

KUDIRAT OYEWUMI JIMOH, PhD

AI & Computer Vision | Medical Image Analysis | Generative AI | Trustworthy AI

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Google Scholar: https://scholar.google.com/citations?user=y_9HVJcAAAAJ&hl=en | ORCID: <https://orcid.org/0000-0002-8472-2558>

1.1 PROFESSIONAL SUMMARY

Computer Engineering academic and AI researcher with a PhD in Computer Science specializing in image processing and pattern recognition. Author/co-author of 40+ scholarly works, with deep experience in computer vision, image processing, machine learning and model evaluation, alongside emerging work in medical and biological imaging. Proven track record of working team in highly stressful and demanding environment. Work well independently. Skilled in research questions formulation, gathering information, analyzing and evaluating evidence, drawing conclusions, and sharing the knowledge gained. Excellent written and verbal communication skills, punctual and deadline oriented. Ready to learn and open to diverse research culture.

1.2 EDUCATION

Ph.D., Computer Science 2015 – 2018

Obafemi Awolowo University (OAU), Ile-Ife, Nigeria

Major: Image Processing and Pattern Recognition

Dissertation: Design and Implementation of an Automatic Edge Detection System
For Handmade Embroidery Pattern.

Supervisors: Professor O. A. Odejobi

Master of Science, Computer Science 2012- 2014

Obafemi Awolowo University (OAU), Ile-Ife, Nigeria

Major: Image Processing and Pattern Recognition

Dissertation: Development of an Identification System for Plastic Waste

Supervisors: Dr. A. O. Ajayi

Bachelor of Technology, Computer Engineering 2000 – 2006

Ladoke Akintola University of Technology (LAUTECH), Ogbomoso

Major: Intelligent System

Dissertation: Development of an Automated Liquid Control – Soap Making as a case study

Supervisor: Dr. T. O. Arulogun

1.3 ACADEMIC & RESEARCH EXPERIENCE

A. Osun State University

Assistant Professor: 2022-till date

- i. Conducted research projects to achieve Sustainable Development Goal such as Poverty Eradication, Gender Equality and Industry, Innovation and Infrastructure employing machine

learning and deep learning models to make predictions in various sector including Education, Health, Financial and participated in Curriculum development for teaching courses.

- ii. Published works around Computer vision, IoT & Embedded system using machine learning in Elsevier, Springer & other local and International Journals.
- iii. Taught and coordinated undergraduate and postgraduate courses in AI, Intelligent system, Digital Logic, Database and programming.
- iv. Supervised MSc and PhD research projects in Artificial Intelligence, Machine Learning, and Computer vision.
- v. Served as postgraduate coordinator where I organize research seminars for postgraduate students and acting Head, Software Engineering and Computer Engineering
- vi. Supervised over thirty students to conduct Innovative research using Deep Learning, Computer Vision, Machine Learning models, IoT and Embedded System.
- vii. Mentored early career researchers and postgraduate students.

Lecturer I:

2019-2022

- i. Published works around Computer vision, IoT & Embedded system using machine learning.
- ii. Taught and coordinated undergraduate and postgraduate course in AI, Intelligent system, Digital Logic, Database and programming.
- iii. Participated in Curriculum development for teaching courses.
- iv. Supervised MSc research projects in Artificial Intelligence, Machine Learning, and Computer vision.
- v. Mentored early career researchers and postgraduate students.
- vi. Performed other administrative tasks.

Doctoral Researcher, Computer Science and Engineering Department, OAU 2015 – 2018

- i. Investigated the development of computational model for handmade embroidery pattern.
- ii. Examined the specific characteristics responsible for the recognition of edges in selected handmade embroidery pattern using machine Learning and Cellular Automata.
- iii. Designed a computational model for the recognition process using machine and deep learning and implemented the edge detection model in MATLAB R2018a environment.
- iv. Evaluated the performance of the developed system.
- v. Successfully proposed and obtained research funding.
- vi. Delivered oral and poster presentations at local and international conferences and published original research articles in peer reviewed journals.

B. Federal Polytechnic, Ede

Lecturer, Department of Computer Engineering,

2015-2019

- i. Planned and facilitated introductory courses in Computer Engineering.
- ii. Counseled undergraduate students on courses and general academic performance.
- iii. Involved in examination conduct and grading of papers.

