

# Karen Cheruto Sowon, PhD

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**RESEARCH** Human-computer interaction, Usable security and privacy, ICT for Development (ICT4D), Inclusive innovations, Social computing, Human-centered cybersecurity

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<b>EDUCATION</b>	<b>PhD, Information Systems</b> <i>University of Cape Town • South Africa</i> Dissertation: How the healthcare-seeking socio-cultural context shapes maternal health clients' mHealth utilization in a Kenyan context Advisor: Wallace Chigona	'21
	<b>MSc. IT (Information Systems Security and Audit)</b> <i>Strathmore University • Kenya</i> Thesis: A Mobile health architecture to provide home-based care using text messaging.	'10
	<b>Bachelor of Business Information Technology</b> <i>Strathmore University • Kenya</i>	'06

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## EMPLOYMENT HISTORY

### Teaching and Research

<b>Assistant Professor</b> Indiana University • O'Neill School of Environmental and Public Affairs	<i>Jan '24 – Present</i>
<b>Postdoctoral Research Associate</b> Carnegie Mellon University • Department of Electrical and Computer Engineering Advisors: Dr. Giulia Fanti, Dr. Conrad Tucker	<i>Aug '21 – Dec '24</i>
<b>Lead Researcher</b> Cybersecurity Capacity Center for Southern Africa (C3SA), South Africa	<i>Jan '21 – July '21</i>
<b>Senior Teaching and Research Assistant</b> University of Cape Town • Department of Information Systems	<i>Jan '20 – Dec '20</i>
<b>Lecturer</b> Kabarak University • School of Computing and Mathematics <ul style="list-style-type: none"><li>INTE 314: Internet Programming</li><li>INTE 421: Data Mining and Warehousing</li><li>COMP 100: Introduction to Computers</li></ul>	<i>Sep '14 – Mar '16</i>
<b>Assistant Lecturer</b> Strathmore University • Faculty of Information Systems <ul style="list-style-type: none"><li>BBT 4101: Information Resource Management</li><li>BBT 3101: Networking 1</li><li>BBT 2204: Database Systems</li><li>DBT1204: Systems Analysis and Design</li></ul>	<i>Jul '08 – Aug '14</i>

### Other work engagements

<b>Business Systems Analyst (Part-time)</b> University of Cape Town • Research Office	<i>May '16 - Dec '20</i>
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## Curriculum Vitae: Karen Sowon

### PUBLICATIONS

#### Peer Reviewed Conferences

**Sowon, K.**, Munyendo, C. W., Klucinec, L., Maingi, E., Suleh, G., Cranor, L. F., ... & Gueye, A. (2025). Design and Evaluation of Privacy-Preserving Protocols for Agent-Facilitated Mobile Money Services in Kenya. In *Twenty-First Symposium on Usable Privacy and Security (SOUPS 2025)* (pp. 391-413).

**Sowon, K.**, Luhanga, E., Cranor, L. F., Fanti, G., Tucker, C., & Gueye, A. (2024, May). The Role of User-Agent Interactions on Mobile Money Practices in Kenya and Tanzania. In *2024 IEEE Symposium on Security and Privacy (SP)* (pp. 752-769).

**Sowon, K.**, Luhanga, E., Cranor, L.F., Fanti, G., Tucker, C., Gueye, A. (2023). Poster: User-Agent Interactions in Mobile Money Banking in Kenya and Tanzania. In *ACM SIGCAS Conference on Computing and Sustainable Societies (COMPASS)*

Nakaizumi, C., Patel, S., Wang, B., Kimura, H., Li, R., Yuan, Y., **Sowon, K.**, Cranor, L.F. (2023). A usability evaluation of money transfer apps in the United States. In *Nineteenth Symposium on Usable Privacy and Security, (SOUPS 2023)*.

Njuguna, R., & **Sowon, K.** (2021, June). Poster: A Scoping Review of Alternative Credit Scoring Literature. In *ACM SIGCAS Conference on Computing and Sustainable Societies (COMPASS)* (pp. 437-444)

**Sowon, K** & Chigona, W. (2021). Conceptualizing Healthcare-Seeking as an Activity to Explain Technology Use: A Case of M-health. IFIP 9.4 Virtual Conference, May 26–28, 2021.

