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Auwalu Saleh Mubarak

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Dr. Auwalu Saleh Mubarak is a distinguished researcher with a Ph.D. in Electrical and Electronics Engineering, specializing in Artificial Intelligence, with an expanded focus on cybersecurity. With a unique blend of expertise in machine learning, bioinformatics, data science, deep learning, and cybersecurity, Dr. Mubarak is dedicated to leveraging AI for operational research in healthcare and environmental studies. His substantial research experience includes the development of advanced computational techniques for security in digital infrastructures and protecting sensitive healthcare data. Collaborating with diverse international teams, he demonstrates a strong capability for multidisciplinary projects. His profound analytical skills, innovative approaches, and commitment to integrating cybersecurity measures are poised to make a significant impact in the fields of health, environmental studies, and digital security.

ACADEMIC

CURRICULUM VITAE

1. Name - Surname: Auwalu Saleh Mubarak

2. Title: Asst. Prof.

3. Educational Background:

Degree	Department/Program	University	Year
Bachelor's	Electrical Engineering	Cape Breton University, Canada	2012
Master's	Electrical Engineering	Sharda University, India	2015
PhD	Electrical Engineering	Near East University, Cyprus	2022

4. Master's / PhD Thesis

4.1.Master's Thesis Title and Thesis Advisor(s): Development of Automation System For Residential Complex For The Elderly. Professor H. K. Verma

4.2.PhD Thesis /Medical Specialty Thesis Title and Advisor(s): Efficient Covid-19 Detection On Computed Tomography Images Assoc. Prof. Sertan Serte, Prof. Fadi Al-Turjman

5. Academic Titles:

Date of Assistant Professorship: 7th July, 2023

Date of Associate Professorship:

Date of Professorship:

6. Supervised Master's and PhD Theses:

6.1. Master's Theses

6.2. PhD Theses

7. Publications

7.1. Articles Published in International Peer-Reviewed Journals (SCI,SSCI, AHCI, ESCI, Scopus)

- Abba SI, Yassin MA, **Mubarak AS**, Shah SM, Usman J, Oudah AY, Naganna SR, Aljundi IH. Drinking Water Resources Suitability Assessment Based on Pollution Index of Groundwater

Using Improved Explainable Artificial Intelligence. Sustainability. 2023 Nov 6;15(21):15655. **(IF 3.889)**

- Z. S. Ameen, H. Mostafa, D. U. Ozsahin, and **A. S. Mubarak**, "Accelerating SARS-CoV-2 Vaccine Development: Leveraging Novel Hybrid Deep Learning Models and Bioinformatics Analysis for Epitope Selection and Classification," *Processes*, vol. 11, no. 6, p. 1829, Jun. 2023, doi: 10.3390/pr11061829. **(IF 3.5)**
- Z. S. Ameen, M. Ozsoz, **A. S. Mubarak**, F. Al Turjman, and S. Serte, "C-SVR Crispr: Prediction of CRISPR/Cas12 guideRNA activity using deep learning models," Alexandria Eng. J., vol. 60, no. 4, pp. 3501–3508, Aug. 2021, doi: 10.1016/j.aej.2021.02.007. **(IF 6.626)**
- **S. Mubarak**, S. Serte, F. Al-Turjman, Z. S. id Ameen, and M. Ozsoz, "Local binary pattern and deep learning feature extraction fusion for COVID-19 detection on computed tomography images," Expert Syst., vol. 39, no. 3, pp. 1–13, 2022, doi: 10.1111/exsy.12842. **(IF 2.812)**
- **S. Mubarak**, Z. S. Ameen, and F. Al-Turjman, "Effect of Gaussian filtered images on Mask RCNN in detection and segmentation of potholes in smart cities," Math. Biosci. Eng., vol. 20, no. 1, pp. 283–295, 2022, doi: 10.3934/mbe.2023013. **(IF 2.08)**
- **S. Mubarak** et al., "Metro-environmental data approach for the prediction of chemical oxygen demand in new nicosia wastewater treatment plant," Desalin. Water Treat., vol. 221, no. May, pp. 31–40, 2021, doi: 10.5004/dwt.2021.27049. **(IF 1.254)**
- **M. A. Saleh**, Z. S. Ameen, C. Altrjman, and F. Al-Turjman, "Computer-Vision-Based Statue Detection with Gaussian Smoothing Filter and EfficientDet," Sustainability., vol. 14, no. 18, pp. 1–10, 2022, doi: 10.3390/su141811413. **(IF 3.889)**
- **A. Mubarak**, Z. Said, R. Aliyu, F. Al Turjman, M. Ozsoz, and S. Serte, "Deep learning-based feature extraction coupled with multi-class SVM for COVID-19 detection in the IoT era," Int. J. Nanotechnol., vol. 1, no. 1, p. 1, 2021, doi: 10.1504/IJNT.2021.10040115. **(IF 0.367)**

7.2. **Articles Published in Other International Peer-Reviewed Journals**

7.3. Papers Presented at International Scientific Confererences and Published in Conference Proceedings

- S. U. Abidemi, A. S. Mubarak, O. Akanni, Z. S. Ameen, D. Cacciagrano, and F. Al-turjman, "Attendance System via Internet of Things, Blockchain and Artificial Intelligence Technology: Literature Review," 2023, pp. 321–330. doi: 10.1007/978-3-031-28694-0_30.

