

Marcos Paulo Santos da Silva

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RESEARCH INTERESTS

My research lies at the intersection of human-computer interaction, security, privacy, and digital ethics. I am particularly interested in how deceptive interface designs, such as dark patterns, manipulate user behavior in high-risk environments like online gambling. At the Max Planck Institute for Security and Privacy, I study how regulation and UX/UI choices influence user autonomy and consent in online casinos. Previously, I contributed to a systematic review on cybergrooming, deepening my interest in digital crimes and the psychological impacts of online harm. More recently, I collaborated on a cross-country study, conducting interviews with security experts in Brazil to explore localized perspectives on digital privacy and security advice.

EDUCATION

- **Federal Center for Technological Education of Minas Gerais** Expected December 2026
Bachelor of Science in Computer Engineering
Belo Horizonte, Brazil
 - Grade: 85.5/100.0
- **Northern Virginia Community College** August 2023 – May 2024
Career Studies Certificate in Cybersecurity (Exchange Program)
Virginia, United States of America
 - GPA: 4.0/4.0
 - Selected as 1 of 13 Brazilian students for a U.S. Department of State-sponsored exchange program

EXPERIENCE

- **Max Planck Institute for Security and Privacy** [[link](#)] March 2025 - August 2025
Research Intern
Bochum, Germany
 - Conducted research on dark patterns in online gambling platforms to understand UX/UI-driven manipulation strategies.
 - Analyzed deceptive interface design across regulated and unregulated websites, identifying common patterns influencing user behavior.
 - Collaborated in interdisciplinary projects on human-centered cybersecurity with a team led by [Dr. Yixin Zou](#).
- **Trustworthy Cyberspace Lab (tClab), Virginia Tech** [[link](#)] October 2023 – November 2024
Research Intern
Remote – Fairfax, VA, USA
 - Second author of a [systematic literature review](#) on strategies for combating cybergrooming, covering over 79 academic papers.
 - Curated and structured datasets and source code repositories to support ongoing cybersecurity research.
 - Worked under the supervision of [Dr. Jin-Hee Cho](#).
- **C4I and Cyber Center, George Mason University** [[link](#)] November 2023 – February 2024
Professor's Assistant, Intern
Fairfax, VA, USA
 - Conducted exploratory research on the application of Zero Trust Architecture in communication among drone swarms.
 - Analyzed and presented findings on drone flight simulation tools for potential integration into security research projects.
- **LEVITY** [[link](#)] May 2023 – June 2023
Software Engineer Intern
Belo Horizonte, MG, Brazil
 - Developed internal BPM, ECM, and CRM applications using the SYDLE ONE platform to optimize enterprise workflows.
 - Applied Agile methodologies (Scrum) to accelerate development and improve team collaboration.
- **PIIM-LAB – CEFET-MG** [[link](#)] March 2022 – April 2023
Web Developer Intern
Belo Horizonte, MG, Brazil
 - Built a full-stack platform for automated essay correction, improving grading efficiency for federal network teachers.
 - Designed dynamic grade spreadsheets and registration systems, streamlining data access and user experience.
 - Technologies: Python, Django, JavaScript, HTML, CSS.

PATENTS AND PUBLICATIONS

C=CONFERENCE, J=JOURNAL, P=PATENT, S=IN SUBMISSION, T=THESIS

- [C.2] Collins Munyendo, Veronica Rivera, Jackie Hu, Emmanuel Tweneboah, Amna Shahnawaz, Karen Sowon, Dilara Keküllüoğlu, **Marcos Silva**, Yue Deng, Mercy Omeiza, Gayatri Priyadarsini Kancherla, Maria Rosario Niniz Silva, Abhishek Bichhawat, Maryam Mustafa, Francisco Marmolejo-Cossio, Elissa Redmiles, Yixin Zou. (2026). **"We Have Hackers Everywhere": Security and Privacy Concerns and Advice in Nine Majority World Countries**. Manuscript under review at *IEEE Symposium on Security and Privacy (S&P)*, 2026.
- [C.1] Heajun An, **Marcos Silva**, Qi Zhang, Arav Singh, Minqian Liu, Xinyi Zhang, Sarvech Qadir, Sang Won Lee, Lifu Huang, Pamela Wisniewski, Jin-Hee Cho. (2025). **Toward Integrated Solutions: A Systematic Interdisciplinary Review of Cybergrooming Research**. Under review at *Proceedings of the ACM Asia Conference on Computer and Communications Security (ASIACCS)*, 2025.