**Sowon, K** & Chigona, W. (2020). Trust in mHealth: How do Maternal Health Clients Accept and Use mHealth Interventions? In Conference of the South African Institute of Computer Scientists and Information Technologists 2020 (SAICSIT '20), September 14– 16, 2020, Cape Town, South Africa. ACM, New York, NY, USA, 9 pages.

**Sowon, K.**, Sikhwari, O., Nyemba-Mudenda, M., & Chigona, W. (2018). Smartphone Paradoxes in Working Mothers' Pursuit of Work-Life Balance. In *International Development Informatics Association Conference* (pp. 94-106).

Maliwichi, P., Chigona, W., & **Sowon, K.** (2023). Negotiating Mobile Phone Usage for MHealth by Maternal Healthcare Clients Who Do Not Own Mobile Phones in rural Malawi. *EPiC Series in Education Science, 5*, 135-150.

#### Peer Reviewed Journals

**Sowon, K.**, Maliwichi, P., Chigona, W., & Malata, A. (2024). The role of the community of purpose in maternal mHealth interventions in Sub-Saharan Africa context. *Frontiers in Digital Health, 6*, 1343965

**Sowon, K.**, & Chigona, W. (2022). How the information system utilization context may lead to unintended technology use: A case of a maternal mHealth intervention in Kenya. *The Electronic Journal of Information Systems in Developing Countries, 88*(4), e12212.

**Sowon, K.**, Maliwichi, P., & Chigona, W. (2022). The Influence of Design and Implementation Characteristics on the Use of Maternal Mobile Health Interventions in Kenya: Systematic Literature Review. *JMIR mHealth and uHealth, 10*(1), e22093.

Maliwichi, P., Chigona, W., & **Sowon, K.** (2021). Appropriation of mHealth Interventions for Maternal Health Care in Sub-Saharan Africa: Hermeneutic Review. *JMIR mHealth and uHealth* <https://doi.org/10.1145/3410886.3410895>

Echaminya, M., **Karen, S.**, & Kasamani, S. B. (2013). The 3D Gaming Simulation for a Real-World University Experience. *International Journal of Computer and Information Technology, 2*(3)

**Book Chapter**

**Sowon, K.,** Sikhwari, O., Nyemba-Mudenda, M., & Chigona, W. (2018). Smartphone Paradoxes in Working Mothers’ Pursuit of Work-Life Balance. In *International Development Informatics Association Conference* (pp. 94-106).

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**FUNDING HISTORY**

- Financial Inclusion via Novel Intelligence and Alternative data (FINIA)** '23  
Seed grant of USD 300,000 over three years from Afretec  
**Role:** project member and application co-writer
  - Cybersecurity framework for rural and disadvantaged schools in South Africa** '21  
ZAR 2,000,000 over 3 years from National Research Foundation, South Africa  
**Role:** Project member and grant application co-writer
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**INVITED TALKS AND PRESENTATIONS**

- National Institute of Standards and Technology (NIST) – U.S. Department of Commerce**  
Challenges and opportunities in the use of ID for mobile money services *Jul '23*
  - Upanzi Network Digital Public Goods Webinar Series**  
Challenges and opportunities in the use of mobile money services *June '23*
  - CMU Privacy Seminar**  
Practices of mobile money users in Kenya and Tanzania *May '23*
  - CyLab-Africa Summit on Digital Public Goods - Kigali, Rwanda**  
The role of human agents in privacy and security of digital financial systems *Oct '22*
  - Turing Institute, UK**  
An infrastructure for collection and detection of smishing messages in low-resource languages in the African Context *May '22*
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**AWARDS**

- IAPP SOUPS Privacy Award '25
  - Rising Stars in EECS, Georgia Tech '23
  - CPR South Young Scholars Award '16
  - High Achievers’ Scholarship (Strathmore University) '08
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**PROFESSIONAL MEMBERSHIP AND SERVICE**

- Member, ACM SIGCHI *Jan '23 - present*
- Program committee, USENIX '24-'25
- Program committee, IEEE Symposium on Security and Privacy '23
- Reviewer, ACM COMPASS '23
- Reviewer, Frontiers in Digital Health '23-'24
- Co-organizer, Speaker and Panel chair, CyLab-Africa Summit on Digital Public Goods '22
- Track chair, IFIP 9.4 '21