# Andrea **Mengascini**

SOFTWARE ENGINEER · SECURITY RESEARCHER

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## Experience

**CISPA Helmholtz Center for Information Security**                                                                    *Saarbrücken, Germany*

PHD CANDIDATE                                                                                                                             *Nov. 2021 - Present*

I conduct research on web security, social metaverses, and phishing, with a focus on automated analysis, immersive environments, and web crawling techniques.

- **EURO S&P 2025** — *Exploring the Design Space for Security Warnings in Immersive Environments* - Designed and evaluated immersive in-scene warning systems to mitigate threats from malicious 3D objects.
- **CCS 2024** — *The Big Brother's New Playground: Unmasking the Illusion of Privacy in Web Metaverses from a Malicious User's Perspective* - Developed an automated framework for exploring client memory in WebXR applications, enabling the detection of sensitive information leaks in immersive environments.
- **EURO S&P 2024** — *Uncovering the Role of Support Infrastructure in Clickbait PDF Campaigns* - Contributed to the development of a detection pipeline identifying infrastructure components behind large-scale clickbait PDF phishing operations.
- **ACSAC 2023** — *From Attachments to SEO: Click Here to Learn More about Clickbait PDFs!* - Contributed by creating a web crawler for visiting phishing redirection links while bypassing cloaking techniques, improving detection rates in the wild.

**CISPA Helmholtz Center for Information Security**                                                                    *Saarbrücken, Germany*

RESEARCH INTERN                                                                                                                          *Jun. 2021 - Aug. 2021*

- Built a dynamic crawling and inspection pipeline for phishing redirection links, successfully bypassing most anti-bot cloaking techniques. The work led to a peer-reviewed publication.

## Education

**Alma Mater Studiorum – University of Bologna**                                                                          *Bologna, Italy*

MASTER'S DEGREE IN COMPUTER ENGINEERING                                                                                     *Oct. 2019 – Oct. 2021*

- Specialization in cybersecurity, distributed systems, and web technologies.

**Macquarie University**                                                                                                                 *Sydney, Australia*

OVERSEAS PROGRAM IN CYBERSECURITY                                                                                            *Jan. 2021 – Dec. 2021*

- Cyber threat intelligence and digital forensics.

**CISPA - Universität des Saarlandes**                                                                                          *Saarbrücken, Germany*

ERASMUS EXCHANGE IN CYBERSECURITY                                                                                           *Jan. 2020 – Dec. 2021*

- Studied privacy, secure systems design, and applied cryptography at one of World's leading cybersecurity research institutes.

**Alma Mater Studiorum – University of Bologna**                                                                          *Bologna, Italy*

BACHELOR'S DEGREE IN COMPUTER ENGINEERING                                                                                  *Sep. 2015 – Dec. 2018*

- Focused on software engineering, computer architecture, and information security fundamentals. Joined the cybersecurity national team and arrived 2nd place in the country.

## Skills

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| **Programming** | Python, JavaScript, Java, C, Kotlin |
| **Web Development** | Django, Node.js, HTML5, Web Crawling (Puppeteer, Selenium) |
| **AI / Machine Learning** | Experience deploying and integrating models (Llama.cpp, Whisper, LangChain) in mobile/web platforms |
| **UI/UX Research** | Conducted multiple user studies involving interviews, task-based evaluations, VR-based tasks, and questionnaires — in-person, remotely via Zoom, remotely in VR, and via Prolific |
| **Languages** | English, Italian, German (basic) |