SKILLS

- **Programming Languages:** Python, C++, C
- **Web & Security Technologies:** Kali Linux, HTML, CSS, Git, Django, Burp Suite, Nmap, SQLMap, OWASP ZAP, Wireshark, Metasploit
- **Languages:** Portuguese (Native), English (Advanced), Spanish (Basic)

HONORS AND AWARDS

- **3rd Place – CTF Competition at UFMG** November 2024
Federal University of Minas Gerais (UFMG)
 - Achieved 3rd place in a Capture the Flag cybersecurity competition organized by UFMG's Computer Science Department.
- **2nd Place – UBC 2.0 Ideathon** September 2024
U.S. Department of State, U.S. Brazil Connect
 - Awarded in a national competition for presenting a tech-based solution to protect the Amazon Rainforest.
 - Selected among Brazilian alumni of U.S. Department of State programs.
- **Academic Exchange Scholarship – CCI Program** 2023 – 2024
U.S. Department of State
 - One of 13 students selected nationwide in Brazil for a full academic exchange scholarship to the United States.
- **Presidential Scholars Award** 2024
Northern Virginia Community College (NOVA)
 - Awarded for maintaining a GPA of 3.75+, with 9+ credit hours per semester and 20+ cumulative credits.
- **Dean's List Award** 2023
Northern Virginia Community College (NOVA)
 - Recognized for academic excellence with GPA 3.50+, no grades below C, and enrollment in 6+ credit hours.
- **Honorable Mention – ICPC Regionals** 2022
International Collegiate Programming Contest (South America/Brazil)
 - Earned honorable mention in the Brazilian's regional phase of ICPC.
- **Honorable Mention – Minas Gerais Programming Marathon** 2022
Brazilian Computer Society (SBC)
 - Recognized for performance in a regional programming competition representing CEFET-MG.

LEADERSHIP EXPERIENCE

- **Founder and President – CyberForce NOVA** 2023 – 2024
Northern Virginia Community College (NOVA)
 - Founded and led CyberForce NOVA, the official cybersecurity student club at NOVA.
 - Organized workshops and seminars to promote cybersecurity awareness and skills on campus.
 - Grew the club's outreach using Instagram to share insights and engage the student community.
- **Events Team Scrum** 2022 – 2023
COMPET (PET CEFET-MG)
 - Led event planning and coordination for the PET Computer Engineering group, managing logistics and team tasks.
 - Produced and hosted "Fala COMPET!", a podcast, and "COMPET Talks," a recurring webinar series featuring guest experts.
 - Directed the organization of Castlethon 4.0, an international hackathon with 133 participants and over €1,000 in prizes, in collaboration with IPB (Portugal), CEFET-RJ, and CEFET-MG.

VOLUNTEER EXPERIENCE

- **Event Volunteer**
Data Center World Conference 2024 – Washington, D.C.
 - Volunteered at one of the largest data center conferences in the world.
 - Assisted participants by answering questions, demonstrating strong English communication skills.
 - Helped direct attendees to conference sessions, opening keynotes, and the Expo Hall.

April 2024

- **Event Volunteer**
White House and President’s Park – Washington, D.C.
 - Volunteered at official events, including the 2023 Fall Garden Tours and 2024 Easter Egg Roll.
 - Greeted guests, assisted with ticketing, and provided event and White House information.
 - Offered local guidance about nearby museums, enhancing guest experience.

Oct 2023 – Apr 2024