C. Osun State Local Government Service Commission

Programme Analyst

2011-2015

- i. Writing and testing simple programmes.
- ii. Designing and producing computer input/outputs formats
- iii. Planning, organising and arranging for the running of programmes on the computer.
- iv. Maintenance of computer hardware and software.

1.3 CURRENT RESEARCH GRANT

- i. Development of LoRa-Based IoT Real-Time System for Smart Multi-Campus - Tetfund National Research Fund Project/ N18, 769,992- 2024-2026 - **Co-Investigator**
- ii. Electronics Digital Trainer board for teaching digital electronics - National Agency for Science and Engineering Infrastructure (NASENI)/ N16,500,000 - **Principal Investigator**
- iii. TETFUND IBR Grant (₦4,000,000.00): Development of an Automatic Distress Detection System for Student Safety (2024). - **Co-Investigator**

1.4 RESEARCH INTERESTS

- i. Artificial Intelligence and Machine Learning for intelligent decision-making and predictive analytics
- ii. Computer Vision, Pattern Recognition and Explainable AI
- iii. IoT, Embedded Intelligence, Robotics and Autonomous Systems
- iv. AI for Climate-Smart Agriculture, Environmental Monitoring and Digital Health

1.5 PEER-REVIEWED PUBLICATIONS & PREPRINT

Article accepted for Publication

1. AI-driven System for Prediction of blood Group using Human Fingerprint Images presented at IEEE Sponsored 2026 International Conference on Emerging Trends in Networks and Computer Communications (ETNCC), University of Namibia of Science and Technology between 4-6th August, 2026.

Referred Journal Articles

1. Adegoke-Elijah, A., Macauley, O., **Jimoh, K.O.**, Axel Zevallos-Aquije, Funmilayo Olopade, Benjamin Aribisala. A framework for a national cancer imaging repository in Nigeria. *Scientific Report* (2026). <https://doi.org/10.1038/s41598-026-44098-z>
2. **Kudirat O Jimoh**, Anuoluwapo O Ajayi, Olumide A Ajayi, Abiodun A Ajasa, Mutmahinah O Jimoh-Ademola (2025). Yoruba Sign Language Digit Recognition System using Deep

3. Bello J., Adigun A. A., Ozoh P., Abolarinwa M. O., Adigun I. O., **Jimoh K. O.** (2025). A Framework for Personalized Drug Prescriptions Decision Support System using Hybrid Techniques. *University of Ibadan Journal of Science and Logic in ICT Research*, 14(1), 133-138. <https://journals.ui.edu.ng>
4. **Jimoh, K.O.**, Kareem, M.A., Adegoke-Elijah, A. Axel Z., Ariyo, D. T., Adekunle, T.A. Jimoh-Ademola, M.O. (2025). Concrete water Cement ratio prediction system using random forest regression. *Discover Concrete and Cement* 1,7 (2025). Published by Springer Nature (<https://rdcu.be/eoj92>) <https://doi.org/10.1007/s44416-025-00005-9>
5. Adenike Adegoke-Elijah, Theresa Omolayo Ojewumia, **Kudirat Oyewumi Jimoh** (2025). ECG anomaly detection: a deep learning perspective with LSTM encoders. *African Scientific Reports* 4 (2025) 359. <https://doi.org/10.46481/asr.2025.4.3.359> Automat
6. Oyedele, A. A., Ajayi, A. O., Oyedele, L. O., Bello, S. A., **Jimoh, K. O.** (2023). Performance evaluation of deep learning and boosted tree for cryptocurrency closing price prediction. *Expert Systems with Applications*, 213(2023), 1-19. Published by Elsevier Ltd. <https://doi.org/10.1016/j.eswa.2022.119233>
7. **Kudirat Jimoh**, Dimpe Ariyo, John Jenyo, Adenike Adegoke-Elijah, Ibrahim Ogundoyin, Adepeju Adigun, Lawrence Omotosho, Mutmahinah Jimoh-Ademola, Caleb Akanbi (2025). An Android-Based Predictive Model for Safety Measures of COVID-19 Diseases. In: Nagar, A., Jat, D.S., Mishra, D., Joshi, A. (eds) Intelligent Sustainable Systems. Worlds4 2024. *Lecture Notes in Networks and Systems*, vol 1178, pp.95-106. Springer, Singapore. https://doi.org/10.1007/978-981-97-9559-8_9
8. Lawrence O. Omotosho, Peter A. Idowu, **Kudirat O. Jimoh** & Ibrahim K. Ogundoyin (2024). Development of a fuzzy-based predictive model for the risk of postpartum hypertension in nursing mothers, *Kabale University Interdisciplinary Research Journal*, 2(4), 58-69. Published by *Kabale University* <https://kurj.kab.ac.ug/index.php/1>
9. **Kudirat O. Jimoh**, Lawrence O. Omotosho, Ibrahim K. Ogundoyin, and Olajide Y. Adebayo (2025). Fake News Detection System using Machine Learning with Recurrent Neural Networks. *Pakistan Journal of Engineering and Technology*, 8(1),14-20. Published by **Faculty of Engineering and Technology, The University of Lahore, Pakistan**. <https://journals.uol.edu.pk/pakjet/issue/view/232>
10. Adegoke-Elijah, Adegoke, Ojewumi, Theresa, **Jimoh, Kudirat** (2024) Estimating Semantic Similarity in Yoruba Sentence using Path-Based Metrics. *University of Pitesti Scientific Bulletin: Electronics and Computers Science*, 24(1), 11-18. Published by Faculty of Electronics Communication, Romania. <http://bulletin.feccupit.ro>
11. T. T. Oyetayo, M.O Ayinde, **K.O. Jimoh** and E.M. Osundina (2024). A Blockchain-Based Approach to Decentralized Medical Management. *APWEN Journal of Engineering, Science and Technology*, 7(1), 121-130. Published by Association of Professional women Engineers of Nigeria (Branch of NSE) <https://www.apwen.org.ng/publications>

