Javier **Parada**

CYBERSECURITY RESEARCHER & SOFTWARE ENGINEER

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About me

Cybersecurity Researcher and PhD Candidate. Focused on Cyber Threat Intelligence and Adversarial Emulation to simulate attacker behaviour, anticipate threats, and strengthen defenses. Former Software Engineer with experience designing scalable, high-availability, event-driven systems.

Experience

Eurecat - Technology Centre

Barcelona, Spain

CYBERSECURITY RESEARCHER — *1 year 8 months, 2024 - Present*

- Cybersecurity research focused on Cyber Threat Intelligence, Threat Hunting, and Adversarial Emulation. Work oriented toward the analysis and detection of advanced threats, simulation of malicious behaviors, and development of tools and methodologies to anticipate and respond to security incidents.

NicsLab - Research Group

Malaga, Spain

CYBERSECURITY RESEARCHER — *2 years 4 months, 2023 - Present*

- Research in cybersecurity with a strong emphasis on Cyber Threat Intelligence and Adversary Emulation applied to Critical Infrastructures. Leveraging digital twins to model and simulate complex systems for threat anticipation, and deploying honeypots to attract, deceive, and analyze adversarial behaviors.

NICT - Japan National Cybersecurity Agency

Tokyo, Japan

CYBERSECURITY RESEARCHER — *4 months, 2026*

- Cybersecurity research focused on Cyber Threat Intelligence, Threat Hunting, and Adversarial Emulation. Work oriented toward the analysis and detection of advanced threats, simulation of malicious behaviors, and development of tools and methodologies to anticipate and respond to security incidents.

T2C - IT Consulting Company

Barcelona, Spain

SOFTWARE ENGINEER — *2 years 7 months, 2020 - 2023*

- Design and development of systems using architectures like Domain-Driven Design (DDD), Microservices, and Hexagonal Architecture, focused on high scalability and handling large data volumes, with emphasis on reliability, observability, and event-driven communication.

DeveryWare - IT Consulting Company

Paris, France

SOFTWARE DEVELOPER — *10 months, 2019 - 2020*

- Development of applications using technologies such as Bash, Linux, Angular, JavaScript, MongoDB, Docker, and Node.js. Implementation of SOLID principles to ensure clean, scalable, and maintainable code.

Internalia Group - Software Product Company

Malaga, Spain

SOFTWARE DEVELOPER — *4 months, 2018*

- Development of web applications using technologies such as PHP, JavaScript, SQL, and Linux systems. Implementation of SOLID principles to ensure clean, scalable, and maintainable code.

Education and Training

University of Malaga

Malaga, Spain

PH.D. IN COMPUTER SCIENCE — *May. 2024*

- Cybersecurity research focused on Cyber Threat Intelligence, Threat Hunting, and Adversarial Emulation. Work oriented toward the analysis and detection of advanced threats, simulation of malicious behaviors, and development of tools and methodologies to anticipate and respond to security incidents in complex environments.
- **Skills**: *Cybersecurity · Artificial Intelligence · Cyber Threat Intelligence · High Availability*

University of Malaga

Malaga, Spain

Master's in Computer Science

Oct. 2021 - Mar. 2024

- Master's Degree in Computer Engineering with a specialization in Cybersecurity. Advanced training in areas such as pentesting, malware analysis, secure programming, vulnerability discovery and exploitation, and methods to ensure system and data privacy and security.
- Master's Thesis: *TanukiPot: Honeypot based on Digital Twins for Critical Infrastructures.*
- **Skills**: *Cybersecurity · Pentesting · Malware Analysis · Industrial Infrastructures*

University of Malaga

Malaga, Spain

Bachelor's in Computer Science

Sep. 2014 - Sep. 2020

- Bachelor's Degree in Computer Engineering with a specialization in Software Engineering. Education focused on core topics such as data structures, algorithm analysis and design, software development, databases, and cybersecurity.
- Final Degree Project: *Emergency Control and Prevention Platform.*
- **Skills**: *Computer Science · Network Design · Cybersecurity · Programming · Project Management*

Certifications

Languages

The Japan Foundation

Malaga, Spain

Japanese Language Proficiency Test N3

Jan. 2025

Technology

University of Malaga

Malaga, Spain

University Extension Course on Blockchain Technologies

Jul. 2025

Awards

Outstanding Master's Thesis Award

Málaga, Spain

RENIC Cybersecurity Awards for the Best National Master's Degree Thesis

- Honored with the RENIC Cybersecurity Award for the Best National Master's Degree Thesis in Spain, granted by the Red de Excelencia Nacional de Investigación en Ciberseguridad (RENIC).

Publications

Digital Twin for Adaptive Adversary Emulation in IIoT Control Networks

ESORICS 2025

European Symposium on Research in Computer Security (ESORICS)

Sep. 2025

- Summary: A framework that uses Digital Twins to emulate adaptive cyber adversaries in IIoT Control Networks. It creates a virtual replica of the industrial system where automated attackers, driven by Reinforcement Learning, interact with the environment and adapt their strategies to exploit critical nodes, generating realistic and dynamic attack scenarios without impacting real infrastructure. It enables the evaluation of defensive mechanisms and supports proactive cybersecurity testing in critical industrial networks.
- URI: doi.org/10.1007/978-3-032-07894-0_22

Adaptive Adversary Emulation Applied to Critical Infrastructures and IIoT Networks

JNIC 2026

Jornadas Nacionales de Investigacion en Ciberseguridad (JNIC)

May. 2026

- Summary: A solution based on Adversary Emulation (AE) that dynamically adapts attack tactics to the targeted infrastructure, balancing faithful imitation of the emulated adversary with adaptability to the target environment. Guided by Machine Learning and industrial simulation, it enables an AI agent to train efficiently by learning from the environment and its weaknesses, supporting threat hunting and proactive defense evaluation in critical infrastructures and IIoT settings.
- URI: Conference proceedings