Iliana Fayolle

Researcher in Side-Channel Vulnerabilities and Web Security

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Lille, France

OBJECTIVE

I am a Third-year PhD student in cybersecurity seeking a postdoctoral position in side-channel analysis or related areas of applied cryptography and computer security. My long-term goal is to pursue an academic career in cybersecurity research.

EDUCATION

• **University of Lille / Inria** — *Oct. 2023 – Present*
PhD in Cybersecurity - Side-channel vulnerabilities in Web environments — Lille, France

• **University of Rennes 1 - CyberSchool** — *Sept. 2021 – Sept. 2023*
Master of Cryptography - with honours — Rennes, France

• **University of Lille** — *Sept. 2018 – June 2021*
Bachelor of Mathematics - with honours & Bachelor of Physics - with honours — Lille, France

• **Lycée Saint-Louis** — *Sept. 2017 – June 2018*
Preparatory Class (MPSI) — Paris, France

• **Lycée Yves Kernanec** — *Sept. 2014 – June 2017*
Scientific Baccalaureate - with highest honours — Marcq-en-Baroeul, France

EXPERIENCE

• **Inria Lille - CRIStAL Laboratory** — *Oct. 2023 – Present*
PhD Student in Cybersecurity - Side-Channel Vulnerabilities in Web Environments — Lille, France
  ◦ Conducting research on web-related side-channel vulnerabilities, extending the previous internship work.
  ◦ Investigating the evaluation of side-channel attacks through microarchitectural benchmarking.
  ◦ Current research focuses on fingerprinting of AI web agents using browser, TLS, and behavioral fingerprints.

• **Inria Lille - CRIStAL Laboratory** — *Mar. 2023 – Sept. 2023*
Research Intern in Cybersecurity - Analyzing Information Leakage in JavaScript Libraries — Lille, France
  ◦ Conducted research on web-related side-channel vulnerabilities and contributed to the Microwalk tool.
  ◦ This research later led to a peer-reviewed publication at an international cryptography conference (CANS 2024).

SERVICE AND TEACHING

Teaching at Polytech Lille
Engineering School, University of Lille

Internet of Things and Cybersecurity (IOT): — *Academic Year 2025–2026 (44h total)*

- Structured Programming (Third year) - Practical sessions: 16h; Project: 8h (24h total)
- Data Structures (Third year) - Practical sessions: 8h
- Security of Embedded Systems (Fourth year) - Practical sessions: 4h

Data Engineering and Artificial Intelligence (DE&AI):

- Operating Systems (Third year) - Practical sessions: 8h

Internet of Things and Cybersecurity (IOT): — *Academic Year 2024–2025 (68h total)*

- Structured Programming (Third year) - Practical sessions: 16h; Project: 8h (24h total)
- Database Systems (Third year) - Practical sessions: 6h; Project: 6h (12h total)
- Data Structures (Third year) - Practical sessions: 8h

Data Engineering and Artificial Intelligence (DE&AI):

- Numerical Programming (Third year) - Practical sessions: 16h
- Operating Systems (Third year) - Practical sessions: 8h

PUBLICATIONS

1. Fayolle, I., Wichelmann, J., Köhl, A., Rudametkin, W., Eisenbarth, T., & Maurice, C. (2024). **Semi-automated and Easily Interpretable Side-Channel Analysis for Modern JavaScript**. In *Cryptology and Network Security (CANS 2024)*, LNCS 14906, pp. 25–46. DOI · PDF · Slides

RESEARCH TALKS

- **Semi-automated and Easily Interpretable Side-Channel Analysis for Modern JavaScript** *Sept. 2024*
  CANS 2024, Cambridge, UK [Slides]
  ○ Conference presentation of peer-reviewed research work.

SCIENTIFIC OUTREACH AND POPULARIZATION

- **Les Innovantes: Research Careers & Q&A (French)** *Dec. 2025*
  Outreach talk for high-school students (Grade 10) [Post]
  ○ Career discussion and Q&A session on research paths in computer science (1h).

- **RJMI - Research Workshops & Speed Meetings (French)** *Oct. 2025*
  Outreach workshops for high-school girls (Grades 11-12) [RJMI]
  ○ Hands-on research workshops and mentoring sessions (5h30).

- **Cybersecurity at Inria Lille: Live Lab Visit (French)** *July 2025*
  Public outreach event, Inria Lille [Video]
  ○ Live laboratory visit presenting cybersecurity research activities (20 min).

- **Meet a Researcher: Discovering Computer Science (French)** *May 2025*
  Outreach workshop for middle-school girls (Grade 6)
  ○ Interactive introduction to computer science research (2h).