12. Lawrence O. Omotosho, **Kudirat O. Jimoh**, Ibrahim K. Ogundoyin, Isaac O. Ojomuyide (2024). Development of an Iot-Based Pest Surveillance and Control System. *APWEN Journal of Engineering, Science and Technology*, 7(1), 131-139. Published by Association of Professional women Engineers of Nigeria (Branch of NSE) <https://www.apwen.org.ng/publications>
13. Adegoke-Elijah, A., **Jimoh, K.**, Alabi, A. (2023). Development of a XML-Encoded Machine-Readable for Yoruba Word Sense Disambiguation. *UNIOSUN Journal of Engineering and Environmental Science*, 5(1), 1-10. Published by Faculty of Engineering, UNIOSUN <http://www.ujees.com.ng>
14. Ogunbiyi Dimple, **Jimoh Kudirat**, Adebayo Olajide, Okelola Lovelyn. (2023). Development of a Nigerian Cultural Attire Recognition System. *Journal of Engineering Studies and Research*, 29(2), 20-25. Published by Engineering Faculty, Vasile Alecsandri” University of Bacau. <https://jesr.ub.ro/index.php/1/article/view/377>
15. **Jimoh, K. O.**, Adigun, A. A., Ajayi, A. O., & Iyanda, A. R. (2022). Automated classification of African embroidery patterns using cellular learning automata and support vector machines. *Ghana Journal of Science*, 62(2), 91–101. <https://doi.org/10.4314/gjs.v62i2.9>
16. **Jimoh, K. O.**, Adebayo, O. Y., Akinfenwa, T. O., and Abimbola, I. B. (2022). Development of Student Information Chatbot System. *LAUTECH Journal of Engineering and Technology*, 16(1), 11-19. Published by Faculty of Engineering and Technology, LAUTECH. <http://www.laujet.com>
17. **Jimoh, K. O.**, Oladele, M. O., Adepoju, T. M. and Adeniran, J. O. (2022). Design and Implementation of Real-Time Machine Embroidery Classification System. *Premier Journal of Engineering and Applied Sciences*, 3(1), 19-26. Published by Nigeria Society of Engineers, Ibadan Branch. <http://www.nseibadan.org.ng/journal>
18. Ogundoyin, I. K., Ogunbiyi, D. T., Isola, E. O., **Jimoh, K. O.** and Omotosho L. O. (2022). Design and simulation of threats management model with enhanced users’ networks performance capability. *Kabale University Interdisciplinary Research Journal*, 1(2), 96-107. Published by Kabale University, Uganda. <https://kab.ac.ug/kurj/index.php/kurj>
19. Ogundoyin, I. K., Ogunbiyi, D. T., Isola, E. O., **Jimoh, K. O.** and Omotosho, L.O. (2022). Development of a fuzzy logic-based model for HIV risk analysis and prediction. *Kabale University Interdisciplinary Research Journal*, 1(2), 96-107. Published by Kabale University, Uganda. <https://kab.ac.ug/kurj/index.php/kurj>
20. Ogundoyin, I. K., **Jimoh, K. O.**, Omotosho, L. O. and Odelade, T. B. (2022). A Framework for Facial Expression Recognition Based Feedback Tracking in Online Educational Platforms. *University of Ibadan Journal of Science and Logics in ICT Research*. Published by Department of Computer Science, University of Ibadan 8(1), 1-11. <https://journals.ui.edu.ng/index.php/uijslictr>
21. **Jimoh, K. O.**, Ogunbiyi, D. T., Kasali, A. A. and Salami, I. O. (2022). Real-Time Large Vocabulary American Sign Language Recognition System for Mobile Devices. *UNIOSUN Journal of Engineering and Environmental Science*, 4(1), 1-8. Published by Faculty of Engineering, UNIOSUN <http://www.ujees.com.ng>