- M. A. S. S.I. Abba, A.S. Maihula, M.B. Jibril, A.M. Sunusi, M.A. Ahmad, “Application of data driven algorithms for the forecasting of non-linear parameter.,” Int. J. Recent Eng. Sci., vol. 6, no. 2, 2019.

- M. Vubangsi *et al.*, “Optimizing Moving Target Defense For Cyber Anomaly Detection,” in *2023 International Conference on Computational Intelligence, Communication Technology and Networking (CICTN)*, Apr. 2023, pp. 791–795. doi: 10.1109/CICTN57981.2023.10140835.

- H. Abubakar, F. Al-Turjman, Z. S. Ameen, and A. S. Mubarak, “A Review of Deep Learning and Machine Learning Approaches in COVID-19 Detection,” in *2022 International Conference on Artificial Intelligence of Things and Crowdsensing (AIoTCs)*, Oct. 2022, pp. 33–37. doi: 10.1109/AIoTCs58181.2022.00013.

- M. Vubangsi, S. U. Abidemi, O. Akanni, A. S. Mubarak, and F. Al-Turjman, “Applications of Transformer Attention Mechanisms in Information Security: Current Trends and Prospects,” in *2022 International Conference on Artificial Intelligence of Things and Crowdsensing (AIoTCs)*, Oct. 2022, pp. 101–105. doi: 10.1109/AIoTCs58181.2022.00021.

- Saleh M.A. Design and Simulation of Circular patch Antenna with a Reconfigurable Polarization. Bayero Journal of Engineering and Technology(BJET), ISSN2449-0539, Vol12 no.2 August 2017

- S. I. Abba et al., “Implementation of data intelligence models coupled with ensemble machine learning for prediction of water quality index,” Environ. Sci. Pollut. Res., 2020, doi: 10.1007/s11356-020-09689-x.

- S. I. Abba et al., “Modelling of Uncertain System: A comparison study of Linear and Non-Linear Approaches,” 2019 IEEE Int. Conf. Autom. Control Intell. Syst. I2CACIS 2019 - Proc., pp. 1–6, 2019, doi: 10.1109/I2CACIS.2019.8825085.

- S. I. Abba, R. A. Abdulkadir, M. S. Gaya, M. A. Saleh, P. Esmaili, and M. B. Jibril, “Neuro-fuzzy ensemble techniques for the prediction of turbidity in water treatment plant,” 2019 2nd Int. Conf. IEEE Niger. Comput. Chapter, Niger. 2019, no. October, pp. 1–6, 2019, doi: 10.1109/NigeriaComputConf45974.2019.8949629.

- A. S. Mubarak, Z. Sa’id Ameen, P. Tonga, and F. Al-Turjman, “Smart Tourism: A Proof of Concept For Cyprus Museum of Modern Arts In The IoT Era,” pp. 49–53, 2021, doi: 10.1109/icaiot53762.2021.00016.

- A. S. Mubarak, Z. S. Ameen, P. Tonga, C. Altrjman, and F. Al-Turjman, “A Framework for Pothole Detection via the AI-Blockchain Integration,” in 2021 International Conference on Forthcoming Networks and Sustainability in AIoT Era (FoNeS-AIoT), IEEE, 2022, pp. 398–406. doi: 10.1007/978-3-030-99616-1_53.

- Z. S. Ameen, A. Saleh Mubarak, C. Altrjman, S. Alturjman, and R. A. Abdulkadir, “Explainable Residual Network for Tuberculosis Classification in the IoT Era,” in 2021 International Conference on Forthcoming Networks and Sustainability in AIoT Era (FoNeS-AIoT), 2021, pp. 9–12. doi: 10.1109/FoNeS-AIoT54873.2021.00012.

- S. Z. Amee, A. S. Mubarak, A. Süleyman, and O. Mehmet, “Development of CNN Model for Prediction of CRISPR/Cas12 Guide RNA Activity,” 2020, pp. 697–703. doi: 10.1007/978-3-030-35249-3_90.

- A. S. Mubarak, M. Vubangsi, F. Al-Turjman, Z. S. Ameen, A. S. Mahfudh, and S. Alturjman, “Computer Vision Based Drone Detection Using Mask R-CNN,” in 2022 International Conference on Artificial Intelligence in Everything (AIE), Aug. 2022, pp. 540–543. doi: 10.1109/AIE57029.2022.00108.

- U. A. Sarumi, Z. S. Ameen, F. Al-Turjman, C. Altrjman, and A. S. Mubarak, “A Novel Attendance System Via Integrated Wifi And Blockchain Technologies,” in 2022 International Conference on Artificial Intelligence in Everything (AIE), Aug. 2022, pp. 209–215. doi: 10.1109/AIE57029.2022.00046.

