

COLLINS W. MUNYENDO

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INTERESTS	Computer Security, Usable Security and Privacy, Human-Computer Interaction (HCI)	
EDUCATION	The George Washington University , Washington, DC, USA <i>PhD</i> , Computer Science, Aug 2020 - Present Advisor: Professor Adam J. Aviv.	GPA: 3.69/4.0
	Carnegie Mellon University , Pittsburgh, PA, USA <i>Masters of Science</i> , Information Technology, Jul 2017 - Dec 2018 Advisors: Professors Martin Saint & Tim X. Brown.	GPA: 3.63/4.0
	Strathmore University , Nairobi, Kenya <i>Bachelor of Business Information Technology</i> , Jul 2012 - Jun 2016 Advisor: Professor Jared Mayieka.	GPA: 3.45/4.0
CONFERENCE PUBLICATIONS (peer-reviewed)	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 <i>Proceedings of the 44th IEEE Symposium on Security and Privacy (IEEE S&P ’23)</i> , San Francisco, CA, USA. May 2023. Distinguished Paper Award .	
	Xiaoyuan Wu, Collins W. Munyendo , Eddie Cosic, Genevieve A. Flynn, Olivia Legault, and Adam J. Aviv. User Perceptions of Five-Word Passwords. In <i>Proceedings of the 38th Annual Computer Security Applications Conference (ACSAC ’22)</i> , Austin, TX, USA. December 2022.	
	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 <i>Proceedings of the 31st USENIX Security Symposium (USENIX Security ’22)</i> , Boston, MA, USA. August 2022.	
	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 <i>Proceedings of the 31st USENIX Security Symposium (USENIX Security ’22)</i> , Boston, MA, USA. August 2022.	
	Collins W. Munyendo , Yasemin Acar, and Adam J. Aviv. “Desperate Times Call for Desperate Measures”: User Concerns with Mobile Loan Apps in Kenya. In <i>Proceedings of the 43rd IEEE Symposium on Security and Privacy (IEEE S&P ’22)</i> , San Francisco, CA, USA. May 2022.	
	Noel Warford, Collins W. Munyendo , Ashna Mediratta, Adam J. Aviv, and Michelle L. Mazurek. Strategies and Perceived Risks of Sending Sensitive Documents. In <i>Proceedings of the 30th USENIX Security Symposium (USENIX Security ’21)</i> , Virtual Conference. August 2021.	
WORKSHOP PUBLICATIONS (lightly-reviewed)	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 <i>Proceedings of the 17th Symposium on Usable Privacy and Security (SOUPS ’21)</i> , Virtual Conference. August 2021.	
	Mindy Tran*, Harshini Sri Ramulu*, Collins W. Munyendo* , Rachel Gonzalez Rodriguez, Luisa Ball Schnell, Cora Sula, Joseph Ogren, Karim Alami, Lucy Simko, Anna Lena Rotthaler, and Yasemin Acar. Security and Privacy Challenges and Concerns When Moving to the United States. In <i>Proceedings of the CHI’23 Workshop on</i>	

Migration, Security & Privacy, Hamburg, Germany. April 2023. **Co-first authors.*

**RELEVANT
INDUSTRY
EXPERIENCE**

Research Intern Max Planck Institute
Bochum, Germany June 2023 - Aug 2023
Conducting research on usable security and privacy in understudied and/or at-risk populations under the guidance of Yixin Zou and Elissa Redmiles.

Security Consultant Silensec Limited
Nairobi, Kenya Oct 2018 - Jul 2021
Secured the digital infrastructure of the organization and its clients' by monitoring security events, alerts and incoming issues. Additionally administered security training to both internal employees and the company's customers through CYBER RANGES.

Software Engineer Intern Leaf Global Fintech
Evergreen, CO, USA Aug 2018 - Dec 2018
Researched and developed a USSD-to-blockchain application to enable refugees in Africa to easily and conveniently transfer value across borders when escaping adversity.

Software Engineer Intern TeleTracking Technologies
Pittsburgh, PA, USA May 2018 - Aug 2018
Worked in a team to research and improve patient flow for Rwanda's healthcare system through the development of a USSD scheduling application to reduce patient waiting.