22. Ogunbiyi, D. T., Adigun, A. A., **Jimoh, K. O.** and Adedokun, S. O. (2022). Tourist Site Classification Using Keyword Matching Approach: Towards the Development of a Personality Based Tourist Recommendation System. *UNIOSUN Journal of Engineering and Environmental Science*, 4(1), 31-38. Published by Faculty of Engineering, UNIOSUN <http://www.ujees.com.ng>
23. Adebayo, O. Y., **Jimoh, K. O.**, Isola, E. O., Ogunbiyi, D. T., and Aina, S. (2022). Texture Modeling and Simulation for Synthetic Palm Vein Image Generation System. *LAUTECH Journal of Engineering and Technology*, 16(1), 78-87. Published by Faculty of Engineering and Technology, LAUTECH. <http://www.laujet.com>
24. **Jimoh, K. O.**, Adigun, A. A, Ogundoyin, I. K., Eniola, B. M. (2022). Development of a Rule-based Phishing Website Classification System. *University of Pitesti Scientific Bulletin: Electronics and Computers Science*, 22(1), 1-8. Published by Faculty of Electronics Communication, Romania. <http://bulletin.feccupit.ro/archive/view>
25. Ogundoyin, I. K., **Jimoh, K. O.**, Omotosho, L. O. and Ogunbiyi, D. T. (2022). Design and Simulation of an Efficient Model for Credit Cards Fraud Detection, *LAUTECH Journal of Engineering and Technology*, 16(1), 78-87. Published by Faculty of Engineering and Technology, LAUTECH. <http://www.laujet.com>
26. Kasali A. A., **Jimoh, K. O.**, Adeagbo, M. A., and Bello, S. A. (2021). Web-Based Text Editing System for Nigerian Major Languages. *Nigerian Journal of Technology*. 40(2), 292–301. Published by University of Nigeria Press Ltd. University of Nigeria, Nsukka, Nigeria. www.nijotech.com
27. **Jimoh, K. O.**, Ogundoyin, I. K., Omotosho, L. O and Ajayi, A. G. (2021). Design and Implementation of Enforceable Security Policies for Browser Protection. *University of Pitesti Scientific Bulletin: Electronics and Computers Science*, 21(2), 23-30. Published by Faculty of Electronics Communication, Romania. <http://bulletin.feccupit.ro>
28. **Jimoh, K. O.**, Omotosho, L. O, Awofolaju, T. T., Akanbi, C. O. and Adebowale, T. O. (2021). An Internet of Things Based Voice Automated System for Home Appliances. *APWEN Journal of Engineering, Science and Technology*, 5(1), 70-77. Published by Association of Professional women Engineers of Nigeria (Branch of NSE) <https://www.apwen.org/publications>
29. Adigun, A. A., Adebayo, O. Y. And **Jimoh, K. O.** (2021): Framework for the human-computer interaction artificial intelligent systems. *Annals. Computer Science Series* 19(1): 68-70. Published by University of Timisoara, Romania. <http://www.anale-Informatica.tibiscus.ro>
30. Adigun, A. A, **Jimoh, K. O.**, Adebayo, O. Y., and Kolawole, M. O. (2021). Review of Pythagorean Triple Based Cryptography System for Information Security. *University of Pitesti Scientific Bulletin: Electronics and Computers Science*, 21(1), 1-8. Published by Faculty of Electronics Communication, Romania. <http://bulletin.feccupit.ro>
31. **Jimoh, K. O.**, Ojomuyide, I. O., Olumide, O. A. and Bello, L. O. (2021). Development of an IoT Based Weather Station System for Monitoring Agricultural Products. *Premier Journal of Engineering and Applied Sciences*, 2(4), 28-35. Published by Nigerian Society of Engineers, Ibadan Branch <http://www.nseibadan.org.ng/journal>
32. **Jimoh, K. O.**, Adigun, A. A. Adigun, Ajayi, A. O. and Iyanda, A. R. (2021). Automatic

