

Personal information

Enrico Cambiaso

Nationality

Last update June 28, 2024

WORK EXPERIENCE

June 2017 - present

TechnologistConsiglio Nazionale delle Ricerche (CNR-IEIIT)
Genoa (Italy)

Research technologist working on research activities on the network security field and with involvement on European, national and local research projects.

February 2016 - May 2017

Research FellowConsiglio Nazionale delle Ricerche (CNR-IEIIT)
Genoa (Italy)

Research activities in the network security field, concerning the study of innovative cyber-threats, design of novel intrusion detection systems, and implementation of attacks testing and distribution infrastructures. Involvement in European, national and local research projects.

January 2015 - June 2015

External collaboratorSelex ES
Genoa (Italy)

Development of a project focused on security for cloud based services (Device as a Service, DaaS).

January 2013 - January 2016

Research FellowConsiglio Nazionale delle Ricerche (CNR-IEIIT)
Genoa (Italy)

Research activities in the network security field, concerning the study of innovative cyber-threats, design of novel intrusion detection systems, and implementation of attacks testing and distribution infrastructures. Involvement in European, national and local research projects.

January 2013 - January 2015

External collaboratorAnsaldo STS
Genoa (Italy)

Study and development of a software and hardware virtual patching system identifying and preventing malware spread on non updated ICT networks.

2008

Software and web developerPlanet HT S.r.l.
Genoa (Italy)

For three months, computer programmer for the development of a management software in Microsoft Visual Studio environments, with support to both mobile and web clients.

2004 **Software developer**
 Genoa (Italy)
 For two months, computer programmer for the development of a management software written in Visual Basic programming language.

TEACHING ACTIVITIES

Teacher
 March 2024 - April 2024
 Centro di Competenza Start4.0
 Genoa (Italy)
 Teacher for a course on the blockchain topic, held by Centro di Competenza Start4.0 of Genoa, for a total duration of 24 hours. CNR communication n. 16186 dated January 18, 2024, Repertorio n. INCN 2024/179.

University teacher
 January 2024 - June 2024
 Università degli Studi di Genova (DIBRIS, Scienze dell'informazione)
 Genoa (Italy)
 University teacher for the course on Computer Science (2023/2024), by Università degli Studi di Genova, for a total duration of 12 hours. Selection prot. UNIGE n. 2, 2023/2024. CNR communication n. 14687/2023, Repertorio n. INCN 2023/1578.

University teacher
 September 2023 - June 2024
 Università degli Studi di Genova (DITEN, Scuola Politecnica, Ingegneria Informatica)
 Genoa (Italy)
 University teacher for the course "STRATEGOS - Strategies for Telecommunications" (2023/2024), by Università degli Studi di Genova, for a total duration of 10 hours. Selection prot. UNIGE n. 625/2023 dated February 21, 2023. CNR communication n. 14686/2023, Repertorio n. INCN 2023/1577.

Teacher
 April 4, 2023 - June 30, 2023
 ITS-ICT Accademia Digitale Liguria
 Genoa (Italy)
 Teacher for the following courses: 1) "Tecnico superiore per la gestione della cyber security con specializzazione per l'Industria 4.0": module 1.19 Scripting; 2) "Tecnico superiore per i metodi e le tecnologie per la gestione di sistemi hardware/software con specializzazione per l'Industria 4.0": module 2.2.2 Scripting, module 2.3.2 Gestione Windows Server, module 2.3.3 Gestione Linux Server. All courses are held by Fondazione ITS-ICT Accademia Digitale Liguria of Genoa, for a total duration of 62 hours. Prot. Accademia Digitale Liguria n. 211 del 27/02/2023, Prot. n. 232 dated 01/03/2023. CNR communication n. 13586/2023.

Master thesis supervisor
 May 2023 - October 2023
 Università degli Studi di Genova (DITEN, Dipartimento di Ingegneria Navale, Elettrica, Elettronica e delle Telecomunicazioni)
 Genoa (Italy)
 Supervision of the master thesis titled "Investigation of security aspects combining IoT and blockchain contexts" by Dr. Zhansaya Amangeldieva.

University teacher
 September 2022 - June 2023
 Università degli Studi di Genova (DITEN, Scuola Politecnica, Ingegneria Informatica)
 Genoa (Italy)
 University teacher for the course "STRATEGOS - Strategies for Telecommunications" (2022/2023), by Università degli Studi di Genova, for a total duration of 10 hours. Selection prot. UNIGE n. 3430/2022 dated June 8, 2022. CNR communication n. 12162/2022.

Teacher

ITS-ICT Accademia Digitale Liguria
Genoa (Italy)

Teacher for the course module M9 - IT Service Management - 9.2 – Scripting, by Fondazione ITS-ICT Accademia Digitale Liguria of Genoa, for a total duration of 16 hours. Prot. Accademia Digitale Liguria n. 261 dated March 14, 2022. CNR communication n. 11061 dated April 8, 2022.

November 2021 - March 2022

Master thesis supervisor

Università degli Studi di Genova (DAD, Dipartimento di Architettura e Design)
Genoa (Italy)

Supervision of the master thesis titled "Alla scoperta del linguaggio incomprensibile" by Dr. Erijon Ademi.

September 2021 - June 2022

University teacher

Università degli Studi di Genova (DITEN, Scuola Politecnica, Ingegneria Informatica)
Genoa (Italy)

University teacher for the course "STRATEGOS - Strategies for Telecommunications" (2021/2022), by Università degli Studi di Genova, for a total duration of 10 hours. Selection prot. UNIGE n. 3016/2021 dated May 26, 2021. CNR communication n. 8703/2021.

October 2020 - June 2021

University teacher

Università degli Studi di Genova (DITEN, Scuola Politecnica, Ingegneria Informatica)
Genoa (Italy)

University teacher for the course "STRATEGOS - Strategies for Telecommunications" (2020/2021), by Università degli Studi di Genova, for a total duration of 10 hours. CNR communication n. 5768 dated August 18, 2020.

September 4-10, 2020

University master teacher

Università degli Studi di Genova
Genoa (Italy)

Teaching activities of the second grade university master on "Cybersecurity and Critical Infrastructure Protection" (2019/2020), by Università degli Studi di Genova, relatively to the Network Security module, for a total duration of 4 hours. CNR SIPER assignment n. 5852/2020.

