Edoardo Di Paolo

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CONTACTS AND PERSONAL INFORMATION

Edoardo Di Paolo
January 18, 1998. Mantova, Italy.
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EXPERIENCES

Visiting Scholar, Indiana University in Bloomington January 2025 - June 2025
Research on social bots at the Luddy Center for Artificial Intelligence under the supervision of professors Filippo Menczer and Alessandro Flammini.

Teaching Assistant at "La Sapienza", University of Rome October 2023 - February 2024
Teaching assistant for the course "Programming" (python).

Artisan Summer School, Austrian Institute Technology (AIT) July 2023
Topics: Artificial Intelligence and Machine Learning with regards to security and safety applications.

Research Scholar at "La Sapienza", University of Rome May 2022 - October 2022
Analysis and testing of new attacks on the IPv6 protocol.

EDUCATION

"La Sapienza", University of Rome & Luiss Guido Carli November 2022 - 2025
Ph.D. in Cybersecurity in collaboration with Luiss Guido Carli.

"La Sapienza", University of Rome December 2020 - October 2022
Master of Science in Computer Science, 110/110 cum Laude
Thesis: "Bot Detection Leveraging Image Techniques"

"La Sapienza", University of Rome September 2017 - December 2020
Bachelor's degree in Computer Science, 101 / 110
Thesis: "Analysis of security issues of MQTT protocol"

Liceo classico "Pilo Albertelli" September 2011 - July 2016
Classical studies

TECHNICAL SKILLS

Programming Languages: *Python, PHP, SQL, C, C++, C#, XML, JSON, Java, Javascript, Lua, TypeScript*
Frameworks and libraries: *Laravel, Django, ns3, Angular, Codeigniter, Spark, PyTorch, Pandas, socket.io, React, PyTorch Lightning*
Softwares and others: *AWS, Git, Docker, VirtualBox, Office, Apache, IIS, nginx, Cloudflare, Telegram APIs, Twitch APIs, LaTeX, MongoDB, Node.js, MySQL, PostgreSQL, GraphQL, Bluesky API*

PUBLICATIONS

Edoardo Di Paolo, Fabio De Gaspari, Angelo Spognardi. "BotHash: Efficient and Training-Free Bot Detection Through Approximate Nearest Neighbor". *Arxiv.*

Edoardo Di Paolo, Marinella Petrocchi, Angelo Spognardi. "Detection of LLM-powered bots using image classification". *FirstMonday, May 2025.*

Enrico Bassetti, Edoardo Di Paolo, Francesco Drago, Mauro Conti, Angelo Spognardi. "Opening Pandora's Packet: Expose IPv6 Implementations Vulnerabilities Using Differential Fuzzing", *International Conference on Applied Cryptography and Network Security - 2025, 23-26 June, Munich.*

Edoardo Allegrini, Edoardo Di Paolo, Marinella Petrocchi, Angelo Spognardi. "Deciphering Social Behaviour: a Novel Biological Approach For Social Users Classification", *ACM/SIGAPP Symposium On Applied Computing - 2025, 31 March - 4 April, Catania.*

Edoardo Allegrini, Edoardo Di Paolo, Marinella Petrocchi, Angelo Spognardi. "Deciphering Social Identity: a Novel Genetic Approach For Social Users Classification", *International Conference on Discovery Science - 2024, 14-16 October, Pisa.*

Edoardo Di Paolo, Enrico Bassetti, Angelo Spognardi. "A New Model for Testing IPv6 Fragment Handling", *ESORICS 2023, 25-29 September, The Hague.*

Edoardo Di Paolo, Angelo Spognardi, Marinella Petrocchi. "From Online Behaviours to

Images: A Novel Approach to Social Bot Detection", *International Conference on Computational Science (ICCS) - 2023, 3-5 July, Prague.*

Edoardo Di Paolo, Enrico Bassetti, Angelo Spognardi. "Security assesment of common open source MQTT brokers and clients", *Italian Conference on CyberSecurity (ITASEC) - 2021, Online.*

Security Advisories

CVE-2024-6640: ICMPv6 packets with identifier value of zero bypass firewall rules written on the assumption that the incoming packets are going to create a state in the state table.
CVE-2023-4809: IPv6 fragments may bypass firewall rules written on the assumption all fragments have been reassembled and, as a result, be forwarded or processed by the host.

Languages

Italian: *native proficiency*
English: *professional working proficiency*