Classification of Embroidery Pattern using Cellular Automata and Support Vector Machine. *Ghana Journal of Science*, 62(2), 91-101.

33. **Jimoh, K. O.**, Odejobi, O. A., Folaranmi, S. A., and Aina, S. (2020) Handmade Embroidery Pattern Recognition: A New Validated Database, *Malaysian Journal of Computing*, 5(1): 390-402. Published by Faculty of Computer and Mathematical Science, Universiti Teknologi, MARA (UiTM). <https://mjoc.uitm.edu.my>
34. **Jimoh, K. O.**, Ajayi, A. O. and Ogundoyin, I. K. (2020) Template Matching Based Sign Language Recognition System for Android Devices. *FUOYE Journal Engineering and Technology (FUOYEJET)* 5(1):42-48. Published by Faculty of Engineering and Technology, FUOYE. <https://journal.engineering.fuoze.edu.ng>
35. Ogundoyin, I. K., Omotosho, L. O., **Jimoh, K. O.** and Adebayo A. G. (2020). Design and Simulation of a Secured Routing Protocol for Mobile Ad-Hoc Network. *Islamic University of Multidisciplinary Journal*, 7(2):281-292. Published by Faculty of Science and Technology, Islamic University, Uganda. <https://iuiu.ac.ug>
36. **Kudirat Oyewumi Jimoh**, Stephen A Folaranmi, Odetunji Ajadi Odejobi. Automatic Detection of Edges in Handmade Embroidery Patterns. *Journal of Advances in Mathematics and Computer Science*, 2019, 30 (3), pp.1-18. hal-05359655
37. **Kudirat Oyewumi Jimoh**, Temilola Morufa Adepoju, Adedayo Aladejobi Sobowale, Oluwatobilola A. Ayilara (2018) Offline Gesture Recognition System for Yoruba Numeral Counting. *Asian Journal of Research in Computer Science*, 1(4), 1-11. <https://journalajrcos.com/index.php/AJRCOS/article/view/2>
38. Abideen A. Akanni, Abdulahi A. Badrudeen, Ojo A. Oluwaseun and **Kudirat O. Jimoh** (2018) Design and Implementation of a Microcontroller Based Auto-Switch Power Controller. In Proceedings of the International Conference on Global and Emerging Trends. pp. 106-109
39. A. Alabi, O. A. Ayilara, **K. O. Jimoh** (2018). Design and Implementation of a Language Assistant for English-Arabic Texts. *International Journal of Computer Science and Information Security*, 16(5), 211-221.
40. Anuoluwapo O. Ajayi, **Kudirat Jimoh** and Oluwatobiloba A. Ayilara (2016). Evaluation of Plastic Waste Classification System, *British Journal of Mathematics & Computer Science*, 16(3), 1-11. <https://journaljamcs.com/index.php/JAMCS/article/view/496>
41. Oluwatobi A. Ayilara, Anuoluwapo O. Ajayi and **Kudirat O. Jimoh** (2016). A Synthetic Player for Ayo Board Game using Alpha-Beta Search and learning Vector Quantization. *Computer and Information Science*, 9(3), 1-6. <https://ccsenet.org/journal/index.php/cis/article/view/59130>
42. **Kudirat Jimoh**, Anuoluwapo Ajayi and Oluwatobi Ayilara (2014). Intelligent Model for Manual sorting of Plastic wastes, *International Journal of Computer Applications*, 101(7), 20-26. <https://www.ijcaonline.org/archives/volume101/number7/17699-8675/>
43. R. Iyanda, A. D. Eruobodo, **K. O. Jimoh** (2023). A bilingual Chatbot for Home Appliances Control. *International Multi-conference on ICT Applications to Teaching, Research and Administration (AICTTRA 2023) Proceedings*, Obafemi Awolowo University, Ile-Ife, Nigeria.
44. Adepoju, T. Morufat, **Jimoh K. Oyewumi**, Akanni A. Amosa (2018) Development of an Iris-Based Face Verification System. In Book of Abstract 7th International Conference on Infrastructure Development in Africa, The University of Manchester, UK.

