Update date: 09/01/2024

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BIOGRAPHY

Basil B. Duwa received his undergraduate degree in Biological Sciences from State University, Adamawa Nigeria, where he conducted a notable research project in entomology and parasitology. The project, titled "Efficacy of Anacardium occidentale and Cymbopogon citratus as Biopesticides against Maize Weevils (Sitophilus zeamais Motsch.) on Stored Maize," was published in the Asian Journal of Agriculture in 2016. Following his mandatory service in the National Youth Service Corp (NYSC), Basil pursued a post-graduate diploma in Education from the National Teachers Institute Nigeria in 2018. In 2021, he earned a master's degree in Biomedical Engineering from Near East University, Cyprus, focusing his thesis on "Comparative Analysis and the Application of Non-contact Temperature Reading Devices in the Control of Covid-19 Using Fuzzy Promethee." He further earned a Ph.D. in Biomedical Engineering with a specialty in Biomedical Data Science and Bioinformatics from Near East University, with a dissertation on "Machine Learning Approaches for Predicting Malaria and Monkeypox Diseases." Dr. Duwa currently serves as a member of the Operational research Center in Healthcare, Near East University and a Lecturer Biomedical Engineering Department, Near East University. He has publications in international and national journals, books and conferences, along with certifications in Applied Machine Learning and Artificial Intelligence.

Update date: 09/01/2024

ACADEMIC

CURRICULUM VITAE

1. Name - Surname: BASIL B. DUWA

2. Title: DOCTORATE (PhD)

3. Educational Background:

Degree	Department/Program	University	Year
Bachelor's	Biological Sciences	State University, Adamawa Nigeria	2016
Master's	Biomedical Engineering	Near East University, Cyprus	2021
PhD	Biomedical Engineering	Near East University, Cyprus.	2023

4. Master's / PhD Thesis

4.1.Master's Thesis Title and Thesis Advisor(s): "Comparative Analysis and the application of Non-contact Temperature Reading Devices in the Control of Covid-19 Using Fuzzy Promethee": Assoc.Prof.Dr. Dilber Uzun Ozsahin

4.2.PhD Thesis /Medical Specialty Thesis Title and Advisor(s): "Machıne learnıng approaches for predıctıng malarıa and monkeypox dıseases": Assoc. Prof.Dr.Dilber Uzun Ozsahin, Assist. Prof.Dr.Berna Uzun

5. Academic Titles:

Date of Assistant Professorship:

Date of Associate Proferssorship:

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)

1. Uzun Ozsahin, D., Mustapha, M. T., Uzun, B., Duwa, B., & Ozsahin, I. (2023). Computer-aided detection and classification of monkeypox and chickenpox lesion in human subjects using deep learning framework. *Diagnostics*, *13*(2), 292.

2. Uzun Ozsahin, D., Mustapha, M. T., Bartholomew Duwa, B., & Ozsahin, I. (2022). Evaluating the performance of deep learning frameworks for malaria parasite detection using microscopic images of peripheral blood smears. *Diagnostics*, *12*(11), 2702.

3. Uzun Ozsahin, D., Precious Onakpojeruo, E., Bartholomew Duwa, B., Usman, A. G., Isah Abba, S., & Uzun, B. (2023). COVID-19 Prediction Using Black-Box Based Pearson Correlation Approach. *Diagnostics*, *13*(7), 1264.

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

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

1. Duwa, B. B., Kibarer, A., Uzun, B., Kaba, Ş., & Ozsahin, D. U. (2022, August). Evaluation of Techniques Used in Phenol Removal from Wastewater Using Fuzzy PROMETHEE Method. In *International Conference on Theory and Applications of Fuzzy Systems and Soft Computing* (pp. 289-296). Cham: Springer Nature Switzerland.
2. Ozsahin, D. U., Onakpojeruo, E. P., Duwa, B. B., Uzun, B., Ozsahin, I., & Chioma, E. C. (2023, February). Comparative Evaluation of 3D Filaments Used in Additive Manufacturing of Biomedical Tools; Using Fuzzy PROMETHEE. In *2023 Advances in Science and Engineering Technology International Conferences (ASET)* (pp. 1-7). IEEE.

7.4. National/international Books or Book Chapters

1. *Modern Practical Healthcare Issues in Biomedical Instrumentation*. Academic Press.

2. *Applications of multi-criteria decision-making theories in healthcare and biomedical engineering*. Academic Press.

3. Practical design and applications of medical devices

4. Ozsahin, D. U., Sheshakli, S., Kibarer, A. G., Denker, A., & Duwa, B. B. (2021). Analysis of early stage breast cancer treatment techniques. In *Applications of Multi-Criteria Decision-Making Theories in Healthcare and Biomedical Engineering* (pp. 71-80). Academic Press.

5. Ozsahin, D. U., Almoqayad, A. S., Ghader, A., Alkahlout, H., Idoko, J. B., Duwa, B. B., & Ozsahin, I. (2022). Development of smart jacket for disc. In *Modern Practical Healthcare Issues in Biomedical Instrumentation* (pp. 31-46). Academic Press.

6. Ozsahin, D. U., Almoqayad, A. S., Ghader, A., Alkahlout, H., Idoko, J. B., Duwa, B. B., & Ozsahin, I. (2022). Development of smart jacket for disc. In *Modern Practical Healthcare Issues in Biomedical Instrumentation* (pp. 31-46). Academic Press.

