

# COLLINS W. MUNYENDO

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## RESEARCH INTERESTS

Computer Security; Human-Centered Security and Privacy; Usable Authentication; Human-Centered Artificial Intelligence

## ACADEMIC APPOINTMENTS

**National University of Singapore** Singapore, Singapore  
*Tenure-Track Assistant Professor in Computer Science* Aug, 2027 –

**University of California, Berkeley** Berkeley, CA, USA  
*Postdoctoral Scholar in the Center for Effective Global Action* Jan, 2026 – Present

**Max Planck Institute for Security and Privacy** Bochum, Germany  
*Visiting Research Scholar* May, 2023 – Aug, 2024

## EDUCATION

**The George Washington University** Washington, DC, USA  
*Ph.D. in Computer Science* Aug, 2020 - Dec, 2025

Advisor: Adam J. Aviv

Thesis: Security and Privacy Beyond Western Peripheries: Practices, Challenges, and Opportunities in the Majority World  
Committee: Adam J. Aviv, Sibin Mohan, Gabriel Parmer (GW), Elissa M. Redmiles (Georgetown), Yixin Zou (MPI-SP)

**Carnegie Mellon University** Kigali, Rwanda  
*Master of Science in Information Technology* Jul, 2017 - Dec, 2018

**Strathmore University** Nairobi, Kenya  
*Bachelor of Business Information Technology* Jul, 2012 - May, 2016

## HONORS AND AWARDS

- John Karat Usable Privacy and Security Student Research Award\* (2025)
- IAPP SOUPS Privacy Award for “Design and Evaluation of Privacy-Preserving Protocols...” (2025)
- ACM CCS Top Reviewer Award (2025)
- NYC Privacy Day Best Poster (2025)
- Strathmore University Alumni of the Year in Research and Innovation (2025)
- Google PhD Fellowship in Security, Privacy, and Abuse Prevention<sup>†</sup> (2024 – 2026)
- New England Computing & Data Science Rising Star (2024)
- Finalist, Strathmore University Alumni of the Year Award (2024)
- IEEE S&P Distinguished Paper Award for “In Eighty Percent of the Cases, I Select the Password for Them...” (2023)
- Innovators Forward Fellowship (2018)
- Cisco Cybersecurity Scholarship (2016)
- Dean’s List, Strathmore University (2014 – 2016)

## FUNDING

### **Grants and Competitive Gifts**

- Stanford Internet Observatory: Expanding Online Trust & Safety Research: *A Cross-Country Exploration of Security and Privacy Advice in Nine Majority World Countries*. Project Team: Collins W. Munyendo (Lead), Veronica A. Rivera, Jackie Hu, Elissa M. Redmiles, and Yixin Zou. 2024. \$15,000.

### **Conference and Travel Scholarships**

- Privacy Enhancing Technologies Symposium (PETS), Bristol, United Kingdom - \$1,700 (2024)

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\*Awarded annually to the top graduate student in usable privacy and security for their contributions to research, mentoring, and service.

<sup>†</sup>Recognizes outstanding graduate students conducting exceptional and innovative research in computer science and other related fields.

- CISPA Usable Security Summer School, Saarbruecken, Germany - \$500 (2024)
- EPFL Summer Research Institute (SURI), Lausanne, Switzerland - \$550 (2024)
- ACM SIGSAC Conference on Computer and Communications Security (CCS), Copenhagen, Denmark - \$2,635 (2023)
- Annual Applications of Contextual Integrity (PrivaCI) Workshop, Toronto, Canada - All expenses (2023)
- Privacy Enhancing Technologies Symposium (PETS), Lausanne, Switzerland - \$1,000 (2023)
- Uptime Conference by Aiven. Amsterdam, Netherlands - All expenses (2022)
- Symposium on Usable Privacy and Security (SOUPS), Virtual - Registration (2021)
- GREPSEC V Workshop. Virtual - Conference attendance (2021)
- DEVCON V Conference. Osaka, Japan - All expenses (2019)
- HashiConf Conference. Seattle, Washington - All expenses (2019)

## **PUBLICATIONS**

*Conferences are the primary academic publishing venues in computer and information science. Therefore, the majority of my research is published in conference proceedings. Asterisks (\*) denote equal contribution.*

