ALINANI SIMUKANGA

LECTURER

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CAREER

University of Zambia, Lusaka, Zambia | Lecturer II   15/12/2025 - Present
- Teaching *CSC 2101 - Computer Systems* and *CSC 3600 - Software Engineering*.
- Supervise final year student projects *CSC 4004 - Project*.
- Assist in the coordination of student internships *CSC 3009 - Industrial Training*.

University of Edenberg, Lusaka, Zambia | Lecturer B   08/07/2024 - 12/12/2025
- 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.
- 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 Computing and Informatics, School of Natural and Applied Sciences, University of Zambia** Lusaka, Zambia

Department of Computing and Informatics, School of Natural and Applied Sciences, University of Zambia — Lusaka, Zambia

Master of Science in Computer Science — 2019

- Supervisor: Prof. 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 Computing and Informatics, School of Natural and Applied Sciences, University of Zambia — Lusaka, Zambia

Bachelor of Science (Software Engineering) — 2015

- Classification: Merit

PUBLICATIONS

1. Wenda Qin, Lauren Etter, **Alinani Simukanga**, Christopher Gill, & Margrit Betke. 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. Francis Kawesha, Jackson Phiri, & **Alinani Simukanga**. 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. **Alinani Simukanga**, Lauren Etter, Wenda Qin, Rachel Pieciak, Margrit Betke, William Macleod, Jackson Phiri & Christopher Gill. 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

4. **Alinani Simukanga**, Misaki Kobayashi, Lauren Etter, Wenda Qin, Rachel Pieciak, Duarte Albuquerque, Yu-Jen Chen, Margrit Betke, William Macleod, Jackson Phiri, Lawrence Mwananyanda & Christopher Gill. 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. Lauren Etter, **Alinani Simukanga**, Wenda Qin, Rachel Pieciak, Lawrence Mwananyanda, Margrit Betke, Jackson Phiri, Caroline Carbo, Arnold Hamapa & Christopher Gill. 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. **Alinani Simukanga**, Jackson Phiri, Mayumbo Nyirenda, & Monica Kalumbilo-Kabemba. 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-1k42n7edea.pdf

7. Sipiwe Chihana, Jackson Phiri, Douglas Kunda, & **Alinani Simukanga**. Securing Grain in Transit for the Food Reserve Agency Based on the Cloud Model. *ZAPUC*, 2018.

8. **Alinani Simukanga**, Jackson Phiri, Mayumbo Nyirenda, & Monica Kalumbilo-Kabemba. 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. **Alinani Simukanga**, Madaliso Muhone, Joseph Mulenga, Jackson Phiri, & Mayumbo Nyirenda. Creation of an Agricultural Geographical Information System. *Zambia Information Communication Technology (ICT) Journal*, 2018. https://doi.org/10.33260/zictjournal.v2i2.57

RESEARCH
ARTIFACTS

1. **Alinani Simukanga** and Wenda Qin. SEARCH Software. 1, Zenodo, 11 Nov. 2021, https://doi.org/10.5281/zenodo.5676294.

2. **Alinani Simukanga** and Lauren Etter. Ear Datasets - Longitudinal. 1, Zenodo, 11 Nov. 2021, https://doi.org/10.5281/zenodo.5676103.

3. **Alinani Simukanga**, Lauren Etter, Misaki Kobayashi and Wenda Qin. Extended Data. 1, Zenodo, 11 Nov. 2021, https://doi.org/10.5281/zenodo.5675940.

CERTIFICATIONS

- **Introduction to Cybersecurity**, Cisco Networking Academy   2022
- **Introduction to Modern AI**, Cisco Networking Academy   2026

AWARDS
AND
HONORS

- **Best Poster Award**, IEEE International Joint Conference of Biometrics (IJCB)   2023
- **Jain Association Prize - 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
MEMBERSHIP

- **Professional Engineer,** the Engineering Institution of Zambia (EIZ)
  EIZ No.: SMENG2025014377
- **Registered Engineer**, the Engineering Registration Board (EngRB)
  EIZ No.: SMENG2025014377
- **Full Member**, the ICT Association of Zambia (ICTAZ)
  Membership No.: FM003860

REFERENCES

References can be provided on request.