September 2020 - November 2020

External Ph.D. thesis reviewer

International Institute of Information Technology Bangalore (Deemed University)
Bangalore (India)

External reviewer for the Ph.D. thesis titled "Feedback manipulation in next generation transport layer protocols: emerging threats and counter measures", submitted by V. Anil Kumar (student enrollment n. PH2011006), under the supervision of Prof. Debabrata Das, IIITB. CNR communication n. 6213 dated September 30, 2020.

September 2019 - September 2020

University teacher

Università degli Studi di Genova
Genoa (Italy)

University teacher for the course "STRATEGOS - Strategies for Telecommunications" (2019/2020), by Università degli Studi di Genova, for a total duration of 10 hours. CNR communication n. 4904 dated February 21, 2020.

- June 2019 **University master teacher**
 Università degli Studi di Genova
 Genova (Italy)
 Teaching activities of the second grade university master on "Cybersecurity and critical infrastructure protection" (2018/2019), by Università degli Studi di Genova, relatively to the Network Security module, for a total duration of 4 hours. CNR communication n. 3050 dated June 11, 2019.
- October 2017 - May 2021 **Ph.D. thesis supervisor**
 Università degli Studi di Genova (DIBRIS, Scuola Politecnica, Ingegneria Informatica)
 Genoa (Italy)
 Supervision of the Ph.D. thesis titled "Security aspects about Internet of Things networks, devices and communication protocols" by Dr. Ivan Vaccari.
- July 2016 - March 2017 **Master thesis supervisor**
 Università degli Studi di Genova (DIBRIS, Scuola Politecnica, Ingegneria Informatica)
 Genova (Italy)
 Supervision of the master thesis titled "Analisi di sicurezza in ambienti IoT implementati attraverso il protocollo Wi-Fi" by Dr. Federico Pastorino.
- July 2016 - March 2017 **Master thesis supervisor**
 Università degli Studi di Genova (DIBRIS, Scuola Politecnica, Ingegneria Informatica)
 Genova (Italy)
 Supervision of the master thesis titled "Studio delle problematiche di sicurezza su reti ZigBee in riferimento al fenomeno Internet of Things" by Dr. Ivan Vaccari.
- January 2013 - July 2013 **Master thesis supervisor**
 Università degli Studi di Genova (DIBRIS, Dipartimento di Informatica)
 Genova (Italy)
 Supervision of the master thesis titled "Analisi e Sviluppo di una Rete Cooperativi per attacchi di tipo 'Slow DoS' Utilizzando Dispositivi Mobili" by Dr. Paolo Farina.

RESPONSIBILITIES

- May 2022 - ongoing **Access Port Manager (APM) for Stazione Marina headquarters of the CNR-IAS institute**
 CNR, Sede Secondaria di Genova dell'Istituto per lo studio degli impatti Antropici e sostenibilità in ambiente marino
- August 1, 2022 - July 31, 2024 **Network manager for institute location**
 CNR, IEIIT institute
- August 1, 2022 - July 31, 2024 **Network manager for the headquarter**
 CNR, headquarters of Corso Perrone in Genoa
- November 17, 2022 - November 16, 2023 **Member of the "Gruppo di Lavoro Identità, collaborazione digitale e sicurezza" group**
 Consiglio Nazionale delle Ricerche (CNR)
- June 2019 - ongoing **Access Port Manager (APM) for Area della Ricerca di Genova**
 CNR, Area della Ricerca di Genova

- 2013 - 2016** **Ph.D**
 Università degli Studi di Genova (DIBRIS)
 Genoa (Italy)
 Obtained Ph.D in computer science (network and cyber security field), with thesis titled "Development and Detection of Slow DoS Attacks". The research work was accomplished in collaboration with Consiglio Nazionale delle Ricerche (CNR-IEIIT) of Genoa, Italy.
- 2010 - 2012** **Master Degree**
 Università degli Studi di Genova (DIBRIS)
 Genoa (Italy)
 Obtained master degree in computer science, curriculum "Software development", with thesis titled "Analysis of Slow DoS Attacks". The research work was accomplished in collaboration with Consiglio Nazionale delle Ricerche (CNR-IEIIT) of Genoa, Italy. Final score: 110/110 with honour.
- 2004 - 2009** **Bachelor Degree**
 Università degli Studi di Genova (DIBRIS)
 Genoa (Italy)
 Obtained bachelor degree in computer science, curriculum "Software development", with thesis titled "Tipologie di attacchi a reti wireless protette". The research work was accomplished in collaboration with Consiglio Nazionale delle Ricerche (CNR-IEIIT) of Genoa, Italy.
- 1998 - 2003** **High School Degree**
 Istituto Tecnico Superiore Giuseppe Cesare Abba
 Genoa (Italy)
 Obtained high school degree as accountant, computer science program.

**PROFESSIONAL
 CERTIFICATIONS**

- eLearnSecurity Network Defense Professional (eNDP)**
 Obtained certificate of the eLearnSecurity Network Defense Professional (eNDP) course, issued by eLearnSecurity and relative to the security of an ICT network. Course completed on January 15, 2021 (Certificate n. 9224207). URL: <https://elearnsecurity.com/product/endp-certification/>
- eLearnSecurity Certified Incident Responder (eCIR)**
 Obtained certificate of the eLearnSecurity Certified Incident Responder (eCIR) course, issued by eLearnSecurity and relative to incident handling procedures and processes. Course completed on March 20, 2021 (Certificate n. 3240953). URL: <https://elearnsecurity.com/product/ecir-certification/>
- Splunk 7.x Fundamentals Part 1 (eLearning)**
 Obtained certificate of the Splunk 7.x Fundamentals Part 1 (eLearning) course, issued by Splunk and relative to the use of the Splunk SIEM tool. Course completed on March 22, 2021. URL: https://www.splunk.com/en_us/training/free-courses/splunk-fundamentals-1.html
- Rulex Academy Certification – Level 1 – Rulex Basic Training**
 Obtained Rulex Academy Certification – Level 1 – Rulex Basic Training certificate, issued by Rulex Inc. and relative to the use of the big data processing software Rulex Analytics. Course completed on May 8, 2020. URL: <https://www.rulex-inc.com>
- Mind Mapping: Unlock Your Brain Power with Mind Mapping**
 Obtained certificate of the Mind Mapping: Unlock Your Brain Power with Mind Mapping course, issued by Udemy and relative to mind mapping techniques. Course completed on March 17, 2020 (Certificate n. UC-5c035e83-6691-4246-8846-d4d171beb3c0). URL: <https://ude.my/UC-5c035e83-6691-4246-8846-d4d171beb3c0>
- Cybersecurity Essentials**
 Obtained certificate of the Cybersecurity Essentials course, issued by Cisco Networking Academy - ASSINT - Associazione per lo sviluppo dell'Innovazione e delle Nuove Tecnologie. Course completed on April 9, 2020. URL: <https://www.netacad.com/courses/cybersecurity/cybersecurity-essentials>