Conferences and Workshop

1. Attended UNICEF Workshop on Digital Literacy and Generative AI through Nigeria Learning Passport under the Girls' Education Skill Development Programme – Passport to Earn held between 23rd-27th at Patron Hotel, Lekki, Ajah, Lagos State.
2. Attended 9th AfriLabs Annual Gathering Africa's innovation community to converge, collaborate, and drive forward the continent's digital transformation held between 5th - 8th of November, 2024 at Cape Town Convention Centre (CTCC), Cape Town, South Africa.
3. Attended 8th World Conference on Smart Trends in System, Security and Sustainability (WorldS4 2024) and paper presentation. The conference took place between 23rd- 26th July 2024 at Brunel University Campus, London, United Kingdom.
4. A 1-day Capacity Building Workshop on Integration of Knowledge Held on 29th September, 2021 at Multipurpose Hall, Osun State University, Osogbo, Nigeria.
5. A 2-days Retreat on Ethical Conduct/Leadership for selected Staff of Osun State University. Held in March 11th – 12th at The University Auditorium, Osun State University, Osogbo, Nigeria.
6. International Workshop of Science. Engineering and Environmental Technology on MATLAB Held in February 2017 at Multimedia Centre, ICT, Federal Polytechnic, Ede, Osun State, Nigeria.
7. The Nigerian Society of Engineers Mandatory Continuing Professional Education for Prospective Corporate Members Held in September 2nd to 4th 2015 at The University Auditorium, Osun State University, Osogbo, Nigeria.
8. The Nigerian Society of Engineers A 3- Days Mandatory Continuing Professional Education for Prospective Corporate Members Held in September 9th to 11th 2015 at NSE Secretariat, Ibadan, Oyo State, Nigeria.

1.6 INVITED LECTURES, TRAINING & PROFESSIONAL ENGAGEMENTS

Guest Speaker, 26th Annual Education Workshop and Capacity-Building Programme

Federation of Muslim Women's Associations in Nigeria (FOMWAN), Osun State Chapter - 25 July 2026

- Delivered an invited keynote lecture titled "The Muslim Ummah in the Age of Artificial Intelligence: Challenges, Opportunities, and Responsibilities."
- Educated and empowered Muslim women on the responsible, ethical, and productive application of Artificial Intelligence in professional practice, entrepreneurship, education, and community development.
- Addressed emerging AI challenges, including misinformation, privacy, cybersecurity, ethical concerns, and responsible technology adoption.

- Highlighted practical opportunities for leveraging AI to enhance productivity, business development, professional advancement, and lifelong learning.

Facilitator/Trainer, Digital Literacy and Generative Artificial Intelligence Training

Osun State Ministry of Education in collaboration with UNICEF Nigeria - 7–8 July 2025

- Facilitated training sessions on **Digital Literacy and Generative Artificial Intelligence** using the **Nigeria Learning Passport (NLP)**, a UNICEF-supported digital learning platform.
- Trained participants on practical applications of digital technologies and Generative AI for learning, productivity, and professional development.
- Promoted responsible and ethical use of AI while strengthening participants' digital competencies for effective participation in the emerging digital economy.
- Contributed to capacity-building efforts aimed at expanding digital literacy and access to AI-enabled learning opportunities among young people in Osun State.

1.6 RESEARCH LINKS AND SKILLS

Google Scholar - https://scholar.google.com/citations?user=y_9HVJcAAAAJ&hl=en&authuser=2

 ORCID - <https://orcid.org/0000-0002-8472-2558>

ResearchGate - <https://www.researchgate.net/profile/Kudirat-Jimoh-2>

Web of Science - <https://www.webofscience.com/wos/op/publications/summary>

Linkedin - <https://www.linkedin.com/in/kudirat-jimoh-90b59063/>

Portfolio -

https://drive.google.com/drive/folders/17BRklQ9ZZ5Jg6qRoEHZVjCrp53E0Ny8W?usp=drive_link

