# Margie Ruffin

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## RESEARCH INTERESTS

Human factors in Security and Privacy; Developing technical and human-centric solutions to address various types of online abuse

## EDUCATION

**University of Illinois at Urbana-Champaign (UI)**               Aug 2020 – May 2025
Doctoral of Philosophy in Computer Science
Advisors: Gang Wang, PhD & Kirill Levchenko, PhD

Strategic Technology Management Certification                 May 2024

**Spelman College, Atlanta GA**                     Aug 2016 – May 2020
Bachelor of Science in Computer Science

## SKILLS

| | |
|---|---|
| Languages | Python (NumPy, Pandas, Scikit-learn, Flask, Selenium), R, SQL (MySQL, NoSQL), Frontend (HTML/CSS, JavaScript), MarkDown |
| Platforms | AWS, GitHub, MSO (Excel, PPT), Linux, macOS, Qualtrics, Survey Monkey, Illustrator, Photoshop |
| Modeling | Supervised Learning: linear and logistic regressions, decision trees, ANOVA, T-testing |

## EXPERIENCE

**International Business Machines (IBM),** Yorktown Heights, NY               May 2023 – Aug 2023
*Graduate Student Research Intern*
- Designed Python-based tool to reduce false positives by 50% in remote attestation platform and align with user-centered security requirements
- Collaborated across teams to present technical findings and product updates, integrated user insights into security-focused design processes enhancing trust in cloud and IoT platforms

**Lawrence Livermore National Lab,** Livermore, CA               Jun 2020 – Aug 2021
*Graduate Student Research Intern*
- Contributed to cybersecurity research focused on safeguarding the nation's power grid; utilized machine learning techniques to detect and categorize faults in Industrial Control Systems (ICS)
- Cleaned and analyzed extensive ICS datasets, optimized reliability of critical infrastructure protections while balancing technical and user-centered needs

**Georgia Tech Research Institute,** Atlanta, GA               Oct 2019 – May 2020
*Student Research Intern*
- Collaborated closely with GTRI researchers on designated projects, contributing to the development of a tool designed to analyze and assess known vulnerabilities within HTTP/2
- Committed to ongoing professional development by actively participating in training sessions, continuing education programs, and shadowing experienced colleagues, further enhancing both technical and interpersonal skills

**Independent Contractor,** Remote                                      Feb 2018 – Feb 2024
*Website Developer & Maintainer*
- Designed, developed, and maintained responsive websites and web applications, ensuring a seamless user experience across multiple devices and browsers, for diverse clients and industries
- Implemented content updates, including text, images, and multimedia elements, to keep the website's information current and relevant to visitors, for over 100 websites

## PUBLICATIONS

- [ICWSM 2024] **Margie Ruffin**, Haeseung Seo, Aiping Xiong, Gang Wang. 2024. Does It Matter Who Said It? Exploring the Impact of Deepfake Profiles on User Perception Towards Disinformation. In 2024 International AAAI Conference on Web and Social Media (ICWSM). https://doi.org/10.1609/icwsm.v18i1.31392

- [GROUP 2023] **Margie Ruffin,** Kirill Levchenko, and Gang Wang. 2023. Explaining Why Fake Photos are Fake: Does It Work? In 2023 ACM International Conference on Supporting Group Work **(***GROUP**)**, 23 pages. https://doi.org/10.1145/3567558

- [WPES at CCS 2022] **Margie Ruffin**, Israel Lopez-Toldeo, Kirill Levchenko, and Gang Wang. 2022. Casing the Vault: Security Analysis of Vault Applications. In Proceedings of the 21st Workshop on Privacy in the Electronic Society (WPES '22) in conjunction with ACM Conference on Computer and Communications Security (CCS), November 7, 2022, Los Angeles, CA, USA. ACM, New York, NY, USA, 6 pages. https://doi.org/10.1145/3559613.3563204

- [SIGCHI 2020] Nias, J., Hampton, L., Sampson, P., **Ruffin, M**. 2020. Decolonizing Technologies for Preserving Cultural and Societal Diversity. ACM SIGCHI 2020 Race in HCI Workshop, 25 April 2020, virtual workshop.

- [ACMSE 2020a] **Margie Ruffin**, Jaye Nias, Kayla Taylor, Gabrielle Singleton, and Amber Sylvain. 2020. Character Development to Facilitate Retention in a Storytelling Robot. In 2020 ACM Southeast Conference (ACMSE 2020), April 2–4, 2020, Tampa, FL, USA. ACM, New York, NY, USA, 4 pages. https://doi.org/10.1145/3374135.3385315

- [ACMSE 2020b] Jaye Nias and **Margie Ruffin**. 2020. CultureBot: A Culturally Relevant Humanoid Robotic Dialogue Agent. In 2020 ACM Southeast Conference (ACMSE 2020), April 2–4, 2020, Tampa, FL, USA. ACM, New York, NY, USA, 4 pages. https://doi.org/10.1145/3374135.3385306

In Submission
- **Margie Ruffin**, Tzu-Bin Yan, Mutmaina Adebayo, Gang Wang, Kirill Levchenko. 2024. Pay to Win: Copyright Infringement and Academic Integrity Violation in Document Sharing Ecosystems.