AWS Innovate Online Conference -
Machine Learning and AI edition

Obtained certificate of the AWS Innovate Online Conference - Machine Learning and AI edition course, issued by Amazon. Course completed on October 17, 2019. URL: <https://aws.amazon.com/it/events/aws-innovate/machine-learning/>

CISSP Security

Obtained certificate of the CISSP Security course, issued by IT Masters. Course completed on October 23, 2019. URL: <https://www.itmasters.edu.au/free-short-course-cissp-security/>

eLearnSecurity Mobile Application
Penetration Tester (eMAPT)

Obtained eLearnSecurity Mobile Application Penetration Tester certificate, issued by eLearnSecurity and relative to the study of security aspects for the development of mobile apps. Course completed on January 28, 2018 (Certificate ID: EMAPT-6753). URL: <https://www.elearnsecurity.com/certification/emapt/>

Introduction to Cybersecurity by
Cisco Networking Academy

Obtained Introduction to Cybersecurity certificate, issued by Cisco Networking Academy and relative to the cyber-security context. Certification achieved on January 29, 2018. URL: <https://www.netacad.com/courses/intro-cybersecurity/>

HTML Fundamentals course

Obtained certificate of the HTML Fundamental course, issued by SoloLearn and relative to the HTML mark-up language. Course completed on September 30, 2018 (Certificate n. 1014-11060174). URL: <https://www.sololearn.com/Course/HTML/>

100W - Operational Security
(OPSEC) for Control Systems

Obtained certificate of the 100W - Operational Security (OPSEC) for Control Systems course, issued by Industrial Control Systems Cyber Emergency Response Team - U.S. Department of Homeland Security. Course completed on October 1, 2018. URL: <https://us-cert.cisa.gov>

210W-01 Cybersecurity for
Industrial Control Systems -
Differences in Deployments of ICS

Obtained certificate of the 210W-01 Cybersecurity for Industrial Control Systems - Differences in Deployments of ICS course, issued by Industrial Control Systems Cyber Emergency Response Team - U.S. Department of Homeland Security. Course completed on October 4, 2018. URL: <https://us-cert.cisa.gov>

210W-02 Cybersecurity for
Industrial Control Systems -
Influence of Common IT
Components on ICS

Obtained certificate of the 210W-02 Cybersecurity for Industrial Control Systems - Influence of Common IT Components on ICS course, issued by Industrial Control Systems Cyber Emergency Response Team - U.S. Department of Homeland Security. Course completed on October 5, 2018. URL: <https://us-cert.cisa.gov>

210W-03 Cybersecurity for
Industrial Control Systems -
Common ICS Components

Obtained certificate of the 210W-03 Cybersecurity for Industrial Control Systems - Common ICS Components course, issued by Industrial Control Systems Cyber Emergency Response Team - U.S. Department of Homeland Security. Course completed on October 7, 2018. URL: <https://us-cert.cisa.gov>

210W-04 Cybersecurity for
Industrial Control Systems -
Cybersecurity within IT & ICS
Domains

Obtained certificate of the 210W-04 Cybersecurity for Industrial Control Systems - Cybersecurity within IT & ICS Domains course, issued by Industrial Control Systems Cyber Emergency Response Team - U.S. Department of Homeland Security. Course completed on October 8, 2018. URL: <https://us-cert.cisa.gov>

210W-05 Cybersecurity for
Industrial Control Systems -
Cybersecurity Risk

Obtained certificate of the 210W-05 Cybersecurity for Industrial Control Systems - Cybersecurity Risk course, issued by Industrial Control Systems Cyber Emergency Response Team - U.S. Department of Homeland Security. Course completed on October 9, 2018. URL: <https://us-cert.cisa.gov>

210W-06 Cybersecurity for
Industrial Control Systems -
Current Trends (Threats)

Obtained certificate of the 210W-06 Cybersecurity for Industrial Control Systems - Current Trends (Threats) course, issued by Industrial Control Systems Cyber Emergency Response Team - U.S. Department of Homeland Security. Course completed on October 10, 2018. URL: <https://us-cert.cisa.gov>

210W-07 Cybersecurity for
Industrial Control Systems -
Current Trends (Vulnerabilities)

Obtained certificate of the 210W-07 Cybersecurity for Industrial Control Systems - Current Trends (Vulnerabilities) course, issued by Industrial Control Systems Cyber Emergency Response Team - U.S. Department of Homeland Security. Course completed on October 11, 2018. URL: <https://us-cert.cisa.gov>

210W-08 Cybersecurity for
Industrial Control Systems -
Determining the Impacts of a
Cybersecurity Incident

Obtained certificate of the 210W-08 Cybersecurity for Industrial Control Systems - Determining the Impacts of a Cybersecurity Incident course, issued by Industrial Control Systems Cyber Emergency Response Team - U.S. Department of Homeland Security. Course completed on October 12, 2018. URL: <https://us-cert.cisa.gov>

210W-09 Cybersecurity for
Industrial Control Systems - Attack
Methodologies in IT & ICS

Obtained certificate of the 210W-09 Cybersecurity for Industrial Control Systems - Attack Methodologies in IT & ICS course, issued by Industrial Control Systems Cyber Emergency Response Team - U.S. Department of Homeland Security. Course completed on October 13, 2018. URL: <https://us-cert.cisa.gov>