### **Conference Publications**

- C19 Collins W. Munyendo, Veronica A. Rivera, Jackie Hu, Emmanuel Tweneboah, Amna Shahnawaz, Karen Sowon, Dilara Keküllüoğlu, Marcos Silva, Yue Deng, Mercy Omeiza, Gayatri Priyadarsini Kancherla, Maria Rosario Niniz Silva, Maryam Mustafa, Abhishek Bichhawat, Francisco Marmolejo-Cossio, Elissa M. Redmiles\*, and Yixin Zou\*. “I Wonder if These Warnings Are Accurate”: Security and Privacy Advice in Nine Majority World Countries. In *Proceedings of the 47th IEEE Symposium on Security and Privacy (IEEE S&P ’26)*, San Francisco, CA, USA. May 2026. (Acceptance Rate: 13%)
- C18 Adryana Hutchinson, Elaine Ly, Collins W. Munyendo, and Adam J. Aviv. Re-Examining the Examiners: Changes in Privacy and Security Perceptions of Exam Proctoring. In *Proceedings of the ACM SIGCHI Conference on Human Factors in Computing Systems (CHI ’26)*, Barcelona, Spain. May 2026. (Acceptance Rate: 25%)
- C17 Emmanuel Tweneboah, Collins W. Munyendo, and Yixin Zou. “No, I Can’t Be a Security Personnel on Your Phone”: Security and Privacy Threats From Sharing Infrastructure in Rural Ghana. In *Proceedings of the 34th USENIX Security Symposium (USENIX Security ’25)*, Seattle, WA, USA. August 2025. (Acceptance Rate: 17%)
- C16 Franziska Herbert\*, Collins W. Munyendo\*, Jonas Hielscher, Steffen Becker, and Yixin Zou. Digital Security Perceptions and Practices Around the World: A WEIRD vs. Non-WEIRD Comparison. In *Proceedings of the 34th USENIX Security Symposium (USENIX Security ’25)*, Seattle, WA, USA. August 2025. (Acceptance Rate: 17%)
- C15 Karen Sowon, Collins W. Munyendo, Lily Klucinec, Eunice Maingi, Gerald Suleh, Lorrie Faith Cranor, Giulia Fanti, Conrad Tucker, and Assane Gueye. Design and Evaluation of Privacy-Preserving Protocols for Agent-Facilitated Mobile Money Services in Kenya. In *Proceedings of the 21st Symposium on Usable Privacy and Security (SOUPS ’25)*, Seattle, WA, USA. August 2025. (Acceptance Rate: 19%). **IAPP SOUPS Privacy Award** (Best Privacy Paper)
- C14 Collins W. Munyendo\*, Kentrell Owens\*, Faith Strong, Shaoqi Wang, Adam J. Aviv, Tadayoshi Kohno, and Franziska Roesner. “You Have to Ignore the Dangers”: User Perceptions of the Security and Privacy Benefits of WhatsApp Mods. In *Proceedings of the 46th IEEE Symposium on Security and Privacy (IEEE S&P ’25)*, San Francisco, CA, USA. May 2025. (Acceptance Rate: 15%)
- C13 Kavous Salehzadeh Niksirat, Collins W. Munyendo, Onicio Batista Leal Neto, Muswagha Katya, Cyrille Kouassi, Kevin Ochieng, Angoa Georgina, Bernard Olayo, Jean-Philippe Barras, Ciro Cattuto, Adam J. Aviv, and Carmela Troncoso. Reimagining Wearable-Based Digital Contact Tracing: Insights from Kenya and Côte d’Ivoire. In *Proceedings of the ACM SIGCHI Conference on Human Factors in Computing Systems (CHI ’25)*, Yokohama, Japan. May 2025. (Acceptance Rate: 25%)
- C12 Elena Korke, Collins W. Munyendo, Alvin Isaac, Victoria Hennemann, and Adam J. Aviv. “I’m going to try her birthday”: Investigating How Friends Guess Each Other’s Smartphone Unlock PINs in the Lab. In *Proceedings of the European Symposium on Usable Security (EuroUSEC ’24)*, Karlstad, Sweden. October 2024. (Acceptance Rate: 34%)
- C11 Mindy Tran\*, Collins W. Munyendo\*, Harshini Sri Ramulu\*, Rachel Gonzalez Rodriguez, Luisa Ball Schnell, Cora Sula, Lucy Simko, and Yasemin Acar. Security, Privacy, and Data-sharing Trade-offs When Moving to the United States: Insights from a Qualitative Study. In *Proceedings of the 45th IEEE Symposium on Security and Privacy (IEEE S&P ’24)*, San Francisco, CA, USA. May 2024. (Acceptance Rate: 18%)
- C10 Jaron Mink, Miranda Wei, Collins W. Munyendo, Kurt Hugenberg, Tadayoshi Kohno, Elissa M. Redmiles, and Gang Wang. It’s Trying Too Hard To Look Real: Deepfake Moderation Mistakes and Identity-Based Bias. In *Proceedings of the ACM SIGCHI Conference on Human Factors in Computing Systems (CHI ’24)*, Honolulu, HI, USA. May 2024. (Acceptance Rate: 26%)