- Z. Said Ameen, A. Umar Ibrahim, A. Saleh Mubarak, F. Al-Turjman, and U. Muhammad Ghali, “Deep Learning Methods For Prediction of HLA-Peptide Interactions in IDB,” in 2022 International Conference on Artificial Intelligence in Everything (AIE), Aug. 2022, pp. 68–74. doi: 10.1109/AIE57029.2022.00021.

- M. D. Mubarak, Z. S. Ameen, A. S. Mubarak, and F. Al-Turjman, “A Step Ahead Students CGPA Prediction Based on Support Vector Machines,” in 2022 International Conference on Artificial Intelligence in Everything (AIE), Aug. 2022, pp. 189–192. doi: 10.1109/AIE57029.2022.00042.

- P. A. Tonga, Z. Said Ameen, A. S. Mubarak, and F. Al-Turjman, “A Review on On Device Privacy and Machine Learning Training,” in 2022 International Conference on Artificial Intelligence in Everything (AIE), Aug. 2022, pp. 679–684. doi: 10.1109/AIE57029.2022.00133.

- Z. Said Ameen, A. Umar Ibrahim, A. Saleh Mubarak, and F. Al-Turjman, “An improved CNN-LSTM deep model for Classification of guideRNA in CRISPR-Casl2 System,” in 2022 International Conference on Artificial Intelligence in Everything (AIE), Aug. 2022, pp. 58–62. doi: 10.1109/AIE57029.2022.00019.

- C. Omonayajo, A. S. Mubarak, F. Al-Turjman, and Z. S. Ameen, “Ethereum Gas Price Prediction Using Facebook Prophet Model,” in 2022 International Conference on Artificial Intelligence in Everything (AIE), Aug. 2022, pp. 455–459. doi: 10.1109/AIE57029.2022.00093.

- B. U. Ozsahin, M. Taiwo Mustapha, A. S. Mubarak, Z. Said Ameen, and B. Uzun, “Impact of feature scaling on machine learning models for the diagnosis of diabetes,” in 2022 International Conference on Artificial Intelligence in Everything (AIE), Aug. 2022, pp. 87–94. doi: 10.1109/AIE57029.2022.00024.

- M. Abdelrahim, B. Omonayajo, A. S. Mubarak, and F. Al-Turjman, “Crypto Currency Cloud Mining,” in 2022 International Conference on Artificial Intelligence in Everything (AIE), Aug. 2022, pp. 488–492. doi: 10.1109/AIE57029.2022.00099.

- O. A. Khalfalla, S. A. Ali, C. Altrjman, and A. S. Mubarak, “Smart Home Appliance Control in the IoT Era,” 2022, pp. 392–397. doi: 10.1007/978-3-030-99616-1_52.

- A. S. Mubarak, Z. S. Ameen, P. Tonga, C. Altrjman, and F. Al-Turjman, “A Framework for Pothole Detection via the AI-Blockchain Integration,” 2022, pp. 398–406. doi: 10.1007/978-3-030-99616-1_53.

- Z. S. Ameen, A. Saleh Mubarak, C. Altrjman, S. Alturjman, and R. A. Abdulkadir, “Explainable Residual Network for Tuberculosis Classification in the IoT Era,” in 2021 International Conference on Forthcoming Networks and Sustainability in AIoT Era (FoNeS-AIoT), Dec. 2021, pp. 9–12. doi: 10.1109/FoNeS-AIoT54873.2021.00012.

- A. S. Mubarak, Z. Sa’id Ameen, P. Tonga, and F. Al-Turjman, “Smart Tourism: A Proof of Concept For Cyprus Museum of Modern Arts In The IoT Era,” in 2021 International Conference on Artificial Intelligence of Things (ICAIoT), Sep. 2021, pp. 49–53. doi: 10.1109/ICAIoT53762.2021.00016.

7.4. National/international Books or Book Chapters

7.5. Articles Published in National Peer-Reviewed Journals

8. Art and Design Activities

9. Projects

10. Administrative Responsibilities

11. Memberships in Scientific and Professional Organizations

- Member Council for the Regulation of Engineering in Nigeria (COREN:R34313)
- IEEE Member (93854889)
- International Association of Engineers (160015)

12. Awards

- Young Researcher Award 2021
- Young Researcher Award 2022

13. Undergraduate and Graduate Courses Taught in the Last Two Years

Academic Year	Semester	Course Name	Weekly Hours		Number of Students
			Theoretical	Practical	
2021 - 2022	Spring	Artificial Intelligence Principles and Techniques	3	0	3
	Spring	Introduction to Electronics	3	0	38
2022 - 2023	Spring	Reasoning and Agents in AI	3	0	4
	Spring	Information Technology in Dentistry	3	0	75
	Fall	Pattern Recognition	3	0	4