Technical Skills

Frameworks	-	TensorFlow, Keras,
Programming Language	-	Python, MATLAB, Arduino C
AI/ML	-	Scikit learn, OpenCV, Keras, Tensorflow
Data Analysis	-	Numpy, Pandas, SPSS
Embedded System	-	IoT, Microcontroller, Robotics
Documentation	-	LaTeX, Microsoft Office

Professional Certification

Udemy	-	Data Science: Machine Learning and Deep Learning with Python
NVIDIA	-	Getting Started with Deep Learning
NVIDIA	-	Fundamental of Deep Learning
HP Foundation	-	Critical Thinking in the AI Era
HP Foundation	-	Professional Networking for Career Growth
HP Foundation	-	Data Science & Analytics
HP Foundation	-	AI for Beginners

Modules I have taught and Developed

I have taught a variety of courses and developed curriculum, including Computer Hardware, Net-Centric Computing, Data structure and Algorithm, Database Management System, Artificial Intelligence, Expert systems, Object Oriented Programming using Python, Introduction to Computer Science, Logic and Its Application in Computer Science, Digital Logic, Computer Architecture and Workshop Practice. I have developed curriculum for various courses taught. I have also participated in developing new curriculum for Software Engineering and Computer Engineering.

1.7 MEMBERSHIP OF PROFESSIONAL BODIES:

- | | | |
|------|--|---------------------|
| i. | Association for Computing Machinery (ACM) | ACM (9529118) |
| ii. | Council for the Regulation of Engineering in Nigeria (COREN) | R.Engr. (R34800) |
| iii. | Nigerian Society of Engineers (NSE) | MNSE (37325) |
| iv. | Nigeria Computer Society (NCS) | MNCS (10736) |
| v. | Association of Professional Women Engineers (APWEN) | MAPWEN (APW/000763) |

1.10 PROFESSIONAL SERVICE

1. University

- | | | |
|----|-----------------------------------|----------------------|
| a. | Chairman, Laboratory Committee | 2019/2020 |
| b. | Chairman, Curriculum Committee | 2019/2020 |
| c. | Postgraduate Coordinator | 2023/2024-till date |
| d. | Level Adviser, 200 Level | 2019/2020 |
| e. | Level Adviser, 300 Level | 2020/2021 |
| f. | Level Adviser, 400 Level | 2021/2022 |
| g. | Departmental Exam Officer | 2020/2021-2022/2023 |
| h. | Acting Head, Software Engineering | 2022/2023-2024/2025 |
| i. | Acting Head, Computer Engineering | 2024/2025- till date |

2. Community

- | | | |
|----|---|-----------|
| a. | Director of Finance, Community Development Service (CDS) Group | 2007/2008 |
| b. | Commendation Certificate from National Youth Service Corps | 2007/2008 |
| c. | Welfare Secretary, Nigerian Society of Engineers | 2015/2016 |
| d. | Technical Secretary, Association of Professional women Engineers of Nigeria | 2021/2022 |

3. National/International

- | | | |
|----|--|-----------|
| a. | Welfare Secretary, Nigerian Society of Engineers | 2015/2016 |
| b. | Director of Finance, Community Development Service (CDS) Group | 2007/2008 |
| c. | Commendation Certificate from National Youth Service Corps | 2007/2008 |

Reviewer:

- | | |
|----|--|
| a. | Iraqi Journal of Science |
| b. | Asian Journal of Language, Literature and Cultural Studies (ScienceDomain International) |
| c. | Malaysian Journal of Computing |
| d. | FUOYE Journal of Engineering and Technology |

- e. UNIOSUN Journal of Engineering and Environmental Science.
- f. Premier Journal of Engineering of Applied Sciences
- g. Cluster Computing Journal (Springer Publisher)
- h. Ain Shams Engineering Journal (Elsevier Publisher)
- i. Discover Applied Science (Springer Publisher)
- j. Discover Computing (Springer Publisher)
- k. Discover Artificial Intelligence (Springer Publisher)
- l. Scientific Reports (Springer Publisher)
- m. Biomedical Materials & Devices (Springer Publisher)
- n. International Journal of Computational Intelligence Systems (Springer Publisher)
- o. Energy Systems (Springer Publisher)
- p. Journal of Nigerian Society of Physical Sciences
- q. Ife Journal of Technology
- r. Asian Journal of Research in Computer Science
- s. Asian Journal of Advances in Research

