

Paul Flammarion

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EDUCATION

2025 - 2030	Ph.D. Student in Computer Science	(UC Irvine, USA)
2022 - 2025	Engineering Master's Degree in Digital Security and Networks	(ISEP, France)
Oct. 2024 - Sept. 2025	Exchange - Visiting Student in Computer Science	(Stanford, USA)
Feb. 2022 - Jun. 2022	Exchange - Bachelor of Natural Sciences in Computer Science	(TSI, Latvia)
2020 - 2022	International Higher School Preparatory Classes	(ISEP, France)

RESEARCH EXPERIENCE

Ph.D. Student - Advised by Paul Pearce Sept. 2025 - Jun. 2030

University of California, Irvine

Measuring and assessing networking protocol security and privacy practices at Internet-scale deployment.

Summer Labs Intern - Advised by Vern Paxson Jun. 2026 - Sept. 2026

Corelight Inc.

Leveraged "GGFast" to automate characterization of shadow AI usage in live network traffic.

Visiting Student Researcher - Advised by Zakir Durumeric Oct. 2024 - Sept. 2025

Stanford University

Developed "Hop" a new transport and remote access protocol that addresses SSH's shortcomings.

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

Paris Institute of Digital Technology (ISEP)

Proposed a novel Physical Unclonable Function architecture to improve stability in FPGA secure key generation.

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

German Research Center for Artificial Intelligence (DFKI)

Developed "Auto-OPS" an Optical Probing simulation framework for chip security against Side-Channel.

PUBLICATIONS

Hop: A Modern Transport and Remote Access Protocol -  2026

P. Flammarion, G. Hosono, W. Nguyen, L. Bauman, D. Rebelsky, G. Wan, D. Adrian, Z. Durumeric.

USENIX Security Symposium, August 2026.

→ **Distinguished Paper Award Runner-Up**

→ *Invited Talks*: Stanford Security Seminar (2025) and UC Irvine Security Seminar (2026).

Auto-OPS: A Framework For Automated Optical Probing Simulation on GDS-II -  2025

P. Flammarion, S. Parvin, F. Sill Torres, R. Drechsler.

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

→ **Best Paper Award**

Generative AI: Between promises and vulnerabilities -  2024

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

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

POSTER

Design of Novel Physical Unclonable Function for Hardware Security Applications -  2024

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

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

→ **Best Student Poster Award**

HACKATHONS

Winner - GenAi Hackathon	2024
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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
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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
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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
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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

Protection Civile Paris Seine - volunteering	2021 - 2026
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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.

Freelance - 7 distinct clients	2021 - 2024
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Linux server maintenance: Ubuntu, Proxmox.

Full-stack web development for small businesses.

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

HOBBY & PROJECTS

 PFLAMMARION

Pen-testing on root-me.org/pflammarion	2021 - 2024
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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 - 2024
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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
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Short 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
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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.

SKILLS

Network Security - Hardware Security - Cryptography

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