7. Uzun, B., Uzun Ozsahin, D., & Duwa, B. (2021). Fuzzy Logic and Fuzzy Based Multi Criteria Decision Analysis. *Application of Multi-Criteria Decision Analysis in Environmental and Civil Engineering*, 47-56.
8. Ozsahin, D. U., Idoko, J. B., Duwa, B. B., Zeidan, M., & Ozsahin, I. (2022). Construction of vehicle shutdown system to monitor driver's heartbeats. In *Modern Practical Healthcare Issues in Biomedical Instrumentation* (pp. 123-138). Academic Press.
9. Ozsahin, D. U., Hejazi, M., Adnan, O. S., Alloush, H., Khabbaz, A., Idoko, J. B., ... & Ozsahin, I. (2022). Designing a 3D printed artificial hand. In *Modern Practical Healthcare Issues in Biomedical Instrumentation* (pp. 3-18). Academic Press.
10. Ozsahin, D. U., Gökcekus, H., Uzun, B., & LaMoreaux, J. W. (Eds.). (2021). *Application of multi-criteria decision analysis in environmental and civil engineering* (pp. 37-41). Cham, Switzerland: Springer.
11. Ozsahin, D. U., Emegano, D. I., Bader, B. A., Duwa, B. B., & Ozsahin, I. (2024). Blood circuit in hemodialysis.
12. Ozsahin, D. U., Duwa, B. B., Edward, D., Cham, D., Idoko, J. B., & Ozsahin, I. (2024). A dual biventricular resynchronized pacemaker with a remote monitoring system.
13. Ozsahin, D. U., Duwa, B. B., Emegano, D. I., Mustapha, M. T., Usanase, N., Onakpojeruo, E. P., & Ozsahin, I. (2024). Construction of an automated hand sanitizer dispenser used against transmissible diseases.
14. Ozsahin, D. U., Emegano, D. I., Skaik, M., Al Obied, M., Abid, O., Duwa, B. B., & Ozsahin, I. (2024). Development of a polymerase chain reaction device.
15. Ozsahin, D. U., Duwa, B. B., Edward, D., Ali, M. I., Idoko, J. B., & Ozsahin, I. (2024). Design and modeling of a novel blood sampling (Phlebotomy) chair.
16. Ozsahin, D. U., Duwa, B. B., Idoko, J. B., Eddin, M. S., & Ozsahin, I. (2024). Detection of retinal blood clots in the eye using laser doppler technology.
17. Ozsahin, D. U., Emegano, D. I., Abuamsha, B. J., Duwa, B. B., & Ozsahin, I. (2024). The design of a noninvasive blood pressure measurement device.
18. Ozsahin, D. U., Duwa, B. B., Idoko, J. B., Tirah, G., Eldasougi, N. E., Naesa, M., ... & Ozsahin, I. (2024). Design considerations for diagnostic radiology department.
19. Ozsahin, D. U., Emegano, D. I., Altartoor, S. M., Yousef, M. E. O., Duwa, B. B., & Ozsahin, I. (2024). Electromechanical hand-driven electromyogram signal.
20. Ozsahin, D. U., Duwa, B. B., Idoko, J. B., Tirah, G., Alchoib, A., Abuedia, A. M., ... & Ozsahin, I. (2024). Design of interactive neural input device for arm prosthesis.
21. Ozsahin, D. U., Duwa, B. B., Idoko, B., Aleter, A., Idoko, J. B., & Ozsahin, I. (2024). Sleep apnea detection device.
22. Ozsahin, D. U., Duwa, B. B., Idoko, J. B., Edward, D., Khorzom, L., Hussein, O. H., ... & Ozsahin, I. (2024). Voice-controlled prosthetic hand.
23. Ozsahin, D. U., Duwa, B. B., Idoko, J. B., Rwiyereka, A., Ishimwe, D., Hassan, S., & Ozsahin, I. (2024). Internet of things-based patient well-being monitoring system.

24. Ozsahin, D. U., Duwa, B. B., Idoko, J. B., Subedar, W. A. U. R., Edward, D., Barot, J. D., & Ozsahin, I. (2024). 3D Bioprinting of prosthetic legs.

25. Ozsahin, D. U., Emegano, D. I., Haider, O., Ibrahim, I., Duwa, B. B., Alayouti, F., & Ozsahin, I. (2024). Construction of a miniaturized Covid-19 medical kit.

26. Ozsahin, D. U., Duwa, B. B., Idoko, J. B., Gambu, J., Günasti, C. Y., Yavuz, T., & Ozsahin, I. (2024). Face recognition application in healthcare using computer web camera.

27. Ozsahin, D. U., Duwa, B. B., Himaid, A., Emegano, D. I., & Ozsahin, I. (2024). Development of a brainÀcomputer interface device converting brain signals to audio and written words.

28. Ozsahin, D. U., Emegano, D. I., Hassan, A., Aldakhil, M., Banat, A. M., Duwa, B. B., & Ozsahin, I. (2024). Design of endoscopic medical device.

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

12. Awards

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	Fall	BME 400 Graduation project 1	4	1	67
		BME 401 Graduation project 2			
	Spring	BME 400 Graduation project 1	4	1	61
		BME 401 Graduation project 2			
2022 - 2023	Fall	BME 400 Graduation project 1	4	1	60
		BME 401 Graduation project 2	4	1	57
	Spring	BME 400 Graduation project 1	2	1	20
		BME 401 Graduation project 2	2	1	42