



Paul L. R. OLIVIER

POSTDOCTORAL RESEARCHER IN SYSTEM SECURITY

Toulouse, France

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🌐 www.linkedin.com/in/plrolivier | 📅 Born: 1995 | 🇫🇷 Nationality: French

Experienced system security researcher specialized in embedded systems and dynamic program analysis. Seeking challenging opportunities to advance cutting-edge security solutions in industry-leading tech companies.

Experience

Postdoctoral Researcher

Toulouse, France

LAAS - CNRS, LABORATOIRE D'ANALYSE ET D'ARCHITECTURE DES SYSTÈMES

18 months, 2023 - Sept. 2024

- I was part of the *Tolérance aux fautes et Sûreté de Fonctionnement* (TSF) team, working on security of wireless protocols.
- Implemented an Intrusion Detection System (IDS) for the open source BLE stack of Zephyr RTOS.
- Secured funding for essential materials, including RF shielded enclosures, development boards, and IoT devices.
- Building a platform for repeatable security analysis in heterogeneous IoT environments.

Teaching Assistant

Toulouse, France

INSA, INSTITUT NATIONAL DES SCIENCES APPLIQUÉES

2023 - 2024

- Course topics are *C programming languages, x86 assembly language, computer architecture* and *OSI layer attacks*.

Visit to the Siemens Embedded Systems Safety Research Group

Munich, Germany

SIEMENS AG - TECHNOLOGY

2 months, 2022

- Analyzed the architecture of a proprietary binary firmware of a charging station for electric cars.

PhD Student

Sophia-Antipolis, France

EURECOM - SORBONNE UNIVERSITÉ

2019 - 2023

- I was part of the Software and System Security (S3) group under the supervision of Aurélien Francillon.
- Focused on security testing for Linux-based embedded systems via dynamic analysis and hardware-in-the-loop techniques.
- Maintain the *avatar²* research project, an open-source analysis and reversing framework for embedded firmware.
- Supervising master's students in their semester projects and internships, providing guidance, mentorship, and assessment.

Research Intern in the Department of Cyber Security and Robustness

The Hague, Netherlands

TNO, NETHERLANDS ORGANIZATION FOR APPLIED SCIENTIFIC RESEARCH

6 months, 2018

- Examined automatic vulnerability detection techniques (Fuzzing & Symbolic execution).
- Implemented dynamic taint analysis to enhance fuzzing on ARM architecture using PANDA emulation.

Intern in Big Data & Security Entity

Toulouse, France

BULL - ATOS

3 months, 2017

Education

Doctorate in Computer Science, awarded by Sorbonne Université

Sophia Antipolis, France

EURECOM

2019 - 2023

- Thesis title: *Improving Hardware-in-the-Loop Dynamic Security testing For Linux-based Embedded Systems*

Post-Master's Degree in Security in Computer Systems and Communications

Sophia Antipolis, France

EURECOM

2017 - 2018

Exchange Semester

Montréal, Canada

POLYTECHNIQUE MONTRÉAL

6 months, 2016

Engineering Degree in Telecommunications and Networking

Toulouse, France

ENSEEIH

2015 - 2018

Preparatory classes in Physics and Engineering sciences (PSI*)

Toulouse, France

HIGH SCHOOL DÉODAT DE SEVERAC

2013 - 2015

Baccalauréat scientifique (S) specializing in mathematics

Toulouse, France

HIGH SCHOOL PIERRE DE FERMAT

2013

Skills & Interests

Languages French (Native), English (Proficient)

Programming Python, C, Rust

Tools & Frameworks avatar², Linux, QEMU, Zephyr RTOS, Buildroot, GDB

Program Analysis Debugging, Hardware-in-the-loop Emulation, Fuzzing, Symbolic / Concolic Execution

Hardware Reverse Engineering of Embedded Devices, Firmware Extraction, Soldering

Outdoor Activities Hiking, Sailing