- **Jury Member - TFJM^2 Mathematics Tournament** *Apr. 2025*
  National high-school mathematics competition [TFJM^2]
  ○ Jury member for the French mathematics research tournament (14h).

- **Chiche: Research, Cybersecurity & Gender Issues (French)** *Jan. 2025*
  Outreach talk, Lycée Raymond Queneau [Chiche]
  ○ Talk on cybersecurity research and gender representation in STEM (30 min).

- **Scientific Outreach Workshop: Cybersecurity (French)** *Dec. 2024*
  Middle-school internship workshop (Grade 9)
  ○ Hands-on cybersecurity outreach session (3h).

- **RJMI - Research Workshops & Speed Meetings (French)** *Oct. 2024*
  Outreach workshops for high-school girls (Grades 11-12) [RJMI]
  ○ Research discovery workshops and mentoring sessions (4h30).

- **Viens, je t'explique: Partir à la chasse aux leaks (French)** *Oct. 2024*
  Research popularization talk, Inria Lille [Slides]
  ○ Research popularization talk on information leakage in libraries (20 min).

- **Round Table: Research Careers in Computer Science (French)** *Oct. 2024*
  RIC Day, University students
  ○ Panel discussion on academic careers in computer science (1h30).

- **One-Day Research Immersion in Computer Science (French)** *July 2024*
  High-school outreach, Inria Lille
  ○ Organized and led a full-day research immersion for students (7h).

- **Summer Reading Recommendations in Cybersecurity (French)** *July 2024*
  Online outreach
  ○ Curated cybersecurity reading list for a general audience.

- **Hosting High-School Interns (Grade 10)** *June 2024*
  Outreach activity, Inria Lille [Slides]
  ○ Hosted and supervised high-school interns; introductory cybersecurity session (2h).

- **Meet a Researcher: Discovering Computer Science (French)** *May 2024*
  Outreach workshop for middle-school girls (Grade 6)
  ○ Interactive session on computer science research (2h).

- **Girls Can Code (French)** *Apr. 2024*
  Outreach workshop for middle- and high-school girls [Girls Can Code]
  ○ Hands-on programming and cybersecurity workshop (4h).

- **Cordée de la Réussite - Poster Forum (French)** *Apr. 2024*
  Outreach event for middle- and high-school girls [🌐 Cordée de la Réussite]
  ◦ Poster-based outreach on research paths in computer science (2h).

- **Discussion Session on Computer Science Research (French)** *Feb. 2024*
  Middle-school outreach (Grade 9)
  ◦ Interactive discussion on research careers in computer science (2h).

- **Scientific Outreach Workshop: Cybersecurity & Cryptography (French)** *Feb. 2024*
  Middle-school internship workshop (Grade 9) [🖼 Slides]
  ◦ Introductory workshop on cybersecurity and cryptography (2h).

- **Introduction to Cybersecurity (French)** *June 2023*
  Outreach talk, Inria Lille [🖼 Slides]
  ◦ Introductory talk on cybersecurity for high-school students (2h).

SERVICE AND VOLUNTEER EXPERIENCE

- **Treasurer** *2024 – Present*
  ADSL - Association of PhD Students in Sciences in Lille [🌐 Website]
  ◦ Financial management and budgeting for a PhD student association.

  ◦ Organization of scientific and social events gathering P.h.D students from different domains and graduate schools.

- **Co-organizer** *2024 – Present*
  MeEtYou - Meeting for Young Researchers, Inria Lille
  ◦ Organization of monthly interdisciplinary research meetings for early-career researchers.

SKILLS

◦ **Programming:** Python (Pandas/Polars, Matplotlib, Scikit-learn), C, Java, JavaScript, Sage, Magma
◦ **Security Tools:** ChipWhisperer, ProVerif, Scyther, Microwalk
◦ **Systems:** Linux, Windows
◦ **Scientific Tools:** LaTeX, Git, Zotero, Obsidian
◦ **Research Areas:** Side-channel vulnerability analysis, TLS, Fingerprinting

ADDITIONAL INFORMATION

Languages: French (native), English (B2), Persian (A2), Russian (A1), German (A1), French Sign Language - LSF (A1)

Interests: Cybersecurity outreach, hiking, running, strength training

REFERENCES

1. **Clémentine Maurice**
   Full-time researcher, Cybersecurity
   CNRS - CRIStAL (Lille) - Spirals team
   Email: clementine.maurice@cnrs.fr
   Relationship: Thesis Supervisor

2. **Walter Rudametkin**
   Associate Professor, Web
   IRISA (Rennes) - DiverSE team
   Email: walter.rudametkin@inria.fr
   Relationship: Thesis Advisor