

Alberto Verna

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PhD researcher working on Web Privacy, Internet Measurements, and Machine Learning for Cybersecurity.

EDUCATION

Politecnico di Torino – PhD in Computer and Control Engineering (Expected) Nov 2027

- Supervisors: Marco Mellia and Luca Vassio
- Research interests: Web Security and Privacy, Web Measurements, Data Anonymization, Applied AI for Cybersecurity
- Coursework: Data Mining Algorithms, Natural Language Processing, Advanced Network Security

Politecnico di Torino – MSc in Computer Engineering (Cybersecurity focus) Nov 2024

- Thesis: *Methodology and Measurements of Privacy Mechanisms for Online Advertising: The Case of Google's Topics API*
- Graduated with honors (110/110 cum laude)

RESEARCH EXPERIENCE

Web Security & Privacy Researcher, SmartData@PoliTO, IT Nov 2024 – Present

- Designed and implemented a Chromium-based measurement framework (Python + Selenium) to analyse real-world adoption of Google Privacy Sandbox APIs
- Analysed 10k+ phishing campaigns spanning 3+ years using DNS, TLS, and web crawling data to characterise large-scale phishing infrastructure
- Developed a large-scale analysis pipeline for the Microsoft 365 application ecosystem, leveraging neural topic modelling and anomaly detection to identify over-privileged permission patterns across 1K+ real-world applications
- Contributed to the AI4CTI project, developing pipelines for cyber threat intelligence data collection
- Mentored 6 MSc/BSc students on web privacy and security research projects, providing guidance on experimental design, data analysis, and scientific writing

PUBLICATIONS

PUBLISHED / ACCEPTED

The Rise and Fall of Google's Privacy Sandbox, *ACM CCS 2026*

Alberto Verna, Rachid Youssef Grib, Nikhil Jha, Martino Trevisan and Marco Mellia

TrainShield: Targeted Awareness for Cybersecurity Training, *ACM Hypertext 2026*

Giovanni Pizzenti, Alberto Verna, Nikhil Jha, Giuseppe Tipaldo, Marco Mellia and Stefano Traverso

Understanding Topics API in the Wild: Dubious Usage and Stale Adoption, *IEEE Transactions on Privacy*, vol. 2

Alberto Verna, Nikhil Jha, Martino Trevisan and Marco Mellia

A First View of Topics API in the Wild, *ACM CoNEXT 2024*

Alberto Verna, Nikhil Jha, Martino Trevisan and Marco Mellia

UNDER REVIEW

Lost in Permissions: Exploring the Microsoft 365 App Ecosystem

Vincenzo Longo, Alberto Verna, Nikhil Jha, and Marco Mellia

Learning to Link: Automatic Re-identification of BLE Devices Under MAC Address Randomisation

Reem Alghamdi, Alberto Verna, and Marco Mellia

TEACHING

Introduction to Databases, Politecnico di Torino, IT Feb 2025 – Present

- Supported 50+ students in hands-on lab sessions with SQL and MongoDB
- Created beginner-friendly demo apps with Python, Streamlit and MySQL to showcase application–database communication
- Assisted with project evaluation and exam grading

SKILLS

Programming: Python, JavaScript/TypeScript, Java, Bash, C

Security & Privacy: Web Vulnerabilities (XSS, CSRF, SSRF, SQLi, etc.), Data Anonymization (k-anonymity, DP)

Data Science & ML: PyTorch, scikit-learn, Pandas, NumPy, Spark

Web & Infrastructure: React, REST, AWS, Docker, Docker Compose

Other Tools: Selenium, Git, LaTeX

Spoken Languages: English (Fluent, C2), Italian (Native)