- C9 Collins W. Munyendo, Peter Mayer, and Adam J. Aviv. “I just stopped using one and started using the other”: Motivations, Techniques, and Challenges When Switching Password Managers. In *Proceedings of the 30th ACM SIGSAC Conference on Computer and Communications Security (CCS '23)*, Copenhagen, Denmark. November 2023. (Acceptance Rate: 20%)
- C8 Daniel V. Bailey, Collins W. Munyendo, Hunter A. Dyer, Miles Grant, Philipp Markert, and Adam J. Aviv. “Someone Definitely Used 0000”: Strategies, Performance, and User Perception of Novice Smartphone-Unlock PIN-Guessers. In *Proceedings of the European Symposium on Usable Security (EuroUSEC '23)*, Copenhagen, Denmark. October 2023. (Acceptance Rate: 41%)
- C7 Collins W. Munyendo, Yasemin Acar, and Adam J. Aviv. “In Eighty Percent of the Cases, I Select the Password for Them”: Security and Privacy Challenges, Advice, and Opportunities at Cybercafes in Kenya. In *Proceedings of the 44th IEEE Symposium on Security and Privacy (IEEE S&P '23)*, San Francisco, CA, USA. May 2023. (Acceptance Rate: 17%). **Distinguished Paper Award** (Top 1% of Submissions)
- C6 Xiaoyuan Wu, Collins W. Munyendo, Eddie Cosic, Genevieve A. Flynn, Olivia Legault, and Adam J. Aviv. User Perceptions of Five-Word Passwords. In *Proceedings of the 38th Annual Computer Security Applications Conference (ACSAC '22)*, Austin, TX, USA. December 2022. (Acceptance Rate: 25%)
- C5 Collins W. Munyendo, Philipp Markert, Alexandra Nisenoff, Miles Grant, Elena Korke, Blase Ur, and Adam J. Aviv. “The Same PIN, Just Longer”: On the (In)Security of Upgrading PINs from 4 to 6 digits. In *Proceedings of the 31st USENIX Security Symposium (USENIX Security '22)*, Boston, MA, USA. August 2022. (Acceptance Rate: 18%)
- C4 Peter Mayer, Collins W. Munyendo, Michelle L. Mazurek, and Adam J. Aviv. Why Users (Don't) Use Password Managers at a Large Educational Institution. In *Proceedings of the 31st USENIX Security Symposium (USENIX Security '22)*, Boston, MA, USA. August 2022. (Acceptance Rate: 18%)
- C3 Collins W. Munyendo, Yasemin Acar, and Adam J. Aviv. “Desperate Times Call for Desperate Measures”: User Concerns with Mobile Loan Apps in Kenya. In *Proceedings of the 43rd IEEE Symposium on Security and Privacy (IEEE S&P '22)*, San Francisco, CA, USA. May 2022. (Acceptance Rate: 15%)
- C2 Noel Warford, Collins W. Munyendo, Ashna Mediratta, Adam J. Aviv, and Michelle L. Mazurek. Strategies and Perceived Risks of Sending Sensitive Documents. In *Proceedings of the 30th USENIX Security Symposium (USENIX Security '21)*, Virtual Conference. August 2021. (Acceptance Rate: 19%)
- C1 Collins W. Munyendo, Miles Grant, Philipp Markert, Timothy J. Forman, and Adam J. Aviv. Using a Blocklist to Improve Security of User Selection of Android Patterns. In *Proceedings of the 17th Symposium on Usable Privacy and Security (SOUPS '21)*, Virtual Conference. August 2021. (Acceptance Rate: 27%)

