

Gloire Rubambiza

Cornell Bowers Computing and Information Science (CIS)
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Education

Cornell University	Ph.D., Computer Science	2018 - 2024 (Expected)
Cornell University	M.S., Computer Science	2018 - 2022
Grand Valley State University	B.S., Computer Science	2014 - 2018

Research Interests

Computer Systems & Networking, Human-Computer Interaction (HCI)

Publications

Refereed Conference and Journal Papers

- **Gloire Rubambiza**, Shiang-Wan Chin, Sachille Atapattu, Mueed Rehman, José F. Martínez, and Hakim Weatherspoon, “Comosum: An Extensible, Reconfigurable, and Fault-Tolerant IoT Platform for Digital Agriculture”, USENIX Annual Technical Conference (**ATC '23**), 2023
- **Gloire Rubambiza**, Braulio Dumba, Andrew Anderson, and Hakim Weatherspoon, “EdgeRDV: A Framework for Edge Workload Management at Scale”, IEEE International Conference on Edge Computing and Communications (**Edge '23**), 2023
- **Gloire Rubambiza***, Fernando Romero Galvan*, Ryan Pavlick, Hakim Weatherspoon, and Kaitlin M. Gold, “Towards Cloud-Native, Machine Learning Based Detection of Crop Disease with Imaging Spectroscopy”, *Journal of Geophysical Research, Biogeosciences*, 2023
- **Gloire Rubambiza**, Phoebe Sengers, and Hakim Weatherspoon, “Seamless Visions, Seamful Realities: Anticipating Rural Infrastructural Fragility in Early Design of Digital Agriculture”, ACM Conference on Human Factors in Computing Systems (**CHI '22**), 2022

Under Submission

- **Gloire Rubambiza**, Phoebe Sengers, Hakim Weatherspoon, Jen Liu, “Seam Work and Simulacra of Societal Impact in Networking Research: A Critical Technical Practice Approach”
- Lara Roeven, Steven Wolf, Phoebe Sengers, Jen Liu, **Gloire Rubambiza**, Donny Persaud, Hakim Weatherspoon, “Analyzing abstraction in critical agri-food studies and computer science: Toward interdisciplinary analysis of digital agriculture innovation”

Workshop Papers

- **Gloire Rubambiza**, Phoebe Sengers, and Hakim Weatherspoon, “Paradoxes in Producing the Future of Farm Work: Anticipating Social Impact through the Lens of Early Adopters”, *Automation Experience at the Workplace* Workshop at **CHI ’21**, 2021

Technical Reports

- Danny Adams, **Gloire Rubambiza**, Pablo Fiori, Xinwen Wang, Hakim Weatherspoon and Robbert Van Renesse, “Tamperproof Provenance-Aware Storage for Mobile Ad Hoc Networks”, 2020

Extended Abstracts

- **Gloire Rubambiza**, Hakim Weatherspoon, José F. Martínez, and Abraham Stroock, “WaterGuard: Toward Cheap Automated Irrigation Systems Powered by the Cloud and TV White Spaces”, CMD-IT/ACM Richard Tapia Celebration of Diversity in Computing Conference (**TAPIA ’20**), 2020
- Martin Matias Perez, **Gloire Rubambiza**, Brandon Barker, Hakim Weatherspoon, and Julio O. Giordano, “Automated real-time integration of data from multiple sensors and nonsensor systems for prediction of dairy cow and herd status and performance”, *Journal of Dairy Science*, Vol. 103, Suppl. 1, 2020
- Kolbeinn Karlsson, Danny Adams, **Gloire Rubambiza**, Zangyueyang Xian, Robbert Van Renesse, Hakim Weatherspoon, and Stephen Wicker, “Untethered: Deployable Blockchains for IoT Environments”, In Proceedings of the ACM Symposium on Cloud Computing (**SoCC ’18**), 2018

Presentations

Conference Talks

- Towards Resilient Rural Networking Infrastructure for Digital Agriculture. Doctoral Consortium at CMD-IT/ACM Richard Tapia Celebration of Diversity in Computing Conference. Dallas, TX, September 2023
- Comosum: An Extensible, Reconfigurable, and Fault-Tolerant IoT Platform for Digital Agriculture. USENIX Annual Technical Conference (ATC). Boston, MA, July 2023
- EdgeRDV: A Framework for Edge Workload Management at Scale. IEEE International Conference on Edge Computing and Communications. Chicago, IL, July 2023
- Seamless Visions, Seamful Realities: Anticipating Rural Infrastructural Fragility in Early Design of Digital Agriculture. ACM Human Factors in Computing Conference (CHI). New Orleans, LA, May 2022
- Measurement and Statistical Analysis of Submarine Internet Cable Performance. Leadership Alliance National Symposium. Hartford, CT, August 2017
- Improving African Internet Traffic through Maximization of Node Centrality. 22nd Annual University at Buffalo McNair Summer Research Conference. Buffalo, NY, July 2016

