

Daniel Ogenrwot

Ph.D Cand., Computer Science

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“And you will know the truth, and the truth will set you free.”
YESHUA, A.D 2000

Experience

2023

Graduate Research/Teaching Assistant, *Department of Computer Science*, University of Nevada Las Vegas (UNLV), Las Vegas, Nevada, United States.
<https://unlv.edu>

2022
2023

Assistant Lecturer, *Department of Computer Science*, Gulu University.
<https://gu.ac.ug>

2023

Ph.D Research Fellow, *AirQo Project, College of Computing and Information Sciences*, Google.org Impact Challenge Project, Makerere University.
<https://airqo.net>

2019
2022

Software Engineer, *AirQo Project, College of Computing and Information Sciences*, Google.org Impact Challenge Project, Makerere University.
<https://airqo.net>

2017
2021

Teaching Assistant (Graduate Trainee), *Department of Computer Science*, Gulu University.
<https://gu.ac.ug>

2016
2017

Head of Technical Department, *Zoom Wireless ISP/SINFA Uganda Ltd.*, Note: Project officially ended in the year 2020.

2014
2016

Network Operation Centre (NOC) Engineer.

Zoom Wireless ISP/SINFA Uganda Ltd.

Note: Project officially ended in the year 2020

2012
2014

Micro Worker, *Sama Uganda.*, <https://www.sama.com>.

Education

2023

Ph.D. in Computer Science, *University of Nevada Las Vegas (UNLV)*.

Las Vegas, Nevada, United States

○ Advisor (s): Dr. John Businge

Current CGPA : 4.00/4.00 (Distinction)

CGPA :

2018
2020

MSc. in Computer Science, *Makerere University*, Kampala, Uganda.

○ Advisor (s): Dr. Joyce Nakatumba-Nabende & Prof. Michel Chaudron

○ Thesis: *Using Machine Learning to Understand the Association of Design Smells with Role Stereotypes in Software Systems.*

CGPA : 4.47/5.00 (Distinction)

BSc. in Computer Science, *Gulu University*, Gulu, Uganda.

○ Advisor (s): Dr. Geoffrey Andogah

○ Project Report: *Contextually and Geographically Relevant Ads Placement System.*

CGPA : 4.48/5.00 (First Class Honours)

Research Area

Software Engineering

- Software bug localization & patching
- Software maintenance and reuse
- Software variants (social forks and divergent forks)
- Software evolution
- Code & Design smells detection

ML/AI

- Automatic program repair
- Agentic LLM for software systems
- Generative Adversarial Networks (GANs)
- AI4Science

Data Mining

- Mining Software Repositories
- Graph mining
- Dependency network analysis

Honors & Awards

2025 **Distinguish Artifact Award**, The 25th IEEE International Conference on Source Code Analysis and Manipulation (SCAM).

2025 **GPSA Research Grant**, *Amount: \$1,249*, Graduate & Professional Student Association (GPSA), UNLV.

2024 **UNLV Access Grant**, *Amount: \$2,000*, University of Nevada, Las Vegas.

2024 **Roy and Helen Kelsall Scholarship Fund**, *Amount: \$1,000*, College of Engineering, University of Nevada, Las Vegas, Awarded for academic excellence.

2024 **GPSA Research Grant**, *Amount: \$1,456*, Graduate & Professional Student Association (GPSA), UNLV.

2019 **MTN MoMo Open API Challenge — 1st Runner-Up (Transport)**, *Prize: \$2,000*, MTN Mobile Money.

2018 **Mak–Sida Bilateral Program Scholarship (MSc, Computer Science)**, *Total value: \$15,000*, Makerere University / Sida (Swedish Government) Two-year scholarship.

2013 **First-Class Honors, BSc Computer Science**, Gulu University, Uganda. Offered Teaching Assistant position.

