

Luca Volonterio

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Professional Summary

Cybersecurity graduate student with hands-on experience in penetration testing, vulnerability assessment, incident response, network security, cryptographic implementations, and security research. Combining 1.5+ years of full-stack development experience with specialized training in SIEM, SOC operations, malware analysis, and security architecture. Proven ability to bridge technical depth with practical application through security research and academic excellence.

Seeking a six-month cybersecurity internship beginning February 2026 to contribute to threat hunting, security operations, risk assessment, and advanced security research while expanding expertise in enterprise security solutions and compliance frameworks.

Education

Université Libre de Bruxelles (ULB)

Brussels, Belgium

CYBERUS Master in Cybersecurity [🔗](#)

Sept 2025 – Feb 2026

- **Advanced Cybersecurity Coursework:** Mobile and Wireless Network Security, Embedded System Security, Digital Forensics and Reverse Engineering, Cryptanalysis (INFO-F-537), Machine Learning Security
- **Specialized Focus:** Mobile security, IoT device security, malware reverse engineering, advanced cryptographic attacks, and AI security vulnerabilities
- **Practical Skills:** Digital forensics tools, reverse engineering techniques, wireless protocol analysis, embedded security assessment
- **Research Integration:** Applying theoretical knowledge to complement ongoing cybersecurity research and practical security implementations

Université Bretagne Sud

Bretagne, France

CYBERUS Master in Cybersecurity [🔗](#)

Sept 2024 – Jul 2025

- **Specialized Cybersecurity Coursework:** Cryptology, Penetration Testing, Vulnerability Assessment, Secure Programming, Security by Design, Risk Analysis and Management, Network Security, Operating System Security, Incident Response, Threat Intelligence
- **Academic Excellence:** Full scholarship recipient - ranked in top 5% of international applicants
- **Relevant Skills:** Malware Analysis, Security Architecture, Compliance Frameworks
- **Contact:** [Guy Gogniat](#) [🔗](#) (Associate Professor & Programme Coordinator)

Università degli Studi dell'Insubria

Lombardia, Italy

Bachelor of Science in Computer Science [🔗](#)

Sept 2021 – July 2024

- **Security-Relevant Coursework:** Computer Architecture, Operating Systems, Network Security, Computational Theory, Secure Systems Design
- **Academic Achievement:** 110/110 cum Laude (First Class Honours)
- **Technical Foundation:** Low-level programming, system security, network protocols, mathematical cryptography
- **Contact:** [Mauro Ferrari](#) [🔗](#) (Head of Department of Theoretical & Applied Sciences)

Ostbayerische Technische Hochschule Amberg-Weiden

Bayern, Germany

Exchange Program in [Digital Technology and Management](#) [🔗](#)

Sept 2022 – Sept 2023

- **Security-Focused Coursework:** Secure Network Management, Advanced C++, Machine Learning, Cloud Technologies, SPLUNK SIEM and Scapy
- **Hands-on Security Training:** Practical experience with SPLUNK for log analysis, SIEM operations, and network packet crafting using Scapy framework
- Completed multiple **practical security assessments** and collaborative cybersecurity case studies

Experience

Cybersecurity Research Intern

Babes-Bolyai University [🔗](#)

Remote
April 2025 – July 2025

- **Developed novel Intrusion Detection System (IDS)** for network infrastructure using Graph Attention Networks (GATs)
- **Analyzed network traffic patterns** as graph structures to identify security anomalies and improve threat detection accuracy
- Applied **machine learning to cybersecurity** through real-time data engineering and advanced threat modeling
- Gained expertise in **network security monitoring** and AI-driven security analytics

Software Development Intern

ALTEN [🔗](#)

Milano, Italy
Feb 2024 – June 2024

- **Developed AI-powered automation solution** for IT infrastructure management as bachelor thesis project
- **Applied security principles** in enterprise software development within ITIL framework
- **Collaborated with cross-functional teams** to deliver secure, scalable solutions on schedule
- Gained experience in **enterprise security practices** and IT service management

Technical Instructor

Kodland [🔗](#)

Remote
May 2023 – May 2024

- **Taught secure coding practices** in Python and Web Development courses
- **Mentored students** in cybersecurity fundamentals and secure programming principles
- Developed **communication and leadership skills** essential for security awareness training

Full Stack Developer

WebRatio [🔗](#)

Milano, Italy
June 2021 – Sep 2022

- **Developed secure web applications** serving 100-1000+ users using Java, SQL, and cloud technologies
- **Implemented security best practices** in database design and application architecture
- **Participated in secure SDLC** including requirements analysis and solution engineering with security considerations
- **Contact:** [Massimo La Rosa](#) [🔗](#) (Director of Services)

Technical Skills

- **Security Programming (Advanced):** C, C++, Python, Java - with focus on secure coding practices, memory management, and vulnerability prevention
- **Cybersecurity Specializations:** Network security analysis, penetration testing methodologies, cryptographic algorithm implementation, threat modeling, and security risk assessment
- **Research & Development:** Graph neural networks for security applications, AI-driven threat detection, security automation, and real-time security analytics
- **Enterprise Security:** ITIL framework, secure SDLC, cloud security principles, and scalable security solution architecture

Key Projects

Graph Neural Networks for Network Security

[Research Defense](#) [🔗](#)

- **Research Presentation:** Successfully defended novel IDS implementation using Graph Attention Networks for router security
- **Technical Contribution:** Demonstrated improved anomaly detection accuracy through graph-based network traffic analysis
- **Key Technologies:** Graph Neural Networks, Network Traffic Analysis, Machine Learning for Cybersecurity, Real-time Threat Detection

AI-Driven Security Automation for IT Infrastructure

[Bachelor Thesis](#) 

- **Bachelor Thesis:** Developed intelligent bot for automated security incident response and service ticket analysis
- **Security Focus:** Implemented secure automation workflows using Robotic Process Automation principles
- **Technologies:** Python, Selenium WebDriver, AI/ML frameworks

Novel Cryptographic System Using Cellular Automata

[Crypto Project](#) 

- **Independent Research:** Designed lightweight image encryption using Conway's Game of Life for resource-constrained environments
- **Cryptographic Analysis:** Conducted statistical testing and iterative security improvements
- **Practical Application:** Ideal for IoT and embedded security scenarios
- **Technologies:** Python, Matlab, statistical analysis tools

Low-Level Security and Concurrency Management

[OS Security](#) 

- **Systems Security:** Implemented secure resource sharing and concurrency control mechanisms in C
- **Memory Safety:** Applied secure coding practices for memory management and race condition prevention
- **Core Concepts:** Mutex libraries, synchronization primitives, and secure multi-threading patterns

Secure C++ Development Framework

[C++ Security](#) 

- **Memory-Safe Programming:** Advanced C++ implementations focusing on security and strict memory control
- **Security Concepts:** RAII patterns, move semantics, and secure object lifetime management
- **Vulnerability Prevention:** Applied STL best practices and dynamic polymorphism for secure software design

Additional Skills

- **Languages:** Fluent in English, Italian, Spanish; conversational German and French - enabling effective communication in international cybersecurity teams
- **Security Research:** Experience with CTF challenges, vulnerability research, and security tool development
- **Collaboration:** Proven track record working in international, cross-functional teams with strong organizational and project management skills

Interests

Beyond cybersecurity, I'm passionate about music (classical piano and production), travel, and swimming. I actively participate in Capture The Flag (CTF) competitions to sharpen my practical security skills and stay current with emerging threats and defensive techniques.