

# ALINANI SIMUKANGA

## LECTURER

### CAREER

**University of Edenberg, Lusaka, Zambia** | Lecturer B 08/07/2024 - Present

- Taught *CSE111 - Introduction to Information Technology*, *CSE113 - Computer Architecture and Organization*, *CSE114 - Programming with Python*, *CSE122 - Object-Oriented Programming with C++*, *CSE124 - Operating Systems* and *CSE125 - Data Structures and Algorithms*.
- Currently lecturing *CSE114 - Programming with Python*, *CSE122 - Object-Oriented Programming with C++*, *CSE124 - Operating Systems* and *CSE125 - Data Structures and Algorithms*.
- Held the role of Program Coordinator for Undergraduate and Postgraduate programs under the School of Computer Science & IT.

**ZCAS University - Lusaka, Zambia** | Part-time Lecturer 28/02/2024 - 03/01/2025

- Taught *Cyber Security Operations (CIT4351)* to full-time, part-time, and distance students (21). Organised and conducted laboratory sessions to familiarise students with commonly used tools in cybersecurity.
- Taught *Component and Connection Security (CIT3362)* and *IoT Fundamentals: IoT Security (CIT3352)* to full-time, part-time, and distance students (18).

**EQUIP - Lusaka, Zambia** | Application Developer 2020

- Assisted in developing the Project SEARCH application on the Android platform.
- Worked closely with personnel in Boston to analyse data, interpret analysis, and incorporate changes into the app.
- Worked with Dimagi to ensure smooth integration between the CommCare and SEARCH applications.

**Project SEARCH - BU & UNZA** | Researcher/Application Developer 2018 - 2023

- Worked with a multi-disciplinary team from Boston University and the University of Zambia to develop and refine a biometric tool targeting infants.
- Conducted tests on the longitudinal ear dataset to demonstrate application performance with growth as a factor.
- Formulated experiments to benchmark the performance of the matching algorithm.
- Authored a paper on the growth study results.

**University of Zambia** | Part-time Tutor 2017

- Provided support during the laboratory sessions of the Electronics course.
- Assisted in the supervision of a few undergraduate capstone projects.

### EDUCATION

**Department of Computer Science, School of Natural Sciences, University of Zambia**  
Lusaka, Zambia

*Master of Science in Computer Science* 2019

- Supervisor: Dr. Jackson Phiri & Dr. Mayumbo Nyirenda
- Topic: "Automation of the Grain Purchasing Process for Zambia's Food Reserve Agency"
- Research area: ICT4D and Remote Sensing

**Department of Computer Science, School of Natural Sciences, University of Zambia**  
Lusaka, Zambia

*Bachelor of Science (Software Engineering)* 2015

- Classification: Merit

## PUBLICATIONS

1. Qin Wenda, Etter Lauren, **Simukanga Alinani**, Gill Christopher, & Betke Margrit. Age-constrained Ear Recognition: The EICZA Dataset and SASE Baseline Model. *2023 IEEE International Joint Conference on Biometrics (IJCB)*, 2023. <https://doi.org/10.1109/IJCB57857.2023.10448594>
2. Kawesha Francis, Phiri Jackson, & **Simukanga Alinani**. A Predictive Model to Support Decision Making for the Accreditation of Learning Programmes using Data Mining and Machine Learning. *Pan African Conference on Science, Computing and Telecommunications (PACT) 2023*, 2023. <https://ictjournal.icict.org.zm/index.php/icict/article/view/286>
3. **Simukanga Alinani**, Etter Lauren, Qin Wenda, Pieciak Rachel, Betke Margrit, Macleod William, Phiri Jackson & Gill Christopher. Ethical issues associated with the development of an ear biometric tool for patient identification in Zambia. *Global Forum for Bioethics in Research (GFBR)*, 2022. [https://www.gfbr.global/wp-content/uploads/2022/12/Alinani-Simukanga\\_GFBR-2022\\_Theme-2.pdf](https://www.gfbr.global/wp-content/uploads/2022/12/Alinani-Simukanga_GFBR-2022_Theme-2.pdf)
4. **Simukanga Alinani**, Kobayashi Misaki, Etter Lauren, Qin Wenda, Pieciak Rachel, Albuquerque Duarte, Chen Yu-Jen, Betke Margrit, Macleod William, Phiri Jackson, Mwananyanda Lawrence & Gill Christopher. The impact of ear growth on identification rates using an ear biometric system in young infants. *Gates Open Research*, 2021. <https://doi.org/10.12688/gatesopenres.13459.1>
5. Etter Lauren, **Simukanga Alinani**, Qin Wenda, Pieciak Rachel, Mwananyanda Lawrence, Betke Margrit, Phiri Jackson, Carbo Caroline, Hamapa Arnold & Gill Christopher. Project SEARCH (Scanning EARs for Child Health): validating an ear biometric tool for patient identification in Zambia. *Gates Open Research*, 2020. <https://doi.org/10.12688/gatesopenres.13197.1>
6. **Simukanga Alinani**, Phiri Jackson, Nyirenda Mayumbo, & Kalumbilo-Kabemba Monica. ICT in Governance Systems: A Case Study of the FISP Farmer Registration System. *ZAPUC*, 2018. <https://scispace.com/pdf/e-governance-systems-a-case-study-of-the-development-of-a-1k42n7ede.pdf>
7. Chihana Sipiwe, Phiri Jackson, Kunda Douglas, & **Simukanga Alinani**. Securing Grain in Transit for the Food Reserve Agency Based on the Cloud Model. *ZAPUC*, 2018.
8. **Simukanga Alinani**, Phiri Jackson, Nyirenda Mayumbo, & Kalumbilo-Kabemba Monica. E-Governance Systems: A Case Study of the Development of a Small-Scale Farmer Database. *Zambia Information Communication Technology (ICT) Journal*, 2018. <https://doi.org/10.33260/zictjournal.v2i1.41>
9. **Simukanga Alinani**, Muhone Madaliso, Mulenga Joseph, Phiri Jackson, & Nyirenda Mayumbo. Creation of an Agricultural Geographical Information System. *Zambia Information Communication Technology (ICT) Journal*, 2018. <https://doi.org/10.33260/zictjournal.v2i2.57>

## CERTIFICATIONS

- **Introduction to Cybersecurity**, Cisco Networking Academy 2022

## AWARDS AND HONORS

- **Best Poster Award**, IEEE International Joint Conference of Biometrics (IJCB) 2023
- **Best Graduating Male Student in the School of Natural Sciences**, University of Zambia 2015
- **Dean's Prize - Best Overall Third-Year Student**, University of Zambia 2014

## SKILLS

**Programming:** Python, C++, Java, Embedded System Development.

- Professional Engineer, the Engineering Institution of Zambia (EIZ)

REFERENCES

References can be provided on request.