

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)

2010
2013

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 vulnerability analysis
 - Software maintenance and reuse
 - Software variants (social forks and divergent forks)
 - Software evolution
 - Code & Design smells detection
 - Version control systems
- 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

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 Aiyegbajeje, 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 Wabinyai, 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, Priscah 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

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.

Research Grant

2024

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

Grant

2024

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

Scholarship

2024

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

Research Grant

2019

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

Competition Award

2018

Mak-Sida Bilateral Program Scholarship (MSc, Computer Science), *Total value: \$10,000*, Makerere University / Sida (Swedish Government) Two-year scholarship.

Scholarship

2013

First-Class Honours, BSc Computer Science, Gulu University, Uganda. Offered Teaching Assistant position.

Academic Distinction

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

Undergraduate (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

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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University of Nevada Las Vegas, USA
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Dr. Joyce Nakatumba-Nabende

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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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✉ b.oyo@gu.ac.ug