short course "Introduction to Industrial Cybersecurity"

Cyber Academy - Security Analyst

2020

Teaching in short course "Industrial Cybersecurity: attack and defend ICS"

Cyber Academy - Penetration Tester

2020

Tutoring for the 'Cybersecurity' course - Master's degree in Computer Engineering

Assisting students in hands-on exercices and CTF laboratories.

2020

Tutoring for the 'Computer Science' course - Bachelor's degree in Chemistry

2017

Tutoring for the 'Computer Programming I' course - Bachelor's degree in Computer Science

Service to the scientific community

2022

TPC member of "Workshop on Automotive Cyber Security" (ACSW) organized in conjunction with IEEE EuroS&P 2022

2021

Virtual Room Officer for IEEE NCA 2021 Conference

Virtual Room Officer of: 20th IEEE International Symposium on Network Computing and Applications (NCA 2021)

2020 – CURRENT

TPC member of IEEE International Symposium on Network Computing and Applications

Link https://www.nca-ieee.org/2022/index.html