Academic Distinction

Certifications

2025 **Microsoft**.
GitHub Copilot

2023 **Elsevier**.
Certified Peer Reviewer

2023 **UNLV Alliance of Professionals of African Heritage**.
Certificate of Academic Excellence

2022

IETLS.

British Council Professional English Language Certificate with overall band score of 7.0

2020

Huawei Certified ICT Associate-Artificial Intelligence (HCIA-AI).

Huawei

2020

Google Cloud, Certificate of Completion.

Google Africa Developers Training Program

2020

Cloud Application Developer 2019, Mastery Award.

IBM Cloud

2020

Cloud Application Developer 2019 , Explorer Award.

IBM Cloud

Publications

Book Chapters

2025 **Deo Okure, Engineer Bainomugisha, Ogenrwot, Daniel, Richard Sserunjogi, Priscah Adrine, and Gabriel Okello**, *Case Study of Participatory Data-Driven Approaches to Improve Urban Air Quality in Kampala, Uganda*, JHU Press, 2025.

Journal Articles

2025 Blessing U Mberu, Elaine O Nsoesie, Mansoureh Abbasi, Priscah Adrine, Femi Ola Aiyegebaje, Edward Asemadahun, Engineer Bainomugisha, Elizabeth Bakibinga, Pauline Bakibinga, Donatien Beguy, **Ogenrwot, Daniel**, et al. *Urban Health in Africa*. Johns Hopkins University Press, 2025.

2022 Richard Sserunjogi, Joel Ssematimba, Deo Okure, **Daniel Ogenrwot**, Priscilla Adong, Lillian Muyama, Noah Nsimbe, Martin Bbaale, and Engineer Bainomugisha. Seeing the air in detail: Hyperlocal air quality dataset collected from spatially distributed airqo network. *Data in Brief*, volume 44, page 108512, 2022.

2021 **Daniel Ogenrwot**, Joyce Nakatumba-Nabende, and Michel R.V. Chaudron. Integration of design smells and role-stereotypes classification dataset. *Data in Brief*, volume 36, page 107125, 2021.

2019 Anthony Arthur Ashaba, Drake Patrick Mirembe, Robert Tumusiime, and **Ogenrwot, Daniel**. A rule induction attribution selection algorithm for intrusion detection systems. *International Journal of Technology and Management*, volume 4, pages 14–14, 2019.

In Conference Proceedings

2026 **Ogenrwot, Daniel**, John Businge, and Shaikh Arifuzzaman. Structural and connectivity patterns in the maven central software dependency network. In Nick Rahimi, Venkat Margapuri, and Noor Amiri Golilarz, editors, *Software and Data Engineering*, pages 129–151, Cham, 2026. Springer Nature Switzerland.

2026 Richard Sserunjogi, **Ogenrwot, Daniel**, Nicholas Niwamanya, Noah Nsimbe, Martin Bbaale, Benjamin Sempala, Noble Mutabazi, Raja Fidel Wabinayi, Deo Okure, and Engineer Bainomugisha. Design and evaluation of a scalable data pipeline for ai-driven air quality monitoring in low-resource settings. In Nick Rahimi, Venkat Margapuri, and Noor Amiri Golilarz, editors, *Software and Data Engineering*, pages 212–231, Cham, 2026. Springer Nature Switzerland.

2025 **Ogenrwot, Daniel** and John Businge. Refactoring-aware patch integration across structurally divergent java forks. In *2025 IEEE International Conference on Source Code Analysis & Manipulation (SCAM)*, pages 25–36, 2025. **Distinguished Artifact Award**.

2024 **Ogenrwot, Daniel** and John Businge. Patchtrack: Analyzing chatgpt's impact on software patch decision-making in pull requests. In *Proceedings of the 39th IEEE/ACM International Conference on Automated Software Engineering*, ASE '24, page 2480–2481, New York, NY, USA, 2024. Association for Computing Machinery.

