

Xavier Maso

security, software, and cryptography engineer

he/him/his

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Skills

Security



Software development



System administration

Linux: NixOS, Ubuntu, Debian, Fedora.

Configuration as Code, automation: NixOps, Docker, Ansible, GitHub Actions

Soft skills

Team management: Implement the environment which allows to develop the products and achieve goals.

Agile: Xtreme Programming proponent, used to Agile methodology, especially Scrum, and Lean approaches.

Speaker: Animation and presentation about a product, a project or to share experiences.

Interpersonnal: Listening and understanding individuals to facilitate interactions within a group.

Professional Experiences

Laboratoire d'Innovation de l'ANSSI

Contractor, CISO

July 2025 – Today

Remote

The Laboratoire d'Innovation is a state startup incubator of the ANSSI (Agence Nationale de la Sécurité des Systèmes d'Information), member of the BetaGouv ecosystem. It leverages product design and entrepreneurship methodologies to help improve the efficiency of the agency's actions.

- Develop modern web services (such as MonServiceSécurisé, MesServicesCyber, MonAideCyber) to help public entities, local authorities, associations, citizens, etc. be safer in the digital space.
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Omnicité	<i>Member</i>	<i>August 2025 – Today</i>
		<i>Remote</i>

Omnicité is a French cooperative of entrepreneurs, caring for a sustainable economy, and encouraging autonomy and mutual help.

PALO IT	<i>Tech Consultant, Software Engineer</i>	<i>March 2025 – July 2025</i>
		<i>Remote</i>

PALO IT France was the local branch of a global, B Corp certified, technology consultancy that develops and scales digital and sustainable products and services.

- Work on the technical aspect of several commercial proposals: understand needs, audit existing systems, survey technological solutions, draft change plans.
- Research and development for internal services: self-hosted VPN, consultants' resumes as code ease of maintenance for sales.

Oracle NetSuite	<i>Senior Application Security Engineer</i>	<i>November 2021 – March 2025</i>
		<i>Remote</i>

The Product Security Team assists product and engineering teams during the software development lifecycle of NetSuite.

- Collaborate on security design, implement security controls, and conduct code reviews.
- Build and manage tools (libraries, programs, processes, etc.) to help prevent and identify issues.
- Produce and deliver educational security material for engineers and product teams.

Tweag	<i>Open Source Fellow</i>	<i>May 2021 – September 2021</i>
		<i>Remote</i>

Tweag is a French software innovation lab running a fellowship program for those eager to contribute to open source projects.

- Work on fuzzing nix, the declarative package manager.
- Target definition and prioritization; Write fuzzers; Explore using sanitizers; Run small experimental fuzzing sessions.
- Integrate to OSS-fuzz.

Arizona State University (ASU)	<i>Research Apprentice on Binary Analysis</i>	<i>April 2019 – September 2021</i>
		<i>Phoenix, United States of America</i>

ASU's Security Engineering for Future Computing (SEFCOM) laboratory is a world-class cybersecurity research lab carrying out cutting-edge academic research.

- Design, implement, and evaluate a new, fast static binary analysis technique.
- Study state-of-the art: symbolic and concolic execution, fuzzing, automated exploit generation.
- Contribute to angr, the open-source binary analysis framework.
- Guest lecturer for CSE545 Software Security (Fall 2020): presentation, and live examples on using angr to implement a static binary analysis technique.
- Research on privacy.

Mozilla Corporation	<i>Web Security Intern, scanning modern web applications with OWASP ZAP</i>	<i>May 2018 – August 2018</i>
		<i>London, United Kingdom</i>

The Firefox Operations Security team protects the core services and release engineering infrastructures Mozilla relies on to build, ship and run Firefox. OWASP ZAP is a free and open-sourced security tools to help automatically find security vulnerabilities in web applications.

- Research and development in Javascript and the DOM API: keep track of events and interactions happening in a webpage. Released the `@zaproxy/front-end-tracker` library on npm.
- Development of a ZAP add-on to create a framework for pentesters to run security scripts directly in the browser.
- Research on modern web applications (Single Page Applications) vulnerabilities.
- Part of a distributed team and contributing to an open-source community.

