

Paul Flammarion

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ENGINEERING SCHOOL EDUCATION

ranked 2nd/300 ISEP 2024

2022 - 2025	Engineering Master's Degree in Digital Security and Networks (ISEP, France) (17.69/20)
Feb. 2022 - Jun. 2022	Exchange - Bachelor of Natural Sciences in Computer Science (TSI, Latvia) (17.17/20)
2020 - 2022	International Higher School Preparatory Classes (ISEP, France) (14.07/20)

RESEARCH EXPERIENCE

Visiting Student Researcher - Advised by Professor Zakir Durumeric Oct. 2024 - present

Stanford University

Empirical Security Research Group (ESRG)

Working on "HOP" a new transport and remote access protocol that addresses SSH's current limitations.

Developing several modules with state-of-the-art security and practices. Extensive literature review and writing.

Student Researcher - Advised by Professor Lionel Trojman Feb. 2024 - Jul. 2024

Paris Institute of Digital Technology (ISEP)

Computer Science, Signal and Image, Electronics and Telecommunications Laboratory (LISITE)

Building and evaluating new Physical Unclonable Functions architecture to improve FPGA cryptography security.

Implementing novel configurable paths using XOR in a row orientation for improving key' stability over FPGAs.

Research Intern - Advised by Professor Rolf Drechsler Sept. 2023 - Jan. 2024

German Research Center for Artificial Intelligence (DFKI)

Cyber-Physical Systems Department

Developing "Auto-OPS" an Optical Probing simulation framework to enhance chip security against Side-Channel.

Leading follow-on research and experiments to demonstrate a countermeasure against Optical Probing attacks.

PUBLICATIONS

Auto-OPS: A Framework For Automated Optical Probing Simulation on GDS-II - [🔗](#) 2025

Authors: P. Flammarion, S. Parvin, F. Sill Torres, and R. Drechsler.

Published: 7th International Workshop on Secure Hardware, Architectures, and Software, Barcelona, Spain in collaboration with *IEEE Embedded Systems Letters Journal*.

Generative AI: Between promises and vulnerabilities - [🔗](#) 2024

Authors: S. Sifaoui, P. Flammarion, T. Wemaere, Q. Torroba, and C. Rolland.

Published: *Cultur'IA*, Minister of the Interior and Overseas France.

POSTER

Design of Novel Physical Unclonable Function for Hardware Security Applications - [🔗](#) 2024

Authors: P. Flammarion, K. Vicuña Barriga, and L. Trojman.

Presented: 3rd Edition of Scientific Day, ISEP IEEE, Paris.

HONORS AND AWARDS

Best Student Poster Award - ISEP IEEE 2024

Issued by ISEP IEEE Student Branch at the 3rd edition of Scientific Day

Title: "Design of Novel Physical Unclonable Function for Hardware Security Application."

Authors: P. Flammarion, K. Vicuña Barriga, L. Trojman.

Winner - GenAi Hackathon 2024

Issued by French Gendarmerie Nationale, Europol, Magic Lemp, Linagora

Subject: Bypass/break the safeguards of 3 open-source LLMs (LLama3-8B, Falcon2-11B, Mistral-7B).

Team: P. Flammarion, S. Sifaoui, T. Wemaere, Q. Torroba, C. Rolland.

Winner - FrHack Hackathon

2024

Issued by Agence Nationale des Fréquences (ANFR)

Subject: Secure the route of the Olympic Flame in terms of radio coverage conducting data analysis.

Team: P. Flammarion, T. Wemaere, B. Prévost, M. Prévost.

Winner - IEEE ISEP France Section Hackathon

2023

Issued by Isep IEEE Student Branch at the 2nd edition of Scientific Day

Subject: Algorithm optimization based on Google Hash Code - Melbourne University challenge.

Team: P. Flammarion, H. Yoo, A. Joseph-Antoine.

Jury prize - Green Code Hackathon

2022

Issued by 3DS Outscale, Sagemcom and Junior ISEP

Subject: Enhance the code's cleanliness and sustainability of an IT architecture with 3 server instances.

Team: P. Flammarion, T. Wemaere, H. Yoo, B. Maupas, L. Mayet, C. Rodallec.

WORK & LEADERSHIP EXPERIENCE

Freelance - 7 distinct clients

2021 - present

Linux server maintenance: Ubuntu, Proxmox.

Full-stack web development for small businesses.

Handling maintenance tickets (PHP, JavaScript, SQL, Git, SSH, UX/UI).

Protection Civile Paris Seine - volunteering

2021 - 2024

District's webmaster & manager

First aid worker, "Head of Infirmary" up to 11 persons, ambulance driver, and social and solidarity rescuer.

Trainer in life-saving procedures. Active participation in the Olympics 2024. Total commitment 1200 hours.

HOBBY & PROJECTS

 PFLAMMARION

Pen-testing on root-me.org/pflammarion

2021 - present

Top 1.2% of 300,000 players

132 challenges completed on various topics: network, web server/client, scripting, and steganography.

Two innovative challenge solutions, one of which became the platform's most-voted solution.

iOS Urgent Notifier (Swift) apps.apple.com

2023 - present

Improve chain of emergency rescue operations systems for safety in Greater Paris Area, France

Combined with a dashboard to quickly mobilize rescuers during life-threatening emergencies.

Independently maintained this infrastructure, regularly deploying updates to ensure its reliability and security.

Securing UAV Against Communication Links Attacks github.com/uav-security

2024

5 pages paper - group project for Network Security class

Unmanned Aerial Vehicles simulation with QGroundControl and ArduPilot and attacks with Pymavlink.

Extensive literature review. Deep analysis of MAVLink frames structure. Paper writing. Oral presentation.

Sensor monitoring dashboard (PHP, C++, Web) github.com/app-cow

2022-2023

Leading group project prototyping an embedded system for health

Sensor-based real-time management web dashboard with data visualization, alerting, and user permissions.

Designed and integrated the TIVA-based hardware. Live data transmission from seven sensors using Bluetooth.

TCP multiplayer desktop card game (Java, JavaFX) github.com/Game-SixQuiPrend

2023

Live multi-hosts desktop game with session management

Implementing client and server side. Designing a graphical interface in JavaFX.

Developing the bot's logic for adding more players to the game. Assessing their difficulty level based on behavior.

SKILLS

Network Security - Hardware Security - Cryptography

Python - GoLang - C++ - Java - Kotlin - Swift - PHP - TypeScript - JavaScript - MATLAB - L^AT_EX - Git