210W-10 Cybersecurity for
Industrial Control Systems -
Mapping IT Defense-In-Depth
Security Solutions to ICS

Obtained certificate of the 210W-10 Cybersecurity for Industrial Control Systems - Mapping IT Defense-In-Depth Security Solutions to ICS course, issued by Industrial Control Systems Cyber Emergency Response Team - U.S. Department of Homeland Security. Course completed on October 15, 2018. URL: <https://us-cert.cisa.gov>

eLearnSecurity Junior Penetration
Tester (eJPT)

Obtained eLearnSecurity Junion Penetration Tester certificate, issued by eLearnSecurity and relative to the study of vulnerability assessment e penetration testing activities. Course completed on August 16, 2017 (Certificate ID: EJPT-200555). URL: <https://www.elearnsecurity.com/certification/ejpt/>

IBM Blockchain Essentials

Obtained IBM Blockchain Essentials badge, issued by IBM and relative to the study of basic information for the implementation of a software system based on the blockchain technology. Course completed on November 27, 2017. URL: <https://www.youracclaim.com/badges/437902f3-8c2d-4565-abd0-c2675ca19ff6>

Blockchain Foundation Developer

Obtained IBM Blockchain Foundation Developer badge, issued by IBM and relative to the implementation of a software system based on the Hyperledger platform. Course completed on November 30, 2017. URL: <https://www.youracclaim.com/badges/b59b0137-e092-42c0-8f77-909aa26cd3ae>

Bitcoin and Cryptocurrency
Technologies

Student of the Bitcoin and Cryptocurrency Technologies course, issued by Princeton University and distributed online through Coursera service. The course describes in detail the blockchain and crypto-currencies fields. Course completed on December 28, 2016, with the final score of 92/100. URL: <https://www.coursera.org/learn/cryptocurrency>

The Basic Rulex Training Course

Obtained The Basic Rulex Training Course certificate, issued by Rulex Inc. and relative to the use of the big data processing software Rulex Analytics. Course completed on October 9, 2015. URL: <https://www.rulex-inc.com>

Nessus Vulnerability and
Compliance Auditing – On Demand

Obtained certificate of the Nessus Vulnerability and Compliance Auditing - On Demand course, issued by Tenable Network Security and relative to the use of the vulnerability assessment software Nessus. Course completed on August 8, 2013. URL: <https://www.tenable.com/products/nessus-vulnerability-scanner>

Scientific papers

- Advancements on iot and ai applied to pneumology. *Microprocessors and Microsystems*, 108:105062, 2024. ISSN 0141-9331. doi: <https://doi.org/10.1016/j.micpro.2024.105062>
- Dockerchannel: A framework for evaluating information leakages of docker containers. *SoftwareX*, 24:101576, 2023. ISSN 2352-7110. doi: <https://doi.org/10.1016/j.softx.2023.101576>
- Scamming the scammers: Using chatgpt to reply mails for wasting time and resources. page 11, 2023. doi: 10.48550/arXiv.2303.13521
- Using ai to face covert attacks in iot and softwarized scenarios: challenges and opportunities. 2023
- Information leakages of docker containers: Characterization and mitigation strategies. pages 462–467, 2023. ISBN 2693-9789 VO -. doi: 10.1109/NetSoft57336.2023.10175435
- On the use of low-cost iot devices to perpetrate slow dos attacks. pages 859–875. Springer, 2023
- Weighted mutual information for out-of-distribution detection. pages 318–331. Springer Nature Switzerland, 2023. ISBN 978-3-031-44070-0
- Preventing mqtt vulnerabilities using iot-enabled intrusion detection system. *Sensors*, 22, 2022. doi: 10.3390/s22020567
- Sensitivity of logic learning machine for reliability in safety-critical systems. *IEEE Intelligent Systems*, 2022. ISSN 19411294. doi: 10.1109/MIS.2022.3159098
- On the intersection of explainable and reliable ai for physical fatigue prediction. *IEEE Access*, 10:76243–76260, 2022b. ISSN 2169-3536 VO - 10. doi: 10.1109/ACCESS.2022.3191907
- explainable and reliable against adversarial machine learning in data analytics. *IEEE Access*, 10:83949–83970, 2022. ISSN 2169-3536 VO - 10. doi: 10.1109/ACCESS.2022.3197299
- Web security and data dumping: The cookidump case. *Software Impacts*, 14:100426, 2022. ISSN 2665-9638. doi: <https://doi.org/10.1016/j.simpa.2022.100426>
- Analysis of the cyber-attacks executed during the russia-ukraine conflict. page 9. Way-Science, 2022
- A new xai-based evaluation of generative adversarial networks for imu data augmentation. pages 167–172, 2022a. ISBN VO -. doi: 10.1109/HealthCom54947.2022.9982780
- On the detection of adversarial attacks through reliable ai. pages 1–6, 2022. ISBN VO -. doi: 10.1109/INFOCOMWKSHPS54753.2022.9797955
- A generative adversarial network (gan) technique for internet of medical things data. *Sensors*, 21:3726, 5 2021c. ISSN 1424-8220. doi: 10.3390/s21113726
- Identifying and mitigating phishing attack threats in iot use cases using a threat modelling approach. *Sensors*, 21:4816, 7 2021. ISSN 1424-8220. doi: 10.3390/s21114816
- Exploiting internet of things protocols for malicious data exfiltration activities. *IEEE Access*, 9:104261–104280, 2021b. ISSN 2169-3536. doi: 10.1109/ACCESS.2021.3099642
- Evaluating the possibility to perpetrate tunnelling attacks exploiting short-message-service. *Journal of Internet Services and Information Security (JISIS)*, 11:30–46, 2021c. doi: 10.22667/JISIS.2021.08.31.030