Technical Sales Intern Triple S Solutions
Nairobi, Kenya Nov 2016 - Apr 2017
Designed bio-metric security solutions for new and existing customers, and provided them with technical product support. Additionally secured five new customers.

Network Engineer Intern Kenya Web Limited
Nairobi, Kenya Mar 2015 - Jun 2015
Worked with other employees to set up and fix network problems for more than fifty customers. Additionally revamped all faulty computers in the technical department.

**TEACHING
EXPERIENCE**

Graduate Teaching Assistant Carnegie Mellon University
Pittsburgh, PA, USA Fall 2019, 2020 and 2021
Course: Linux Programming.
Administered recitations, held office hours and graded student assignments.

Graduate Teaching Assistant Carnegie Mellon University
Pittsburgh, PA, USA Fall 2018 and Spring 2019
Courses: First-Year Seminar and MSIT Practicum.
Administered recitations, held office hours and graded student assignments.

**CONFERENCE
TALKS**

"In Eighty Percent of the Cases, I Select the Password for Them": Security and Privacy Challenges, Advice, and Opportunities at Cybercafes in Kenya. 44th IEEE Symposium on Security and Privacy (IEEE S&P '23), San Francisco, CA, USA. May, 2023.

"The Same PIN, Just Longer": On the (In)Security of Upgrading PINs from 4 to 6 digits. 31st USENIX Security Symposium, Boston, MA, USA. August, 2022.

"Desperate Times Call for Desperate Measures": User Concerns with Mobile Loan Apps in Kenya. 43rd IEEE Symposium on Security and Privacy (IEEE S&P '22), San Francisco, CA, USA. May, 2022.

Using a Blocklist to Improve the Security of User Selection of Android Patterns. *Seventieth Symposium on Usable Privacy and Security (SOUPS '21)*, Virtual Conference. August, 2021.

INVITED TALKS “In Eighty Percent of the Cases, I Select the Password for Them”: Security and Privacy Challenges, Advice, and Opportunities at Cybercafes in Kenya. Security and Privacy Engineering Laboratory, Ecole Polytechnique Fédérale de Lausanne (EPFL), Lausanne, Switzerland. July, 2023.

“In Eighty Percent of the Cases, I Select the Password for Them”: Security and Privacy Challenges, Advice, and Opportunities at Cybercafes in Kenya. Paderborn University, Germany. June, 2023.

“In Eighty Percent of the Cases, I Select the Password for Them”: Security and Privacy Challenges, Advice, and Opportunities at Cybercafes in Kenya. *Capital-Area Colloquium on Trustworthy and Usable Security/Privacy (CACTUS/P)*, College Park, MD, USA. May, 2023.

“The Same PIN, Just Longer”: On the (In)Security of Upgrading PINs from 4 to 6 digits. PasswordsCon, Bergen, Norway. May, 2023.

Computer Security and Privacy at Cybercafes in Kenya. *Capital-Area Colloquium on Trustworthy and Usable Security/Privacy (CACTUS/P)*, Pittsburgh, PA, USA. December, 2022.

“Desperate Times Call for Desperate Measures”: User Concerns with Mobile Loan Apps in Kenya. Security and Privacy Engineering Laboratory, Ecole Polytechnique Fédérale de Lausanne (EPFL), Lausanne, Switzerland. November, 2022.

“Desperate Times Call for Desperate Measures”: User Concerns with Mobile Loan Apps in Kenya. *Capital-Area Colloquium on Trustworthy and Usable Security/Privacy (CACTUS/P)*, Washington DC, USA. May, 2022.

“Desperate Times Call for Desperate Measures”: User Concerns with Mobile Loan Apps in Kenya. Security and Privacy Research Lab, University of Washington, Seattle, WA, USA. May, 2022.

“The Same PIN, Just Longer”: On the (In)security of Upgrading PINs from 4 to 6 digits. *Capital-Area Colloquium on Trustworthy and Usable Security/Privacy (CACTUS/P)*, College Park, MD, USA. December, 2021.

PROFESSIONAL SERVICE

Reviewing

Program Committee Member: EuroUSEC (2023), AsiaCCS (2024).

Poster Juror: SOUPS (2023).

Sub-reviewer: SOUPS (2023).

External Reviewer: CHI LBW (2022, 2023), CHI (2023), IEEE TDSC (2023).