- **Margie Ruffin**, Chenkai Wang, Gheorghe Almasi, Abdulhamid Adebayo, Hubertus Franke, Gang Wang. 2024. Towards Runtime Integrity Attestation and Its Challenges in Practice: A Case Study of Keylime.

## PROFESSIONAL SERVICE

Poster Session Program Committee
- [SOUPS] Symposium on Usable Privacy and Security                          2022, 2023

External Reviewer
- [EAAMO] Equity and Access in Algorithms, Mechanisms, and Optimization            2023

## CONFERENCE TALKS

- "Does it Matter Who Said It?" Exploring the Impact of Deep-fake Enabled Profiles on User Perception Towards Disinformation. *The 18th International AAAI Conference on Web and Social Media.* Buffalo, NY, USA. June 2024.

- Explaining Why Fake Photos are Fake: Does it Work? *The ACM international conference on Supporting Group Work*. Hilton Head Island, SC, USA, January 2023.

- Casing The Vault: Security Analysis of Vault Applications. *The 21st Workshop on Privacy in the Electronic Society, Co-Located with CCS.* Los Angeles, CA, USA. November 2022.

## INVITED TALKS

Research Talks
- Combating Disinformation: The Impact of Manipulated Images and Fake Personas. *University of Washington: Security Lab*. Seattle, Washington, USA. April 24, 2024
- Operationalizing Remote Attestation in Data Centers and Edge Deployments. *9th Annual Illinois Sloan UCEM Conference*. Champaign, IL, USA. April 19, 2024.
- Does it Matter Who Said It? Exploring the Impact of Deepfake Profiles on User Perception Towards Disinformation. *8th Annual Illinois Sloan UCEM Conference*. Champaign, IL, USA. April 15, 2023.
- Casing the Vault: Security analysis of Vault Applications, *University of Illinois: Engineering Library Research Conversations*. Virtual. September 8, 2022.

Lectures
- Virtual AI Lab: Practical Uses for AI, *Morehouse College*. Virtual. February 19, 2024.

Panels
- Decolonizing Tech: Interrogating the Impacts of Generative AI on BIPOC Communities. *CMD-IT/ACM Richard Tapia Conference. San Diego, CA, USA*. September 19, 2024.
- Real Talk: A Guide to Grad STEM Programs. *Society of Hispanic Professional Engineers (SHPE) Illinois*. Champaign, IL, USA. April 15, 2022.
- Navigating Your Advisor-Advisee Relationship. *CMD-IT/ACM Richard Tapia Conference*. Washington D.C. September 2, 2022.

Lighting Talks

- Could it be Fake News: Combating Misinformation in the Media. *Illinois Sloan UCEM Showcase*. Virtual. March 10, 2021.

## POSTERS

Conference Posters
- Yeeun Jo*, **Margie Ruffin***, Mahnoor Jameel*, and Camille Cobb. I Have Nothing to Protect": Understanding the Factors of Adoption of 2FA in Social Media. The *44th IEEE Symposium on Security and Privacy (Oakland 2023 Posters). *Equal contribution.*

Workshop Posters
- **Margie Ruffin**, Gang Wang, Kirill Levchenko. Explaining Why Fake Photos are Fake:  Does It Work? *Computing Research Association (CRA) Grad Cohort for Women Workshop*. April 2022.

## COMMUNITY SERVICE

**Department of Education, UI**, *STEM Engagement Instructor*                      Jan 2023 – Jul 2024
- Developed weekly lesson plans for middle and high school girls; taught introductory physical computing concepts, including LEDs, sensors, and motors with focus on self-expression through technology
- Guided students through semester-long project focused on personal identity culminating in final presentation aligning personal growth with STEM education

**Grainger College of Engineering, UI,** *Diversity Ambassador*                      Aug 2021 – May 2024
- Coordinated monthly graduate student engagement initiatives, emphasized diversity, equity, and inclusion (DEI) in STEM
- Created signature event Do-nut Stress Tuesday/Thursday to promote active breaks and communication between graduate students
- Mentored seven graduate students, championed DEI efforts in recruitment and retention of underrepresented groups

## TEACHING

Teaching Assistant: *CS 598. Endpoint Threat Detection and Investigation. UI*                      Fall 2024

## HONORS & AWARDS

- NSF Graduate Research Fellowship Program (GRFP)                      2022 – 2025
- Alfred P. Sloan Scholar                      2020 – 2025
- Grainger College of Engineering SURGE Fellow                      2020 – 2025
- UI Graduate College Fellowship                      2020 – 2025
- Magna Cum Laude, Spelman College                      2020
- Phi Beta Kappa, Spelman College                      2020
- Spelman College Dean's List                      2017 – 2020

## MEDIA COVERAGE

- Several CS Students Earn Fellowships that Recognize Research Efforts                      Jul 2022
  https://siebelschool.illinois.edu/news/several-cs-students-earn-fellowships-that-recognize-research-efforts