

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

Belo Horizonte, Brazil

Bachelor of Science in Computer Engineering

- Grade: 85.5/100.0

• Northern Virginia Community College

August 2023 – May 2024

Virginia, United States of America

Career Studies Certificate in Cybersecurity (Exchange Program)

- 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 [🔗]

March 2025 - August 2025

Bochum, Germany

- Research Intern*
- Conducted qualitative research on the life cycle of online gambling addiction using personal testimonies as primary data sources.
 - Identified deceptive and manipulative design patterns that shape user experiences and behaviors across regulated and unregulated platforms.
 - Collaborated in interdisciplinary projects on human-centered cybersecurity with a team led by [Dr. Yixin Zou](#).

• Trustworthy Cyberspace Lab (tClab), Virginia Tech [🔗]

October 2023 – November 2024

Remote – Fairfax, VA, USA

Research Intern

- 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 [🔗]

November 2023 – February 2024

Fairfax, VA, USA

Professor's Assistant, Intern

- 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.

• LEVTY [🔗]

May 2023 – June 2023

Belo Horizonte, MG, Brazil

Software Engineer Intern

- 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 [🔗]

March 2022 – April 2023

Belo Horizonte, MG, Brazil

Web Developer Intern

- 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 Keküllioglu, **Marcos Silva**, Yue Deng, Mercy Omeiza, Gayatri Priyadarsini Kancharla, 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.

April 2024



- 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.

• Event Volunteer

White House and President's Park – Washington, D.C.

Oct 2023 – Apr 2024



- 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.