2024 **Daniel Ogenrwot**, Joyce Nakatumba-Nabende, John Businge, and Michel R. V. Chaudron. Empirical investigation of the relationship between design smells and role stereotypes. 2024.

2023 Deo Okure, **Ogenrwot, Daniel**, Noah Nsimbe, Lillian Muyama, Priscilla Adong, Richard Sserunjogi, Martin Bbaale, and Engineer Bainomugisha. Data management in resource-limited settings: Unpacking the role of robust digital solutions for air quality data management in african cities. 2023.

2022 **Ogenrwot, Daniel**, Geoffrey Olok Tabo, Kevin Aber, and Joyce Nakatumba-Nabende. From undergraduate (software) capstone projects to start-ups: Challenges and opportunities in higher institutions of learning. In *Proceedings of the Federated Africa and Middle East Conference on Software Engineering*, FAMECSE '22, page 73–82, New York, NY, USA, 2022. Association for Computing Machinery.

2022 Deo Okure, Engineer Bainomugisha, **Ogenrwot, Daniel**, Richard Sserunjogi, Priscilla Adrine, Gabriel Okello, Priscilla Adong, Martin Bbaale, and Joel Ssematimba. Building an africa-focused framework for air quality management: The role of low-cost sensors and digital platforms for effective data management and engagement for action. In *Fall Meeting 2022*. AGU, 2022.

2022 Priscilla Adong, Deo Okure, Noah Nsimbe, Joseph Odur, Joel Ssematimba, Richard Sserunjogi, Deo Okedi, **Ogenrwot, Daniel**, Martin Bbaale, Michael Smith, et al. Sensor calibration to enhance large-scale low-cost air quality monitoring in sub-saharan africa. In *Fall Meeting 2022*. AGU, 2022.

2020 **Ogenrwot, Daniel**, Joyce Nakatumba-Nabende, and Michel RV Chaudron. Comparison of occurrence of design smells in desktop and mobile applications. In *ACSE*, 2020.

Reports & Thesis & Dissertations

2020 **Ogenrwot, D.**, (2021). Using machine learning to understand the association of design smells with role-stereotypes in software systems. *MSc. Computer Science Thesis*, Makerere University, Kampala, Uganda.

2013 **Ogenrwot, D., Drani, A., Wandarah, C. & Odong, M.**, (2013). Contextually and geographically relevant ads placement system. *BSc. Computer Science Project Report*, Gulu University, Gulu, Uganda.

Presentations

Conference Presentations

2025

Refactoring-Aware Patch Integration Across Structurally Divergent Java Forks, *The University of Auckland, New Zealand*.
The 25th IEEE International Conference on Source Code Analysis and Manipulation (SCAM)

2025

Structural and Connectivity Patterns in the Maven Central Software Dependency Network, *Holiday Inn Downtown Superdome, New Orleans, Louisiana, USA*.
The 34th International Conference on Software Engineering and Data Engineering (SEDE)

2025

Design and Evaluation of a Scalable Data Pipeline for AI-Driven Air Quality Monitoring in Low-Resource Settings, *Holiday Inn Downtown Superdome, New Orleans, Louisiana, USA*.
The 34th International Conference on Software Engineering and Data Engineering (SEDE)

2024

PatchTrack: Analyzing ChatGPT's Impact on Software Patch Decision-Making in Pull Requests, *Sacramento, California, USA*.
The 39th IEEE/ACM International Conference on Automated Software Engineering (ASE)

2023

Data management in resource-limited settings: Unpacking the role of robust digital solutions for air quality data management in African cities, *Austria Center, Vienna, Austria*.
The 2023 European Geosciences Union Assembly (EGU'23)

Invited Talks

2020

Topic: Introduction to Machine Learning, *Google DevFast, Gulu Chapter, Uganda*.

Teaching

Teaching Assistantship at University of Nevada, Las Vegas, U.S.A

2023

Fall/Spring: CS472/672-1001 Software Product Development I, Enrollment: 80.

