

Xavier Maso

security, software, and cryptography engineer

he/him/his

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Skills

Security

| | | | | |
|-------------------------|-----------|---------------------|--------------|------------|
| Code and Design Reviews | Scripting | Reverse Engineering | Exploitation | Pentesting |
| ★★★★★ | ★★★★★ | ★★★★★ | ★★★★★ | ★★★★★ |

Software development

| | | | | |
|-------------------------|-------|----------|-----------------|-------|
| Python / Ruby | Bash | C / Rust | ASM x86 | Java |
| ★★★★★ | ★★★★★ | ★★★★★ | ★★★★★ | ★★★★★ |
| JavaScript / TypeScript | Nix | Elm-Lang | Haskell / OCaml | Typst |
| ★★★★★ | ★★★★★ | ★★★★★ | ★★★★★ | ★★★★★ |

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

PALO IT

Tech Consultant, Software Engineer

March 2025 – Today

Remote

PALO IT is a global, B Corp certified, technology consultancy that develops and scales digital and sustainable products and services.

Oracle NetSuite

Senior Application Security Engineer

November 2021 – March 2025

Remote

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

Open Source Fellow

May 2021 – September 2021

Remote

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)

Research Apprentice on Binary Analysis

April 2019 – September 2021

Phoenix, United States of America

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

Web Security Intern, scanning modern web applications with OWASP ZAP

May 2018 – August 2018

London, United Kingdom

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 @zapproxy/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 Regional Establishment) provides services to SNCF's workers. Missions

- 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

Master of Mathematics and Applications: Cryptology and IT Security.

2016 – 2019

Bordeaux, France

Ingésup

Master of computer information technologies, specialty in Development

2009 – 2014

Bordeaux, France

- 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

French Baccalauréat in Sciences, specialty in Mathematics; Obtained with honors.

2005 – 2009

Bordeaux, France

Volunteer

Okiwi

Secretary

2023 – Today
Bordeaux, France

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

Nix/NixOS community

Contributor

2018 – Today
Remote

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

DjangoGirls Bordeaux

Volunteer

2016 – 2019
Bordeaux, France

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

root-me, hackthebox,
exercism

Reading

sciences, economy, politics,
psychology, sociology

Sports

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