- Dos attacks in available mqtt implementations: Investigating the impact on brokers and devices, and supported anti-dos protections. Association for Computing Machinery, 2021. ISBN 9781450390514. doi: 10.1145/3465481.3470049
- From explainable to reliable artificial intelligence. pages 255–273. Springer International Publishing, 2021a. ISBN 978-3-030-84060-0. doi: 10.1007/978-3-030-84060-0_17
- On the feasibility of covert channels through short-message-service. 2021b
- Perpetrate cyber-attacks using iot devices as attack vector: the esp8266 use case. 2021d
- *An Innovative 0-Day Attack against ZigBee: Exploitation and Protection System Analysis*, pages 146–166. 2 2021a. doi: 10.9734/bpi/tpmcs/v6/6969D
- Slowite, a novel denial of service attack affecting mqtt. *Sensors*, 20, 2020b. ISSN 1424-8220. doi: 10.3390/s20102932
- Innovative protection system against remote at command attacks on zigbee networks. *Computer Sciences*, 2:2–8, 2020a
- Slowtt: A slow denial of service against iot networks. *Information (Switzerland)*, 11, 2020e. ISSN 20782489. doi: 10.3390/INFO11090452
- Mqttset, a new dataset for machine learning techniques on mqtt. *Sensors*, 20:6578, 2020c
- Challenges and opportunities of iot and ai in pneumology. pages 285–292. IEEE, 2020. ISBN 1728195357
- Detection and classification of slow dos attacks targeting network servers. Association for Computing Machinery, 2020a. ISBN 9781450388337. doi: 10.1145/3407023.3409198
- Protecting the esp8266 module from replay attacks. pages 1–6, 2020d
- Finstix: A cyber-physical data model for financial critical infrastructures. *Cyber-Physical Security for Critical Infrastructures Protection*, 12618:48, 2020a
- *FINSTIX: A Security Data Model for the Financial Sector*, page 34. 2020b
- *Adaptive and Intelligent Data Collection and Analytics for Securing Critical Financial Infrastructure*, page 104. 2020
- *Detection of innovative low-rate denial of service attacks against critical infrastructures*, page 346. 2020b. doi: 10.1561/9781680836875.ch19
- Introducing the slowdrop attack. *Computer Networks*, 150:234–249, 2 2019a. ISSN 1389-1286. doi: 10.1016/J.COMNET.2019.01.007
- Evaluating security of low-power internet of things networks. *International Journal of Computing and Digital Systems*, 8:101–114, 2019. doi: 10.12785/ijcds/080202
- Darknet security: A categorization of attacks to the tor network. CEUR Workshop Proceedings, 2019b

- *Key Innovations in ANASTACIA: Advanced Networked Agents for Security and Trust Assessment in CPS/IOT Architectures*, pages 23–53. River Publishers, 2019. ISBN 9788770220880. doi: 10.13052/rp-9788770220873
- Measuring the energy consumption of cyber security. *IEEE Communications Magazine*, 55, 2017. ISSN 01636804. doi: 10.1109/MCOM.2017.1600955
- Slowcomm: Design, development and performance evaluation of a new slow dos attack. *Journal of Information Security and Applications*, 35, 2017. ISSN 22142126. doi: 10.1016/j.jisa.2017.05.005
- Remotely exploiting at command attacks on zigbee networks. *Security and Communication Networks*, 2017, 2017. ISSN 19390122. doi: 10.1155/2017/1723658
- A network traffic representation model for detecting application layer attacks. *International Journal of Computing and Digital Systems*, 5:31–42, 2016. doi: 10.12785/ijcds/050104
- Are mobile botnets a possible threat? the case of slowbot net. *Computers and Security*, 58, 2016. ISSN 01674048. doi: 10.1016/j.cose.2016.02.005
- Profiling dns tunneling attacks with pca and mutual information. *Logic Journal of IGPL*, pages 1–14, 2016. doi: 10.1093/jigpal/jzw056
- Feature transformation and mutual information for dns tunneling analysis. volume 2016-Augus, 2016. ISBN 9781467399913. doi: 10.1109/ICUFN.2016.7536939
- Malware development on mobile environments. 2016. ISBN 9781509039463. doi: 10.1109/W-FiCloud.2016.62
- Implementation of slowdroid: Slow dos attack performed by a smartphone. *International Journal of Computing and Digital Systems*, 4:165–173, 2015. doi: 10.12785/ijcds/040303
- Mobile executions of slow dos attacks. *Logic Journal of the IGPL*, 24, 2014. ISSN 13689894. doi: 10.1093/jigpal/jzv043
- *Designing and modeling the slow next Dos attack*, volume 369. 2015. ISBN 9783319197128. doi: 10.1007/978-3-319-19713-5_22
- Detection of dos attacks through fourier transform and mutual information. volume 2015-Septe, 2015. ISBN 9781467364324. doi: 10.1109/ICC.2015.7249476
- Perpetrate network attacks from mobile devices. volume 2015-Augus, 2015. ISBN 9781479989935. doi: 10.1109/ICUFN.2015.7182614
- Understanding ddos attacks from mobile devices. 2015. ISBN 9781467381031. doi: 10.1109/FiCloud.2015.19
- Mobile botnets development: Issues and solutions. *International Journal of Future Computer and Communication*, 3:385–390, 2014a. doi: 10.7763/IJFCC.2014.V3.333
- *Slowreq: A weapon for cyberwarfare operations. Characteristics, limits, performance, remediations*, volume 239. 2014. ISBN 9783319018539. doi: 10.1007/978-3-319-01854-6_55
- Slowdroid: Turning a smartphone into a mobile attack vector. 2014. ISBN 9781479943586. doi: 10.1109/FiCloud.2014.72
- An on-line intrusion detection approach to identify low-rate dos attacks. volume 2014-October, 2014b. doi: 10.1109/CCST.2014.6987039