Undergraduate Senior Design

2023

Summer: CS477/677 Design and Analysis of Algorithms, Enrollment: 30.

Undergraduate/Graduate

2024

Fall/Spring: C472/672-1001/1002 Software Product Development I, Enrollment: 60/45.

Undergraduate Senior Design

2024

Spring: CS472/672-1002 Software Product Development I, Enrollment: 50.

Undergraduate Senior Design

2025

Fall: CS472/672-1001/1002 Software Product Development I, Enrollment: 25/40.

Undergraduate Senior Design

2025

Fall: CS789 - Software Re-engineering, Enrollment: 13, Advanced Topics in Computer Science.

Graduate Level

Teaching at Gulu University, Gulu City, Uganda

2022

Instructor.

- MID7104 Database Modeling - Graduate
- MID7109 Mobile Applications Development - Graduate
- GCS3203 Parallel Computation
- GIT3104 Integrative Programming
- GIT3101 Web Systems & Technologies II
- GCS3204 Mobile Application Development in Java
- GCS3102 Mobile Web Application Development
- GAT3201 Web Game Development

2021

Instructor.

- MID7104 Database Modeling - Graduate
- MID7109 Mobile Applications Development - Graduate
- GCS3203 Parallel Computation
- GIT3104 Integrative Programming
- GIT3101 Web Systems & Technologies II
- GCS3204 Mobile Application Development in Java
- GCS3102 Mobile Web Application Development

2019

Instructor.

- MID7104 Database Modeling - Graduate
- GIT3104 Integrative Programming
- GIT3101 Web Systems & Technologies II
- GCS3204 Mobile Application Development in Java
- GCS3102 Mobile Web Application Development

2018

Instructor.

- GIT3101 Web Systems & Technologies II
- GCS3204 Mobile Application Development in Java
- GCS3102 Mobile Application Development

Supervision and Mentorship

Graduate Research

2025

Grant Katureebe, *Master of Science in Information and Communication Technology for Development (ICT4D)*, Gulu University, Research Topic: Designing a Low-Cost Multimodal Internet of Things Sensor Network for Hyperlocal Air Quality Monitoring in Uganda: A Case Study of Gulu City.

Status: Ongoing

Ungraduate (Group) Capstone Projects

2022

Kiiza Trevor; Kansiime Kenneth; Oketch Edward, BSc. Computer Science / Bachelor of Information and Communication Technology, Project: TraceX: A Mobile Application for Verifying the Authenticity and Originality of ICT Products.

Status: Completed

2022

Brian Okwairwoth Ojuk, Vivian Akot, Wilber Asiime, BSc. Computer Science / Bachelor of Information and Communication Technology, Project: Medicine Authentication System.

Status: Completed

2021

Alinda Fortunate, Mahirwe Jovile, Mujunante Wensi, BSc. Computer Science / Bachelor of Information and Communication Technology, Project: Smart Soil Analyzer.

Status: Completed

2021

Onen Geoffrey, Ayura Florence, Sebaggala Herbert, BSc. Computer Science / Bachelor of Information and Communication Technology, Project: Smart Fish Pond Monitoring System.

Status: Completed

2021

Ochola Samuel, Anek Diana, Obalim Douglas Francis, BSc. Computer Science / Bachelor of Information and Communication Technology, Project: Automated Android Hardcopy Document Digitizer (AHDD) Application.

Status: Completed

Professional Services

PC Member

- Junior PC Member at the 23rd International Mining Software Repositories Conference

Journal Reviewer

- Springer Nature Scientific Reports
- Data in Brief Elsevier Journal
- Journal of Advances in Information Technology

Academic Membership

- ACM
- IEEE
- The United States Research Software Engineer Association (US-RSE)

Referees

Dr. John Businge

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Prof. Dr. Michel R.V. Chaudron

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Eindhoven University of Technology, Netherlands
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Dr. Benedict Oyo

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