

COLLINS W. MUNYENDO

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- RESEARCH INTERESTS** Computer Security, Usable Security and Privacy, Human-Computer Interaction (HCI), Mobile Authentication, Digital Safety, Usability, Marginalized Communities.
- EDUCATION**
- The George Washington University**, Washington, DC
PhD, Computer Science, Aug 2020 - Present GPA: 3.68
Advisor: Prof. Adam J. Aviv
- Carnegie Mellon University**, Pittsburgh, PA
Masters of Science, Information Technology, Aug 2017 - Dec 2019 GPA: 3.63
Advisors: Prof. Martin Saint & Prof. Tim X. Brown
- Strathmore University**, Nairobi, Kenya
Bachelor of Science, Information Technology, Aug 2012 - Jun 2016 GPA: 3.45
Advisor: Prof. Jared Mayieka
- HONORS AND AWARDS**
- 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 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, HashiCorp's annual user conference in Seattle, Washington (2019).
- Dean's List**, Strathmore University
Was part of the dean's list at Strathmore University for academic years 2014 - 2015 and 2015 - 2016 for exemplary academic results.
- Best Student**, Bumini Primary School
Best overall student in Kenya Certificate of Primary Education (KCPE) at Bumini Primary, scored 411/500 marks (2007).
- CONFERENCE PUBLICATIONS (peer-reviewed)**
- Collins W. Munyendo**, Philipp Markert, Alexandra Nisenoff, Mile 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. Aug 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 *Proceedings of the 31st USENIX Security Symposium (USENIX Security '22)*, Boston, MA. Aug 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 *Proceedings of the 43rd IEEE Symposium on Security and Privacy (IEEE S&P '22)*, San Francisco, CA. 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 *Proceedings of the 30th USENIX Security Symposium (USENIX Security '21)*, Virtual Conference. Aug 2021.

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. Aug 2021.

**TEACHING
EXPERIENCE**

Graduate Teaching Assistant Carnegie Mellon University
Pittsburgh, PA Fall 2019, 2020 and 2021
Course: Linux Programming.

Graduate Teaching Assistant Carnegie Mellon University
Pittsburgh, PA Fall 2018 and Spring 2019
Courses: First-Year Seminar and MSIT Practicum.

**INDUSTRY
EXPERIENCE**

Security Consultant Silensec Limited
Nairobi, Kenya Oct 2018 - Jul 2021
Secured the digital resources of the organization and its clients' via monitoring security events, alerts and incoming issues. Additionally administered security training.

Lead Ambassador Metis
Singapore Mar 2021 - Jul 2021
Coordinated and supported Metis Ambassadors across Africa, and improved visibility of the company through blogs and other technical write-ups.

Software Engineer Intern Leaf Global Fintech
Kigali, Rwanda Aug 2018 - Dec 2018
Researched and developed a USSD-to-blockchain system to enable refugees in the developing world easily and conveniently transfer value across borders.

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

Sales Intern World Ahead Biz
Nairobi, Kenya Sep 2016 - Oct 2017
Generated sales leads and secured new customers, prepared sales proposals and quotations, and supported existing customers. Additionally facilitated trainings.

Lead Researcher Genteel Fashion and Grooming
Nairobi, Kenya Jul 2015 - Jun 2016
Investigated the state-of-the-art fashion industry in Kenya, and developed customer buyer profiles for the company and its customers. Additionally explored new markets.

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.

**CONFERENCE
TALKS**

“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. May, 2022.

Using a Blocklist to Improve Security of User Selection of Android Patterns. *17th Symposium on Usable Privacy and Security (SOUPS '21)*, Virtual. Aug, 2021.

INVITED TALKS “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. May, 2022.

“Desperate Times Call for Desperate Measures”: User Concerns with Mobile Loan Apps in Kenya. University of Washington, Seattle, WA. 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. Dec, 2021.

MEDIA COVERAGE How Android Unlocking Patterns Could Be Made More Secure. *Tech Xplore and Ruhr University Bochum Press*, 2021.

PROFESSIONAL SERVICE **External Reviewer**, CHI 2022 Late-Breaking Work, 2022.
Member, GW Data Privacy Committee, 2022.

STUDENT MENTORING **Ruining Yang**, Masters Student, The George Washington University.
Xiaoyuan Wu, Undergraduate Student, The George Washington University.
Eddie Cosic, Undergraduate Student, The George Washington University.
Elena Korkes, Undergraduate Student, The George Washington University.
Miles Grant, Undergraduate Student, The George Washington University.
Julius Mkumbo, Masters Student, Carnegie Mellon University.
Kizito Nyuytiybiy, Masters Student, Carnegie Mellon University.

LEADERSHIP AND SERVICE **Student Leader** Bridges International
Washington, DC Jan 2022 - Present
Assisting and supporting international students at GW settle into life in the US.

Chapter Lead Blockchain Kenya
Nairobi, Kenya Oct 2019 - Present
Growing the blockchain ecosystem in Kenya through hackathons and other meetups.

Volunteer Nipe Sauti Africa
Nairobi, Kenya Dec 2016 - Present
Responsible for identifying and conducting projects to improve livelihoods in Kenya.

Mentor Django Girls Kigali
Kigali, Rwanda Aug 2017 - Present
Mentoring and introducing programming to young women in Rwanda.

BUIDL Ambassador Ethereum Foundation
Nairobi, Kenya Nov 2019 - May 2020
Nurtured community development and accelerated the adoption of blockchain technology through face-to-face as well as real-life interactions with users.

Chief Security Officer Software Engineering Club
Carnegie Mellon University Aug 2017 - May 2018
Improved cyber-awareness at the university through activities including a Cyber Security Hackathon with Facebook.

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

Member 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.

Volunteer St. Mary's Hospital
Mumias, Kenya Apr 2013 - Jun 2013
Measured temperature, weight and blood pressure of patients among other tasks.

**TECHNICAL
SKILLS**

Programming: Python, Java, C/C++, Bash, SQL, Matlab, \LaTeX .

Web Development: HTML, CSS, JavaScript.

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

Operating Systems: Unix, Linux, Mac OS, Windows, Android.

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

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