Seminar Talks

- Towards Resilient Rural Networking Infrastructure for Digital Agriculture. UIUC CS Systems Seminar. Urbana-Champaign, IL, 2023
- Towards Resilient Rural Networking Infrastructure for Digital Agriculture. University of Texas at Austin CS Systems Seminar. Austin, TX, 2023
- Towards Resilient Rural Networking Infrastructure for Digital Agriculture. Stanford University HCI Lunch. Stanford, CA, 2023
- Comosum: An Extensible, Reconfigurable, and Fault-Tolerant Platform for Digital Agriculture. Northeastern University pre-OSDI/ATC Workshop. Boston, MA, 2023
- Towards Resilient Rural Networking Infrastructure for Digital Agriculture. University of Washington CSE Systems Seminar. Seattle, WA, 2022
- Seamless Visions, Seamful Realities: Anticipating Rural Infrastructural Fragility in Early Design of Digital Agriculture. University of Washington ICTD Seminar. Seattle, WA, 2022
- Paradoxes in Producing the Future of Farm Work: Anticipating Social Impact through the Lens of Early Adopters. IBM Hybrid Cloud Academic Project Forum (Virtual). 2021
- Paradoxes in Producing the Future of Farm Work: Anticipating Social Impact through the Lens of Early Adopters. FarmBeats User Community Workshop (Virtual). 2021
- Towards a Software-Defined Farm. Cornell Life Sciences Lecture Series. Ithaca, NY, 2019

Posters

- Toward Cheap Automated Irrigation Systems Powered by the Cloud and TV White Spaces. CMD-IT/ACM Richard Tapia Celebration of Diversity in Computing Conference. 2020
- An IoT-friendly Blockchain for Coordination and Accountability. The Cornell, Maryland, Max Planck Pre-doctoral Research School. 2019
- An IoT-friendly Blockchain for Coordination and Accountability. Public Safety Broadband Stakeholder Meeting (PSCR). 2019
- Measurement and Statistical Analysis of Submarine Internet Cable Performance. Grand Valley State University Student Scholars Day. 2018
- Measurement and Statistical Analysis of Submarine Internet Cable Performance. Michigan AGEF Alliance Fall Conference. 2017
- Improving African Internet Traffic through Maximization of Node Centrality. Grand Valley State University Student Scholars Day. 2017
- Improving African Internet Traffic through Maximization of Node Centrality. Grand Valley State University Summer Scholar Symposium. 2016

Honors and Awards

SUNY Provost Diversity Fellowship (\$31,313)	Spring 2024
Best Doctoral Presentation - Tapia Doctoral Consortium (\$1000)	September 2023
NSF-NRT Digital Plant Science Fellowship (\$72,658)	2023 - 2024
Cornell Bowers CIS Distinguished Leadership in Service (\$500)	April 2023
NSF-NRT Digital Plant Science Fellowship (\$140,350)	2020 - 2022
Microsoft Cornell Digital Agriculture Fellowship (\$11,250)	Summer 2020
NSF-GRFP Honorable Mention	March 2020
Diversifying LEAdership in the Professoriate (LEAP) Fellowship	2018 - 2024
Cornell University Fellowship (\$62,678)	2018 - 2019
Paul G. Allen School First-Year Ph.D. Fellowship (\$43,836, Decl.)	2018 - 2019
UF Graduate School Preeminence Award (\$38,319, Decl.)	2018 - 2019
Achievement Rewards for College Scientists (\$17,500, Decl.)	2018
Grand Finish Grant (\$1000)	2017 - 2018
Upsilon Pi Epsilon Honor Society	2017 - 2018
Eric Jon Gillette Memorial Scholarship (\$3000)	2016 - 2018
Ronald E. McNair Scholar	2015 - 2018
Grand Valley Grant (\$8500)	2014 - 2018
Grand Valley Laker Scholarship (\$4000)	2014 - 2018
Michigan State Competitive Scholarship (\$3000)	2014 - 2018
Rivertown Community Commitment Scholarship (\$1000)	2014 - 2015