Summary of Contribution to Knowledge

I have contributed to knowledge in the field of Machine Learning, Computing and Intelligent System, Image Processing and Pattern Recognition; and Embedded System. Various image processing and pattern recognition systems have been considered for research purposes. In my PhD thesis, I developed a novel cellular edge detection algorithm for handmade embroidery pattern. It was observed that the popular edge detection approaches use multiple stages to detect edges of the image and also are applied to regular and consistent structured patterns. The African indigenous handmade embroidery patterns are irregular in nature with many complexities. This study investigated the development of a computational model to address the question and developed a cellular edge detection algorithm that worked based on parallel cells of Cellular Automata (CA) combined with Cellular Learning Automata (CLA) which speed up the edge detection process. Furthermore, a new validated database for handmade embroidery pattern was developed and it was evaluated for recognition process. The database comprises of three hundred and fifteen (315) images with variation in style and size. This variation will increase the usability of the database for further research benefits. Handmade Embroidery Patterns (HEP) database is a new material that uses external stimuli for research purposes. I have also contributed to the development of many sign language recognition systems.

The design of the gesture recognition system has become an important part of everyday life among the deaf people, and their quality is of primary importance for numerous applications. The movement of the body parts, especially the hand or the head in a view to express an idea or meaning mostly refers to gesture. It was observed that Yorùbá is one of the languages in Africa that evolved outside the context of the deaf educational system. This study developed a gesture recognition system for Yorùbá numerals counting. An android based sign language recognition system for selected English vocabularies was also developed to enhance learning among hearing impaired people. More work have also been considered in the aspect of Embedded system. Embedded system is concerned with the integration of Artificial intelligence into the design of hardware-based system. An internet-based home automation system that focuses on controlling home electronic devices anywhere the internet can be accessed was developed. This study was used to control home appliances remotely using Internet of Things technology. In

addition, an IoT based weather station system for monitoring agricultural products was developed. This study has been able to develop a system that involved in acquiring weather and environment data using advanced electronic sensors. The system developed provides ease of monitoring local weather conditions in real time and also accommodates storage of weather and environment data for short and long term, likewise for studying weather pattern changes for agriculture process. The developed database can be used for research purposes in the field of image processing and pattern recognition. More works have also been considered in the aspect of Data science using Python programming Language with Numpy, Pandas, sklearn, OpenCV and Tensorflow libraries. Currently, I am working on Microscopic images for biological sciences. I have worked on Malaria cell classification using Convolution Neural Network (CNN) and also working on other microscopic images for biotechnological systems design.

Ongoing Research work:

Currently, I am working on Microscopic images for biological sciences considering malaria cell classification using deep Neural Network (CNN) with transfer learning and also working on other microscopic images for biotechnological systems design. In the aspect of embedded system, I am working on developing a hardware prototype of moveable robotic hands for indigenous sign language communication based IoTs real-time system. This arises from the need to bridge the gap between hearing and hearing impaired people thereby fostering inclusivity and empowering communities with hearing impairments. The struggle for indigenous sign languages such as Yoruba sign language in Nigeria, to gain recognition and integration into SLR systems reflects broader challenges faced by minority languages and cultures. The outcomes of this study will address fully or partially 4 Sustainable Development Goals (SDGs); Poverty eradication, quality education, decent work and economic growth; industry, innovation and infrastructure.

The implementation of digital electronics trainer board for teaching digital electronics. Electronic logic training board is a physical device used for teaching and learning about digital logic circuits and electronics to help students understand the principles of digital electronics and logic design through hands-on experimentation and practice. The logic trainer board is an essential tool in training science and engineering student particularly Computer science, Computer Engineering, Electrical and electronic; and also Mechatronics students in the knowledge of computer technology and digital electronics.

The need arises from the fact that the existing branded logic trainer and other instrument such as shift register and modulo N counter are very costly to acquire by the Universities considering the cost of purchase, shipping and maintenance particularly with the current exchange rate. Most of the Nigeria institutions could not afford the cost of purchasing these equipment's in large number sufficient to train admitted number of students because they are not produced in the country. This, thereby, hindering the knowledge of these students in computer technology. However, developing a low-cost logic trainer board using available local materials will encourage and convenient for the tertiary institution to buy in large quantity. This project received sponsorship from the National Agency for Science and Engineering Infrastructure whose aim is to develop Science and Engineering in Nigeria.

Dr. Kudirat Oyewumi JIMOH

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Name



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Signature