Technical reports

- Collegamento stazione marina gems alla rete garr, 2023
- Esp-01 programming instructions using the arduino ide, 2022a
- Utilizzo e manutenzione della piattaforma di registrazione delle ore lavorate dal personale, 2022b
- Hosting services listening on all available ports with ufw, 2022c
- Utilizzo del software implementato in grado di importare le timbrature orarie del personale all'interno dei relativi fogli presenza, 2021
- lot-flock: guida all'installazione ed utilizzo di un tool per generare traffico iot attraverso i protocolli mqtt e coap, 2020
- Esecuzione di attacchi denial of service su apparati per l'ufficio ed iot, 2019a
- Controllo di una pompa peristaltica marlow watson 323du attraverso creazione di hardware e software ad-hoc, 2019b
- Protezione di dati a fronte di attacchi di tipo ransomware, attraverso utilizzo di soluzioni cloud-based, 2019c
- Progettazione e costruzione di un sito di gruppo ieiit attraverso un approccio "dynamic-to-static", 2018a
- Processo di stampa 3d con formlabs form 2, 2018b
- Survey su algoritmi di encryption, hashing e hmac, 2017a
- Analisi del ransomware wannacry, 2017b
- Analysis of the esp8266 chip, 2016a
- Analysis of the zigbee protocol, 2016b
- Analysis of an android suspect application, 2016c
- Analysis of wireless attacks using kali distribution, 2016d
- Analysis of dirty cow exploit, 2016e
- Analysis of the mirai botnet, 2016f
- Soluzioni innovative per la progettazione di un'infrastruttura di telecomunicazioni affidabile, 2015a
- Scelta dei protocolli di rete per la progettazione di una rete affidabile, 2015b
- Analisi degli aspetti di sicurezza, affidabilità, riservatezza (sar) negli intelligent transportation systems (its), 2015c
- Analysis of the logjam attack, 2015d
- Tecnologie wi-fi ed utilizzo nelle reti cittadine, 2015e
- Infrastruttura informatica virtualizzata attraverso vmware, 2015f
- Ddos botnets: Operations and toolkits, 2014a
- Analysis of the heartbleed bug, 2014b
- The insider threat problem, 2014c
- Users authentication security, 2014d

- Database security, 2014e
- An approach for structuring and organizing scientific results, 2014f
- Implementation of the isdown federated network, 2014g
- Performance analysis of dns tunneling methodologies, 2014h
- A survey on current tunneling techniques, 2014i
- Analysis of the shellshock bug, 2014j
- Design and development of an intrusion detection system for detecting tunneling attacks, 2014k
- It communications security fundamentals, 2014l
- Panoramica delle implementazioni di attacchi di tipo "slow dos attacks" e relativi algoritmi di intrusion detection, 2014m
- Introducing the slownext attack, 2013
- Analisi delle problematiche di sicurezza in ambiente cloud, 2012

Keynote speeches

- International Conference on Intelligent Systems and Computation (ICISC-2022), 2022, "The evolution of Denial of Service attacks"

Other speeches

- NFT: La tecnologia al servizio della certificazione di autenticità, 2022, "NFT: la tecnologia alla base dei non-fungible token"

Discovered CVEs

- [CVE-2020-138549](#)
- [CVE-2017-18868](#)

Conference and workshop chair

- The 5th International Workshop on Cyber-Physical Security for Critical Infrastructures Protection (CPS4CIP 2024), 2024
- The 4th International Workshop on Cyber-Physical Security for Critical Infrastructures Protection (CPS4CIP 2023), 2023
- The 3rd International Workshop on Cyber-Physical Security for Critical Infrastructures Protection (CPS4CIP 2022), 2022
- The 2nd International Workshop on Cyber-Physical Security for Critical Infrastructures Protection (CPS4CIP 2021), 2021
- 1st International Workshop on Cyber-Physical Security for Critical Infrastructures Protection (CPS4CIP 2020), 2020

Editorial Board

- IIETA, International Journal of Safety and Security Engineering, 2020
- Acta Scientific Computer Sciences, 2019
- SCIREA, Journal of Computer, 2019
- Science Publishing Group Communications, 2018

Journals reviewer

- Computers & Security, Elsevier, 2021
- MDPI Electronics, 2021
- MDPI Network, 2021
- Computers & Security, Elsevier, 2020
- Computers & Security, Elsevier, 2019
- International Journal of Computing and Digital Systems (IJCDS), 2019
- Computer Modeling in Engineering & Sciences (CMES), 2019
- Advances in Systems Science and Applications (ASSA), 2019
- Springer Human-centric Computing and Information Sciences (HCIS), 2019
- Elsevier Computers and Electrical Engineering, 2019
- MDPI Sensors, 2019
- ScienceDomain International - Archives of Current Research International (ACRI), 2018
- Applied Sciences, 2018
- ScienceDomain International – Asian Journal of Research in Computer Science (AJRCoS), 2018
- ScienceDomain International – Asian Journal of Advanced Research and Reports (AJARR), 2018
- Journal of Computer and System Sciences (JCSS), 2018
- ScienceDomain International – Current Journal of Applied Science and Technology (CJAST), 2018
- IET Information Security, 2018
- ScienceDomain International - Journal of Advances in Mathematics and Computer Science (JAMCS), 2018
- Cluster Computing, 2018
- Journal of Information Technology and Management, 2017
- IEEE Security & Privacy, 2017
- Future Internet, MDPI, 2017
- IEEE Communication Letters, 2017
- International Journal of Computing and Digital Systems (IJCDS), 2017
- Computers & Security, Elsevier, 2017
- Energies, MDPI, 2017
- International Journal of Computing and Digital Systems (IJCDS 2016), 2016
- Logic Journal of the IGPL, 2016
- International Journal of Innovative Research in Computer and Communication Engineering (IJIRCCE), 2016
- MDPI Electronics, 2016
- Journal of Computer and System Sciences (JCSS), 2016
- Computer Communication & Collaboration, 2016
- Applied Sciences, 2016
- International Journal of Computing and Digital Systems (IJCDS' V3), 2013