Travel Grants

Tapia Celebration of Diversity in Computing Conference (\$600)	September 2023
NextProf Nexus 2023 (\$660)	August 2023
USENIX Annual Technical Conference 2023 (\$600)	July 2023
CSST Summer Research Institute 2023 (\$600)	June 2023
Networked Systems Design and Implementation 2022 (\$800)	April 2022
Symposium on Operating Systems Principles 2019 (\$1,365)	October 2019
CRA URMD Grad Cohort 2019 (\$1200)	March 2019
ACM Symposium on Cloud Computing 2018 (\$700)	October 2018
Tapia Celebration of Diversity in Computing Conference (\$600)	September 2018

Professional Service

CHI 2024	Reviewer	October 2023
SIGCOMM SNIP2+	Workshop Co-organizer	September 2023
CSCW 2023	Reviewer	February 2023
IEEE ICDSN	Student Volunteer	June 2017

Industry Experience

IBM	Research Intern	September 2022 - December 2022
<ul style="list-style-type: none">• Architected scalable methods for data and workload management on millions of edge devices• Filed patent application (pending) on state and workload management at the edge		
Meta (Facebook)	UX Research Intern	May 2022 - August 2022
<ul style="list-style-type: none">• Improved engineering experience with code deletion projects using internal tools• Executed new research on engineering pain points at the intersection of code and data deletion		
IBM	Research Intern	May 2021 - August 2021
<ul style="list-style-type: none">• Implemented a Kubernetes-native data mining platform for dozens of AI hardware engineers• Research results uncovered \$11,000 in potential AWS cloud consumption savings per week		
Collective Idea	Software Development Intern	August 2016 - December 2016
<ul style="list-style-type: none">• Developed a predictive cron job failure algorithm for the Dead Man's Snitch application• Pair-programmed with senior developers on in-house projects such as add.a.lingua		

Teaching Experience

Machine Learning Application to Plant Science (PLSCI 7202)	Fall 2021
Pre-Sophomore Summer Program in Computer Science (CS 3410)	June 2020
Computer System Organization and Programming (CS 3410)	Spring 2020
SoNIC Summer Research Workshop	June 2019

Media

2023

- **Cornell Bowers CIS:** "Rubambiza receives best doctoral presentation at TAPIA conference for digital ag work." November 8, 2023
- **Los Angeles Times:** "NASA technology can spot wine grape disease from the sky. The world's food supply could benefit." September 5, 2023
- **NASA Earth Press Release:** "NASA helps spot wine grape disease from skies above California." August 4, 2023
- **NASA JPL Media Office:** "NASA Helps Spot Wine Grape Disease From Skies Above California" August 4, 2023 - Picked up by Wine Business, SlashGear, The Sacramento Bee, Hot Hardware, KTLA, Hacker News
- **Cornell Bowers CIS,** "Cornell Bowers CIS celebrates second annual DEIB Awards", May 4, 2023

2022

- **Cornell Chronicle:** “Researchers consider invisible hurdles in digital ag design.” June 22, 2022
- **Cornell Bowers CIS:** “Digital Ag Systems Won’t Be Plug-and-Play - And That’s Okay” June 21, 2022

2021

- **School News Network:** “I’m hoping the world will be my oyster” April 23, 2021

2019

- **Cornell Bowers CIS:** “Inspire - Innovate - Impact: CIS@20 Celebratory Video” October 2019

Undergraduate Research Experience

University of Colorado Boulder SMART Program	June 2017 - August 2017
Ronald E. McNair Scholars Summer Research Program	May 2016 - August 2016

Mentoring and Service

Cornell CIS Diversity Council	Graduate Representative	Jan. 2019 - Mar. 2021
GSGIC/WICC/GradSWE Graduate School Panel	Panelist	Apr. 2021
Cornell CS PhD Mentoring Program	Mentor	Aug. 2019 - Aug. 2020
Cornell URM Career Fair Prep	Graduate Reviewer	Sept. 2019
Cornell, Maryland, Max Planck Summer School	Cornell Representative	Aug. 2019
SoNIC Summer Research Workshop	Graduate Panelist	June 2019
Cornell McNair Scholars Graduate Application Panel	Graduate Panelist	Oct. 2018

Volunteering and Leadership Experience

IBM P-TECH Program	Presenter	July 2021
The Village at Ithaca	Student Achievement Coach	Jan. 2019 - Feb. 2019
The Immigrant Connection	Citizenship Class Tutor	Jan. 2017 - Mar. 2017
Samaritas	Cultural Mentor/ESL Tutor	Sept. 2016 - Dec. 2016
GVSU Office of Undergraduate Research & Scholarship	Session Host	Apr. 2016