GW Committees

Student Representative, GW Data Privacy Consultative Committee (2023).

Student Member, GW Data Privacy Committee (2022).

STUDENT MENTORING

The George Washington University

Xiaoyuan Wu (Undergraduate)

Eddie Cosic (Undergraduate).

Elena Korkes (Undergraduate).

Victoria Hennemann (Undergraduate).

Miles Grant (Undergraduate).

Darika Shaibekova (Masters).

Carnegie Mellon University

Julius Mkumbo (Masters).

Kizito Nyuytiyimbii (Masters).

MEDIA COVERAGE

Predatory Loan Apps in India Rake in Huge Fees, and Are Driving Some Users to Suicide. *TechCrunch*, 2022.

How Android Unlocking Patterns Could Be Made More Secure. *Ruhr University Bochum Press*, 2021.

How Android Unlocking Patterns Could Be Made More Secure. *Tech Xplore*, 2021.

HONORS AND AWARDS

IEEE S&P Distinguished Paper Award, IEEE

Award presented to “In Eighty Percent of the Cases, I Select the Password for Them”: Security and Privacy Challenges, Advice, and Opportunities at Cybercafes in Kenya at the 44th IEEE Symposium on Security and Privacy. The award was given to the top 1% of all submissions, and top 6% of accepted papers.

Uptime Scholar, Aiven

Recipient of a full scholarship to attend Uptime 2022, Aiven’s inaugural conference for open-source data in the cloud in Amsterdam, Netherlands (2022).

GREPSEC Scholar, USENIX Association

Recipient of a full scholarship to attend GREPSEC V, a workshop for early-stage graduate students in computer security and privacy (2021).

Devcon Scholar, Ethereum Foundation

Selected amongst 50 other candidates from around the world to attend the Devcon V blockchain conference in Osaka, Japan (2019).

HashiConf Scholar, HashiCorp

Recipient of a full scholarship to attend HashiConf 2019, HashiCorp’s annual user conference in Seattle, Washington, USA (2019).

Cybersecurity Scholar, Cisco

Recipient of a full scholarship offering a hands-on training course on how to protect the Internet and computer networks from hackers and other criminals.

Dean’s List, Strathmore University

Part of the dean’s list at Strathmore University for academic years 2014 - 2015 and 2015 - 2016 for high academic performance.

Best Student, Bumini Primary School

Best overall student in Kenya Certificate of Primary Education (KCPE) at Bumini Primary, scored 411/500 marks (2007).

LEADERSHIP AND SERVICE

Student Leader

Washington, DC, USA

Assist and support international students at the George Washington University settle and integrate into the United States.

Bridges International

Jan 2022 - Present

Volunteer

Nairobi, Kenya

Identify, plan and implement ICT projects to improve livelihoods in Kenya. Partnered with Safaricom in 2018 to supply 20 computers to a remote school in Nakuru.

Nipe Sauti Africa

Dec 2016 - Present

Mentor

Kigali, Rwanda

Mentored and introduced programming to hundreds of young women in Kigali, Rwanda.

Django Girls Kigali

Aug 2017 - Jun 2020

Chief Security Officer Software Engineering Club
Carnegie Mellon University Aug 2017 - May 2018
Organized a cybersecurity hackathon in partnership with Facebook (now Meta).

President Techy Talkers Toastmasters
Carnegie Mellon University Aug 2017 - May 2018
Improved public speaking in the school via public speaking events and competitions.

Volunteer Strathmore Community Outreach
Strathmore University Jul 2012 - Jun 2016
Improved livelihoods around the university through community projects.

Vice President Strathmore IT Students Association
Strathmore University Jul 2015 - Jun 2016
Increased interest in technology at the university via hackathons and other meetups.

TECHNICAL SKILLS

Programming: Python, Java, C/C++, Bash, SQL, Matlab, L^AT_EX.

Web Development: HTML, CSS, JavaScript.

Applications: Vi/Vim, Eclipse, Visual Studio, Git, VMWare, VirtualBox, MySQL.

Systems and Security: Intrusion Detection, Network Security Monitoring, Vulnerability Assessment, Penetration Testing, Security Compliance and Training.

Languages: Proficient: English, Swahili, Luhya. Basic: German.