- International Conference on Cybernetics & Informatics (CYBI 2020), 2020
- ITASEC20, 2020
- 2020 International Conference on Innovation and Intelligence for Informatics, Computing, and Technologies (3ICT2020), 2020
- 2020 International Conference on Decision Aid Sciences and Application (DASA'20), 2020
- ITASEC2019, 2019
- IEEE Middle East and North Africa Communication Conference (MENACOMM 2019), 2019
- 2019 8th International Conference on Modeling, Simulation and Applied Optimization (ICM-SAO'19), 2019
- 2019 10th IEEE-GCC Conference and Exhibition (IEEE-GCCCE 2019), 2019
- 2019 International Conference on Innovation and Intelligence for Informatics, Computing, and Technologies (3ICT'19), 2019
- 1st International Workshop on Security for Critical Infrastructures and Services (FINSEC 2019), 2019
- 2018 International Conference on Innovation and Intelligence for Informatics, Computing, and Technologies (3ICT'18), 2018
- International Conference on Social Networking and Computational Intelligence (SCI-2018), 2018
- The Sustainability and Resilience 2018 (SRC'18), 2018
- International Conference on Advances in Computing, Communications and Informatics (ICACCI-2017), 2017
- Mobile Applications (MobiApps 2017), 2017
- The 2nd International Conference on Computer Science and Technology (CST2017), 2017
- International Symposium on Cloud Computing and Cyber-Security (SCCCS-17), 2017
- International Workshop on Cyber-Security in IoT-based Healthcare Systems & Cloud Computing (CS-HSC'17), 2017
- IEEE-GCC Conference and Exhibition (IEEE-GCC 2017), 2017
- 2017 3rd Advanced Research in Material Sciences, Manufacturing, Mechanical and Mechatronic Engineering Technology International Conference (AR4MET'2017), 2017
- 2017 3rd International Conference on Education (ICOED'2017), 2017
- Fifth International Symposium on Security in Computing and Communications (SSCC'17), 2017
- Design and Performance of Networks on Chip 2016 (DPNoC'2017), 2017
- International Information Security and Privacy Conference (IFIPSEC2017), 2017
- International Conference on Advances in Computing, Communications and Informatics (ICACCI-2016), 2016
- 2016 Advanced Research in Material Sciences, Manufacturing, Mechanical and Mechatronic Engineering Technology International Conference (AR4MET'2016), 2016
- Fourth International Symposium on Security in Computing and Communications (SSCC'16), 2016
- Mobile Applications (MobiApps 2016), 2016
- 2016 International Symposium on Web of Things and Big Data (WoTBD 2016), 2016
- Design and Performance of Networks on Chip 2016 (DPNoC 2016), 2016

- 9th IEEE-GCC Conference and Exhibition 2016 (IEEE-GCC 2016), 2016
- IEEE International Conference on Signal Processing, Informatics, Communication and Energy Systems 2015 (IEEE SPICES 2015), 2015
- International Conference on Advances in Computing, Communications and Informatics (ICACCI-2015), 2015
- International Conference on Computing in Mechanical Engineering (ICCME-2015), 2015
- 2015 Advanced Research in Material Sciences, Manufacturing, Mechanical and Mechatronic Engineering Technology International Conference (AR4MET'2015), 2015
- The 2nd International Workshop on Mobile Applications (MobiApps 2015), 2015
- 2015 International Symposium on Web of Things and Big Data (WoTBD 2015), 2015
- 15th IEEE International Symposium on Signal Processing and Information Technology 2015 (ISSPIT-2015), 2015
- International Conference of Security in Computer Networks and Distributed Systems (SNDS 2014), 2014
- The 2014 International Workshop on the Design and Performance of Networks on Chip (DPNoS 2014), 2014
- The 2014 International Conference on Electronic Publishing and Information Technology (ICEPIT 2014), 2014
- Mobile Applications (MobiApps 2014), 2014

Selected software

- **Dynamic W3C Validator.** Design and development of a sistem based on the HTML iframe tag to dynamically validate a web page..
- **H2020 Database and Website.** Design and development of an internal website to retrieve information on teh results of Horizon 2020 research projects..
- **isDown.** Design and development of a federated network to distributely check the reachability of a remote Internet service..
- **Mail Logger.** Design and development of a system used to log emails opening without asking for confirmation to the recipient..
- **SlowDroid Report.** Design and development of a system used to monitor and analyse the users of the SlowDroid app..
- **Conference.** Design and development of a web platform able to autonomously retrieve upcoming conferences events and journals special issues on the ICT research field.. <http://conference.ieiit.cnr.it> (private)
- **DNS Crawler.** Design and development of an Internet crawler to find DNS services vulnerable to amplification denial of service attacks..
- **Heartbleed Crawler.** Design and development of an Internet crawler looking for services vulnerable to the Hearthbleed bug..

- **Tor Network Analyzer.** Design and development of a Tor analysis system able to periodically retrieve information on the nodes belonging to the Tor network..
- **Assets and Research Data Wiki.** Design and development of an extension for the MediaWiki platform able to simplify network assets and research projects categorization.. <http://wiki.ge.cnr.it> (private)
- **CNR-IEIIT Template for Drupal.** Design and development of the Drupal template of the (former version of the) CNR-IEIIT website..
- **Messenger (Unofficial).** Design and development of a public extension for the Google Chrome browser adopted by more than 350.000 users..
- **SlowDroid.** Design and development of a network stress testing tool known as SlowDroid and available as an Android mobile app..
- **CallI.** Design and development of an Android app used to reduce the electromagnetic exposure of the user during calls.. <https://github.com/auino/callI>
- **cnr-cv.** Design and development of a software able to build a curriculum vitae from raw data.. <https://github.com/auino/cnr-cv>
- **cookidump.** Design and development of a software able to dump data of the Cookidoo web platform.. <https://github.com/auino/cookidump>

Awards

- Selection of the research paper titled "MQTTset, a New Dataset for Machine Learning Techniques on MQTT" as Editor's Choice Article for the MDPI Sensors journal. - Protocollo CNR-IEIIT n. 2070/2022. - 2022
- Selection of the research paper titled "SlowTT: A Slow Denial of Service against IoT Networks" as Editor's Choice Article for the MDPI Information journal. - Protocollo CNR-IEIIT n. 2431/2022. - 2022

Other

Co-author of the document "Il Futuro della Cyber Security in Italia" (2015) by Laboratorio Nazionale di Cyber Security Consorzio Interuniversitario Nazionale per l'Informatica (CINI).

Co-author of the document "Il Futuro della Cybersecurity in Italia: Ambiti Progettuali Strategici" (2018) by Laboratorio Nazionale di Cyber Security Consorzio Interuniversitario Nazionale per l'Informatica (CINI). URL <https://www.conorzio-cini.it/index.php/it/labcs-home/libro-bianco>

Contributor of the book "Mastering Ethereum - Implementing Digital Contracts" (2018) by Andreas M. Antonopoulos and Gavin Wood, distributed by O'Reilly Media. ISBN: 978-1491971949 - URL <https://github.com/ethereumbook/ethereumbook/blob/develop/preface.asciidoc>

FINANCED RESEARCH PROJECTS

Main investigator

Participant of the following research projects.