## Workshop Publications

- W2 Adryana Hutchinson, Collins W. Munyendo, Peter Mayer, and Adam J. Aviv. An Analysis of Password Managers' Password Checkup Tools. In *CHI Extended Abstracts (CHI EA)*. Honolulu, HI, USA. May 2024.
- W1 Mindy Tran\*, Harshini Sri Ramulu\*, Collins W. Munyendo\*, Rachel Gonzalez Rodriguez, Luisa Ball Schnell, Cora Sula, Joseph Ogren, Karim Alami, Lucy Simko, Anna Lena Rothaler, and Yasemin Acar. Security and Privacy Concerns When Moving to the US. In *CHI Workshop on Migration, Security & Privacy*, Hamburg, Germany. April 2023.

## POSTERS

- P3 Collins W. Munyendo, Emmanuel Tweneboah, and Yixin Zou. “No, I Can't Be a Security Personnel on Your Phone”: Security and Privacy Threats From Sharing Infrastructure in Rural Ghana (Poster). *New York City Privacy Day*. New York, NY, USA. October 2025. **Best Poster Award**
- P2 Collins W. Munyendo\*, Kentrell Owens\*, Faith Strong, Shaoqi Wang, Adam J. Aviv, Tadayoshi Kohno, and Franziska Roesner. “You Have to Ignore the Dangers”: User Perceptions of the Security and Privacy Benefits of WhatsApp Mods (Poster). In *Proceedings of the 21st Symposium on Usable Privacy and Security (SOUPS '25)*, Seattle, WA, USA. August 2025.
- P1 Jaron Mink, Miranda Wei, Collins W. Munyendo, Kurt Hugenberg, Tadayoshi Kohno, Elissa M. Redmiles, Gang Wang. It's Trying Too Hard To Look Real: Deepfake Moderation Mistakes and Identity-Based Bias (Poster). *Center for Privacy and Security for Marginalized and Vulnerable Populations Workshop*. Anaheim, CA, USA. August 2023.

