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http://alinani.github.io

# 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 Computer Science, School of Natural 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 Computer Science, School of Natural 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](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. Sipwe 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>

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| RESEARCH<br>ARTIFACTS      | <ol style="list-style-type: none"> <li>1. <b>Alinani Simukanga</b> and Wenda Qin. SEARCH Software. 1, Zenodo, 11 Nov. 2021, <a href="https://doi.org/10.5281/zenodo.5676294">https://doi.org/10.5281/zenodo.5676294</a>.</li> <li>2. <b>Alinani Simukanga</b> and Lauren Etter. Ear Datasets - Longitudinal. 1, Zenodo, 11 Nov. 2021, <a href="https://doi.org/10.5281/zenodo.5676103">https://doi.org/10.5281/zenodo.5676103</a>.</li> <li>3. <b>Alinani Simukanga</b>, Lauren Etter, Misaki Kobayashi and Wenda Qin. Extended Data. 1, Zenodo, 11 Nov. 2021, <a href="https://doi.org/10.5281/zenodo.5675940">https://doi.org/10.5281/zenodo.5675940</a>.</li> </ol> |
| CERTIFICATIONS             | <ul style="list-style-type: none"> <li>• <b>Introduction to Cybersecurity</b>, Cisco Networking Academy 2022</li> <li>• <b>Introduction to Modern AI</b>, Cisco Networking Academy 2026</li> </ul>   |
| AWARDS<br>AND<br>HONORS    | <ul style="list-style-type: none"> <li>• <b>Best Poster Award</b>, IEEE International Joint Conference of Biometrics (IJCB) 2023</li> <li>• <b>Jain Association Prize - Best Graduating Male Student in the School of Natural Sciences</b>, University of Zambia 2015</li> <li>• <b>Dean's Prize - Best Overall Third-Year Student</b>, University of Zambia 2014</li> </ul>   |
| SKILLS                     | <b>Programming:</b> Python, C++, Java, Embedded System Development.  |
| PROFESSIONAL<br>MEMBERSHIP | <ul style="list-style-type: none"> <li>• <b>Professional Engineer</b>, the Engineering Institution of Zambia (EIZ)<br/>EIZ No.: SMENG2025014377</li> <li>• <b>Registered Engineer</b>, the Engineering Registration Board (EngRB)<br/>EIZ No.: SMENG2025014377</li> <li>• <b>Full Member</b>, the ICT Association of Zambia (ICTAZ)<br/>Membership No.: FM003860</li> </ul>  |
| REFERENCES                 | References can be provided on request.   |