Orange Application for Business

System Administrator, securing workstations

June 2017 – August 2017

Bordeaux, France

OAB is a subsidiary of Orange S.A developing and hosting services for businesses. Integrated to an operations team of four, my mission was to secure their Linux workstations.

- System administration: Arch, Ubuntu, Debian.
- Define and apply good security practices for laptops and mobile devices.
- Development: ansible roles, audit-ssh-client-config script.
- Research: securing the boot process (anti-evil maid), NixOS, Public Key Infrastructures.
- Training and communication about the security practices: write documentation, create tutorials, run workshops.

RedShield Security Ltd

Software Engineer

January 2015 – April 2016

Wellington, New Zealand

Shielding-with-a-service company providing a web application firewall, vulnerability scanner and analyzer to assist IT departments ensure the security of their systems.

- Development in Ruby and Javascript; Debugging, and automate testing.. Configuration of production and CI servers (Jenkins).
- Security: offensive, secure development, incident response.

CER SNCF

Full-stack Developer

June 2012 – October 2014

Bordeaux, France

Distributed all over the Aquitaine and Poitou Charentes French regions, the CER (for Committee of Regionnal Establishment) provides services to SNCF's workers.

- Web development, information system administration and maintenance, automation.
- IT service management: needs analysis; goals, processes, and tasks definition; listing of skills and resources to prioritize our work.
- Help in recruitment for IT service: define required skills, and mission scopes; Interview candidates. Project, subject of my master thesis
- Build a website dedicated to SNCF's employees: tasks and planning definition, resources and skills affectation to provide this new service within six months with a three person team.
- Communication and product launching: define and reach targets, follow the adoption and usage of the product.
- Integration within the existing information system: shared databases services, web server deployment.
- Server on Ubuntu 14.04, database is PostgreSQL, Nginx and Unicorn as web stack.
- Application built with Ruby-On-Rails, Slim, SASS and CoffeeScript. RSpec and Capybara for testing and QA.

Publications

- [1] W. Gibbs *et al.*, “Operation Mango: Scalable Discovery of Taint-Style Vulnerabilities in Binary Firmware Services,” in *33rd USENIX Security Symposium (USENIX Security 24)*, Philadelphia, PA: USENIX Association, Aug. 2024, pp. 7123–7139. [Online]. Available: <https://www.usenix.org/conference/usenixsecurity24/presentation/gibbs>
- [2] S. Karami *et al.*, “Unleash the Simulacrum: Shifting Browser Realities for Robust Extension-Fingerprinting Prevention,” in *31st USENIX Security Symposium (USENIX Security 22)*, Boston, MA: USENIX Association, Aug. 2022, pp. 735–752. [Online]. Available: <https://www.usenix.org/conference/usenixsecurity22/presentation/karami>

Education

University of Bordeaux 2016 – 2019
Bordeaux, France
Master of Mathematics and Applications: Cryptology and IT Security.

Ingésup 2009 – 2014
Bordeaux, France
Master of computer information technologies, specialty in Development

- Member of the security lab: research and learning about exploitation and penetration testing.
- Member of the games lab: participation in video game development contests.

Lycée La Boétie 2005 – 2009
Bordeaux, France
French Baccalauréat in Sciences, specialty in Mathematics; Obtained with honors.

Volunteer

Okiwi 2023 – Today
Bordeaux, France
Secretary

Okiwi is an open community of software craftsmanship practitioners, from Bordeaux. It advocates for benevolence, inclusion, sharing, openness, and diversity.

Proxité June 2024 – Today
Bordeaux, France
Mentor

Proxité pairs volunteers with young people from socioeconomically disadvantaged neighbourhoods, to help them stick with school, support sustainable professional insertion, and strengthen local social circles.

Nix/NixOS community 2018 – Today
Remote
Contributor

Contribute to Nixpkgs, Nix, NixOS, other related projects, and the community forums.

DjangoGirls Bordeaux 2016 – 2019
Bordeaux, France
Volunteer

Non-profit community that empowers and helps women get involved with programming. Organization and coaching for DjangoGirls events, and recurring meetups. Teaching programming basics using Python.

Hobbies

Challenges

Reading

Sports

root-me, hackthebox,
exercism

sciences, economy, politics,
psychology, sociology

muay thai, chess, hiking,
diving (PADI AOW), former
judoka, football, and handball
player