## INVITED TALKS, LECTURES, AND PANELS

### Invited Talks

- Toward More Usable and Secure Authentication
  - SRL Security Seminar, University of California, Santa Cruz, CA, USA. April, 2026.
  - Department of Computer Science, University of Waterloo, Waterloo, ON, Canada. March, 2026.
  - School of Computer Science, University of Sydney, Sydney, NSW, Australia. March, 2026.
  - Department of Computer Science, University of Texas at Dallas, Dallas, TX, USA. February, 2026.
  - Department of Computer Science, New Jersey Institute of Technology, Newark, NJ, USA. February, 2026.
  - School of Cybersecurity and Privacy, Georgia Institute of Technology, Atlanta, GA, USA. February, 2026.
  - Department of Computer Science, University of Georgia, Athens, GA, USA. February, 2026.
  - School of Computing and Digital Media, DePaul University, Chicago, IL, USA. February, 2026.
  - Department of Computer Science, McGill University, Montreal, QC, Canada. February, 2026.
  - College of Information Sciences and Technology, Penn State University, State College, PA, USA. January, 2026.
  - Department of Computer Science, National University of Singapore, Singapore. January, 2026.
  - Department of Computer Science, Virginia Commonwealth University, Richmond, VA, USA. December, 2025.
- User Perceptions of the Security and Privacy Benefits of WhatsApp Mods.
  - Capital-Area Colloquium on Trustworthy and Usable Security/Privacy, Washington DC, USA. May, 2025.
- Toward Inclusive Security and Privacy: Practices, Challenges, and Opportunities in the Majority World
  - CISA Helmholtz Center for Information Security, Saabrucken, Germany. March, 2025.
  - School of Information, University of California, Berkeley, CA, USA. February, 2025.
  - Department of Computer Science, College of William & Mary, Williamsburg, VA, USA. February, 2025.
  - Department of Computer Science, University of Virginia, Charlottesville, VA, USA. February, 2025.
- A Cross-Country Exploration of Security and Privacy Concerns and Advice in Ten Majority World Countries.
  - Capital-Area Colloquium on Trustworthy and Usable Security/Privacy, Washington DC, USA. December, 2024.
  - Trust & Safety Research Conference, Stanford University, Palo Alto, CA, USA. September, 2024.
  - Spark(l)ing Science, Max Planck Institute for Security and Privacy (MPI-SP), Bochum, Germany. August, 2023.
- Digital Security and Privacy Beyond Western Peripheries: Practices, Challenges, and Opportunities.
  - Cylab, Carnegie Mellon University, Pittsburgh, PA, USA. November, 2024.
- Motivations, Techniques, and Challenges When Switching Password Managers.
  - Capital-Area Colloquium on Trustworthy and Usable Security/Privacy, Washington DC, USA. May, 2023.
- Security and Privacy Challenges, Advice, and Opportunities at Cybercafes in Kenya.
  - Georgetown University, Washington, DC, USA. September, 2023.
  - SPRING Lab, Ecole Polytechnique Fédérale de Lausanne (EPFL), Lausanne, Switzerland. July, 2023.
  - Paderborn University, Germany. June, 2023.
  - Capital-Area Colloquium on Trustworthy and Usable Security/Privacy, College Park, MD, USA. May, 2023.
  - Security and Privacy Research Lab, University of Washington, Seattle, WA, USA. May, 2022.
- On the (In)Security of Upgrading PINs from 4 to 6 digits.
  - PasswordsCon, Bergen, Norway. May, 2023.

### Guest Lectures

- Designing Human-Centered Security and Privacy Solutions for Diverse Users.

- Usable Security and Privacy Class, Barnard College, New York, NY, USA. October, 2025.
- Digital Security and Privacy Beyond Western Peripheries: Practices, Challenges, and Opportunities.
  - Usable Security and Privacy Class, University of Maryland, College Park, MD, USA. November, 2024.
  - Privacy Policy, Law, and Technology Class, Carnegie Mellon University, Pittsburgh, PA, USA. November, 2024.
  - Human Factors in Security and Privacy Class, Tufts University, Boston, MA, USA. October, 2024.
  - Usable Security and Privacy Class, Barnard College, New York, NY, USA. October, 2024.
  - Computer Security Class, University of Richmond, Richmond, VA, USA. February, 2023.

### Invited Panels

- A Day in the Life of a Computer Science Researcher.
  - Computing Research Association (CRA) Undergraduate Research to PhD (UR2PhD), Online. April, 2025.

### TEACHING EXPERIENCE

#### Carnegie Mellon University Africa

- Graduate Teaching Assistant, Linux Programming (Fall 2019, 2020 and 2021)
- Graduate Teaching Assistant, First Year Seminar (Fall 2018 and Spring 2019)

### INDUSTRY EXPERIENCE

#### Silensec

*Cybersecurity Consultant*

Nairobi, Kenya  
Oct, 2019 – Jul, 2021

#### Leaf Global Fintech

*Software Engineer Intern*

Kigali, Rwanda  
Aug, 2018 – Dec, 2018

#### TeleTracking Technologies

*Software Engineer Intern*

Kigali, Rwanda  
May, 2018 – Aug, 2018

#### Kenya Web Limited

*Network Engineer Intern*

Nairobi, Kenya  
Mar, 2015 – Jun, 2015

### PROFESSIONAL SERVICE

#### Leadership and Organizing

- Associate Chair, ACM SIGCHI Conference on Human Factors in Computing Systems (CHI): 2026
- Speed Mentoring Co-Chair, Privacy Enhancing Technologies Symposium (PETS): 2025