- Long Life Power Platforms for Internet of Things (LoLiPoP IoT), 2023
- Cybersecurity delle infrastrutture critiche, analisi e definizione di framework metodologici (CYBIC) - GFT agreement, 2020
- Cybersecurity delle infrastrutture critiche, analisi e definizione di framework metodologici (CYBIC) - SEASTEMA agreement, 2020
- Cybersecurity delle infrastrutture critiche, analisi e definizione di framework metodologici (CYBIC) - CETENA agreement, 2019

- My Health - My Data (MH-MD), WP9 "Penetration and Re-Identification Challenge", 2017

Participant

- REXASIPRO - Reliable & Explainable Swarm Artificial Intelligence for People with Reduced mObility, 2022
- ANalisi del riSCHio e crOwd modelling di teRminal portuali (ANCHOR), 2021
- MObility REgulation THinking ANd THoroughly Innovative inSpired (More Than This), 2021
- Smart Stop, 2021
- Advances in pneumology via ICT and data analytics (PNEULTYCS), 2020
- 5G Genova, 2020
- CASTORE - Componente di intelligenza Artificiale per l'integrazione Sicura Terminal-portuale/terminal-pubblico per Ottimizzare l'operatività e la Relazione e l'analisi rispetto ad Eventi e stati legati ai flussi di passeggeri tra spazio urbano e porto, 2020
- Integrated Framework for Predictive and Collaborative Security of Financial Infrastructures (FINSEC), 2018
- Advanced Networked Agents for Security and Trust Assessment in CPS/IOT Architectures (ANASTACIA), 2017
- Maturing and Extending the FREETOOL Tool development Initiative (FreeTool v2.0), 2016
- My Health - My Data (MHMD), 2016
- Educational plan for environmentally sustainable smart mobility - Mobilità Intelligente Ecosostenibile (MIE), 2014
- Piattaforma per la mobiLità Urbana con Gestione delle INformazioni da sorgenti eterogenee (PLUG-IN), 2014
- Manufacturing Execution Systems (MES) basati su tecnologia Cloud (CMES), 2014
- Analisi ed integRazione di soluzlioni per la soprAvvivenza di sistemi complessi in preseNza di gravi eveNti accidentAli (ARIANNA), 2014
- Vulnerability and Risk Assessment (VaRA), 2014
- Soluzioni e tecnologie avanzate per le reti di telecomunicazioni ecosostenibili (START-ECO), 2013
- Tecnologie orientate ai servizi per lo sviluppo e per l'integrazione di piattaforme ICT (GESTEC), 2013
- Monitoring And Rescue Automation (MAREA), 2013

LANGUAGES

Mother tongue(s) Italian

Other language(s)

	Understanding		Speaking		Writing
	Listening	Reading	Spoken interaction	Spoken production	
English	B2	B2	B2	B2	B2

Levels: A1/A2: Basic user - B1/B2: Independent user - C1/C2: Proficient user
Common European Framework of Reference (CEF) level

IT SKILLS

Software development	Experience of procedural (Ansi C), object oriented (C++, Java, C#, Visual Basic, Python), functional (CaML) and logic (Prolog) programming languages.
Web development	#WebServices #PHP #ASP.Net #HTML5 #CSS3 #Javascript #Ajax #Django #VbScript
Mobile development	Experience of development on the following environments: Android, iOS, Firefox OS.
Database	Experience on both relational and NoSQL database management systems.
Data analysis	Adoption of the following software tools: MathWorks Matlab , WaveMetrics Igor Pro , RuleX Analytics .
Operating systems	Experience on Microsoft Windows, Linux and Apple macOS environments. Advanced knowledge of Unix systems: bash, configuration, dynamic libraries replacement, kernel level packets management and interception, etc.
Virtualization environments	Virtualization environments like VMWare, VirtualBox or Synology Virtual Machine Manager, creation and management of Docker containers.
Network security	Advanced experience in the network security topic, result of years of experience in the research field.
Blockchain	Experience of design and implementation on the following blockchain based platforms: Hyperledger , Ethereum , MultiChain .
Productivity	Experience on the following techniques: Getting Things Done (GTD), Pomodoro technique. Project samples are available at the following GitHub page: github.com/auino

ADDITIONAL INFORMATION

Driving license	Obtained European driving license, B level.
Other licenses	Obtained boat licence for motor boats up to 12 miles from the coast. Obtained drone driving license, A1/A3 levels.
Membership	Member of Consorzio Nazionale Interuniversitario per le Telecomunicazioni (CNIT) since 29/03/2017, with affiliation to Laboratorio Nazionale di Smart, Sustainable and Secure Internet Technologies and Infrastructures (S3ITI) . IEEE member from 2013 to 2020, Italian section (membership n. 92486754).
Web	Online interview for <i>L'Androide Minimalista</i> , as computer software developer for the Android mobile platform. URL http://bit.ly/androidminimalista Online interview for <i>Il Setup</i> , as computer scientist. URL (archive) http://bit.ly/ilsetup_archive Online interview for <i>ProntoPRO</i> , as owner and ideator of the Italia Webcam website. URL http://bit.ly/italiawebcam_prontopro Mention inside of the Italian podcast "Digitalia" (episodes 164, 344), as expert in the cyber-security topic and as supporter of the podcast. Mention inside of the Italian podcast "EasyApple" (episode 294). Mention inside of the international magazine "Linux Format", as computer software developer (June 2016). URL http://bit.ly/linuxformat_uk_062016 Mention inside of the magazine "Master Linux", as computer software developer (November-December 2018).
Photography	Photographer hobbyist, with publication on the website http://500px.com/auino . Classified 3 rd over about 800 candidates for the premiation of the Italia Photo Marathon of Genoa, Italy (April 2, 2017, for the "Fonte di vita" topic.)

In compliance with the Italian legislative Decree no. 196 dated June 30, 2003, I hereby authorize you to use and process my personal details contained in this document.