

# Gloire Rubambiza

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## Education

Cornell University	Ph.D., <b>Computer Science</b>	2018 - 2024 (Expected)
Cornell University	M.S., <b>Computer Science</b>	2018 - 2022
Grand Valley State University	B.S., <b>Computer Science</b>	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. 22<sup>nd</sup> Annual University at Buffalo McNair Summer Research Conference. Buffalo, NY, July 2016

## Seminar Talks

- 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

## Honors and Awards

<b>Best Doctoral Presentation - Tapia Doctoral Consortium</b>	September 2023
<b>NSF-NRT Digital Plant Science Fellowship</b>	2023 - 2024
<b>Cornell Bowers CIS Distinguished Leadership in Service</b>	April 2023
<b>NSF-NRT Digital Plant Science Fellowship</b>	2020 - 2022
<b>Microsoft Cornell Digital Agriculture Fellowship</b>	Summer 2020
<b>NSF-GRFP Honorable Mention</b>	March 2020
<b>Diversifying LEAdership in the Professoriate (LEAP) Fellowship</b>	2018 - 2024
<b>Cornell University Fellowship</b>	2018 - 2019
<b>Upsilon Pi Epsilon Honor Society</b>	2017 - 2018
<b>Eric Jon Gillette Memorial Scholarship</b>	2016 - 2018
<b>Ronald E. McNair Scholar</b>	2015 - 2018
<b>Rivertown Community Commitment Scholarship</b>	2014 - 2015

## Travel Grants

ACM Tapia Celebration of Diversity in Computing Conference	September 2023
NextProf Nexus	August 2023
USENIX Annual Technical Conference (ATC '23)	July 2023
CSST Summer Research Institute (CSST '23)	June 2023
USENIX Networked Systems Design and Implementation (NSDI '22)	April 2022
ACM Symposium on Operating Systems Principles (SOSP '19)	October 2019
Computing Research Association 2019 URMD Grad Cohort	March 2019
ACM Symposium on Cloud Computing (SoCC 2018)	October 2018
ACM Tapia Celebration of Diversity in Computing Conference	September 2018

## Professional Service

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

## Industry Experience

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

## 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

## Undergraduate Research Experience

### University of Colorado Boulder SMART Program

June 2017 - August 2017

**Advisor:** Dr. Dirk Grunwald, Area: Systems

Submarine cables handle approximately 95% of inter-continental Internet traffic. This project aims to elucidate the performance of submarine cables through analysis of metrics such as available bandwidth and packet latency.

### Ronald E. McNair Scholars Summer Research Program

May 2016 - August 2016

**Advisor:** Dr. Jerry Scripps, Area: Networks

For most African nations, a broadband Internet subscription is more than the average per capita yearly income. This project attempts to improve the intra-African Internet traffic using strategic fiber-optic link addition algorithms to increase the closeness of a sample network.

## Mentoring and Service

### Cornell CIS Diversity Council

Graduate Representative

Jan. 2019 - Mar. 2021

- Advising CIS leadership on diversity and inclusion climate
- Coordinating the Diversity Breakfast during Cornell CS Ph.D Visit Days

### GSGIC/WICC/GradSWE Graduate School Panel

Panelist

April 2021

- Discussed issues of mental health and imposter syndrome as a PhD student
- Offered tips on success before and during the PhD process

### Cornell CS PhD Mentoring Program

Mentor

Aug. 2019 - August 2020

- Acted as a resource to first-year Ph.D. students in their graduate school transition
- Helped mentees navigate and find other resources on campus

### Cornell URMC Career Fair Prep

Graduate Reviewer

September 2019

- Critiqued and developed strategies for powerful résumés
- Offered tips on concise and effective elevator pitches

### Cornell, Maryland, Max Planck Summer School

Cornell Representative

August 2019

- Engaged top students on the process of applying to Ph.D programs
- Facilitated student introductions to world class faculty at Cornell

### SoNIC Summer Research Workshop

Graduate Panelist

June 2019

- Provided insights on life as an underrepresented graduate student in Computer Science
- Discussed strategies for successful graduate school applications

### Cornell McNair Scholars Graduate Application Panel

Graduate Panelist

October 2018

- Discussed Ph.D application tips for former McNair Scholars
- Offered negotiation strategies for Ph.D admission offers

## Volunteering and Leadership Experience

**Skype A Scientist**                      Graduate Student Volunteer                      March 2020 - December 2021

- Coordinating with K-12 teachers on appropriate guest lecture material
- Delivering guest lectures on computer systems research

**IBM P-TECH Program**    Presenter    July 2021

- Highlighted mindfulness at work and bias in AI/ML to high school sophomores
- Led discussion on diversity, equity, and inclusion in the computing workforce

**The Village at Ithaca**                      Student Achievement Coach                      January 2019 - February 2019

- Introduced new tutors to the structure of community-based learning environments
- Fostered a positive academic learning environment for local K-12 students through one-on-one tutoring support and empowerment through trust based connections

**The Immigrant Connection**                      Citizenship Class Tutor                      January 2017 - March 2017

- Familiarized local immigrants with the U.S citizenship process
- Improved the future citizens' confidence and English literacy through quizzing on American civics and history in anticipation for the U.S. citizenship test

**Samaritas**                      Cultural Mentor/ESL Tutor                      September 2016 - December 2016

- Organized weekly English lessons for an immigrant family to strengthen their English speaking and writing skills
- Coordinated occasional trips to downtown Grand Rapids, MI and surrounding areas to familiarize the family with their new environment

**GVSU Office of Undergraduate Research & Scholarship**                      Session Host                      April 2016

- Provided ongoing welcome and direction to poster presenters and attendees
- Coordinated with the OURS office to keep presentation rooms on schedule