#### Program Committee

- USENIX Security Symposium (USENIX Security): 2026
- Sociotechnical Cybersecurity and Privacy (SCP): 2026
- ACM Conference on Computer and Communications Security (CCS): 2025.<sup>‡</sup>(**Top Reviewer Award**)
- IEEE European Symposium on Security and Privacy (EuroS&P): 2024, 2025<sup>‡</sup>
- Usable Security and Privacy Symposium (USEC): 2025
- ACM Asia Conference on Computer and Communications Security (AsiaCCS): 2024
- European Symposium on Usable Security (EuroUSEC): 2023, 2024<sup>‡</sup>, 2025
- IEEE Workshop on Technology and Consumer Protection (ConPro): 2024, 2025<sup>‡</sup>

#### External Reviewing

- ACM SIGCHI Conference on Human Factors in Computing Systems (CHI): 2023, 2024<sup>‡</sup>, 2025<sup>‡</sup>
- Symposium on Usable Privacy and Security (SOUPS): 2023, 2024, 2025
- IEEE Transactions on Dependable and Secure Computing (IEEE TDSC): 2023
- ACM CHI Late Breaking Work (CHI LBW): 2022, 2023

<sup>‡</sup>“Special recognition for outstanding review” or “good review” flags.

## **Poster Jury**

- Symposium on Usable Privacy and Security (SOUPS): 2023, 2024, 2025

## **STUDENT MENTORING**

### **The George Washington University**

- Xiaoyuan Wu (Undergraduate) → PhD Student at Carnegie Mellon University
- Eddie Cosic (Undergraduate) → Software Engineer at Two Six Technologies
- Elena Korkeš (Undergraduate)
- Victoria Hennemann (Undergraduate)
- Miles Grant (Undergraduate) → Software Engineer at Google
- Alvin Isaac (Undergraduate)
- Darika Shaibekova (Masters) → Security Engineer at MITRE
- Adryana Hutchinson (PhD)

### **Max Planck Institute for Security and Privacy**

- Emmanuel Tweneboah (Research Intern)
- Jackie Hu (Research Intern) → PhD Student at the University of Michigan
- Marcos Silva (Research Intern)

### **Carnegie Mellon University Africa**

- Wambui Njogu (Masters) → PhD Student at the University of Bristol
- Julius Mkumbo (Masters) → Data Scientist at Elizabeth Glaser Pediatric AIDS Foundation
- Kizito Nyuytiyimbiz (Masters) → Product Manager at Aurrica

### **Austin College**

- Faith Strong (Undergraduate)

## **PRESS COVERAGE**

- Same Internet, Different Worlds: New Evidence Reveals Significant Differences in How People Understand and Protect Their Security Across Western and Non-Western Regions (Research Center Trustworthy Data Science and Security, 2025)
- Collins Munyendo Wins the 2025 John Karat Usable Privacy and Security Research Award (GW Engineering, 2025)
- Google PhD Fellowship Honors Collins Munyendo's Leadership in Security and Privacy Research (GW Engineering, 2024)
- GW Engineering Student Wins Prestigious Google Fellowship (GW Today, 2024)
- Shattering The Glass Ceiling in The Evolving Digital Space (Strathmore University, 2024)
- Using Lived Experience to Study Security and Privacy Concerns Among US Immigrants (GW Engineering, 2024)
- Serving Understudied Communities Through Computer Security and Privacy Research (GW Engineering, 2023)
- Predatory Loan Apps in India Rake in Huge Fees, and Are Driving Some Users to Suicide (TechCrunch, 2022)
- How Android Unlock Patterns Could Be Made More Secure (Tech Xplore, 2021)

## **LEADERSHIP AND SERVICE**

### **The George Washington University**

- Student Leader, Bridges International (2022 - Present)

### **Carnegie Mellon University Africa**

- CSO, Software Engineering Club (2018)
- President, Techy Talkers Toastmasters Club (2018)

### **Strathmore University**

- Volunteer, Community Outreach Program (2012 - 2016)
- Vice President, Strathmore University IT Students Association (2015 - 2016)

### **Mentorship and Volunteering**

- Mentor, iMentor Workshop (2023)
- Volunteer, Nipe Sauti Africa (2016 - Present)
- Mentor, Stellar Generation Kenya (2021 - 2024)
- Mentor, Django Girls Kigali (2017 - 2020)