Alaa Aldein Mohamed Suliman Ibrahim

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Summary

A researcher and academic with more than +8 years of experience in the educational domain. Experienced working closely with undergraduate students both demonstrating and lecturing different computer science and IT modules. Moreover, I have a number of research publications in the domain of AI, which have been published in reputable journals and conferences. I have good analytical thinking and planning, and I pay good attention to detail.

Research Interest

Artificial Intelligence, Machine learning, Image Processing, Computer Vision.

Education

PhD in Computer Engineering (PENDING – Thesis submitted for examination)   **2024-Present**
University of KwaZulu-Natal, Howard, South Africa.

Master's Degree in Computer Science   **2014 - 2016**
Sudan University of Science and Technology, Khartoum, Sudan.

Bachelor Degree in Computer Studies   **2006 - 2010**
International University of Africa, Khartoum, Sudan.

Publications

1. Ibrahim, A.A.M. and Tapamo, J.R. "A survey of vision based methods for surface defects detection and classification in steel products." Informatics Journal, (2024).
2. Ibrahim, A.A.M. and Tapamo, J.R. "Steel Surface Defect Detection and Classification Using Bag of Visual Words with BRISK." In Congress on Smart Computing Technologies (pp. 235-246). Singapore: Springer Nature Singapore (2022).
3. Ibrahim, A.A.M. and Tapamo, J.R., "Transfer learning-based approach using new convolutional neural network classifier for steel surface defects classification." Scientific African, 23, p.e02066 (2024).
4. Ibrahim, A.A.M. and Tapamo, J.R. "Designing a new deep convolutional neural network for accurate steel surface defects classification." (2023), submitted to Congress on Smart Computing Technologies CSCT 2023 02-03 December (2023) (In Press).

Peer Reviews

Review for Measurement Journal, Elsevier   **2024**
Title: Assessment of Corrosion Image Rating Based on Transfer Learning

ICIEIS 2024 conference, Shenzhen, China   **2024**

Title: An Augmented Iterative Format of the Implicit Randomized Progressive Iterative Approximation for Curve and Surface Reconstruction

The 7th Conference on Science and Technology - Sebha University – Libya   **20244**
Title: A Review: Comparative Analysis of Computer Vision Techniques for Defect Detection in Bananas and Apple

Conferences and Workshops

- Academic Inspiration & Mentoring Programme (AIM) for Sudanese Researchers, Arab-German Young Academy Mentoring Programme, 2024.

- Congress on Smart Computing Technologies (Attendee and paper presenter), 2023.

- Postgraduate Research and Innovation Symposium, UKZN, (Attendee and presenter of flash presentation), 2023.

- Congress on Smart Computing Technologies (Participated as a paper presenter, which was later published in Springer Nature Singapore), 2022.

- SCCSIT'7 conference. Khartoum, Sudan. (Participated as a paper presenter), January 2020.

- Scientific Symposium in the Role of International Journals in the Scientific Renaissance organized by the 7th International Scientific Forum 2020.

- Deep Learning IndabaX South Africa, Durban, South Africa, April 2019.

- Number of workshops at the University of Al Fashir as trainer for the staff.

- Attended 5th ICCEEEE conference, Al-Nodood city, Sudan, November 2017.

- Attended 4th ICCEEEE conference, Al-Gadarif city, Sudan, January 2016.

- Workshop on how to write a research proposal, Sudanese Researchers Initiative, Sudan University of Science and Technology, Khartoum, Sudan. February 2015.

Training & Courses

Determinants the use of ChatGPT artificial intelligence in scientific research and academic and educational work   **2023**

IFAD - Scholars and Academics Platform

Science Direct, Scopus, Mendeley, Researcher Academy Training, ELSEVIER   **2020**

University of Kwazulu-Natal, Durban, South Africa.

Nafeer for Software – Capacity Building Program   **2020**

National Information Center, Council of Ministers, Sudan.

Scientific writing: quality and precautions   **2017**

University of Al Fashir, Al Fashir, Sudan

Faculty Professional Development   **2016**

Sudan University of Science and Technology, Khartoum, Sudan.

CISCO Certified Network Associate (CCNA)   **2015**

KYM Technology Center, Khartoum, Sudan

Academic and Teaching Experience

UNIVERSITY OF KWAZULU-NATAL   📍 South Africa

<u>Tutor at the *School of Engineering*</u>   **July 2022 – May 2024**
- Tutoring practical for undergraduate students (Computer Methods 1, Computer Methods 2, Operating System for Engineering, and Analysis and Design of Algorithms).

<u>Demonstrator at *the School of Engineering*</u>   **July 2019 - Dec 2020**
- Demonstrating practical for undergraduate students (Computer Methods 1, Computer Methods 2).

UNIVERSITY OF Al Fashir   📍 Al Fashir, Sudan

<u>Demonstrator</u>   **2013 — 2016**
- Prepared practical lessons for computer Labs
- demonstrating practical lessons for undergraduate students.
- Students assignment marking.

<u>Lecturer</u>   2016 — **2019**
- Lectured under graduation students, mains subjects are programming language and Databases subjects.
- I was teaching the following modules:
    - Computer Applications.
    - Data structures.
    - Files management and Organization.
    - Design and Analysis Algorithms.
    - Web programming.
    - Internet Technologies 1&2.
- Exams and tests preparation and marking.
- Students' performance continuous assessment.
- Supervised a number of graduation projects for undergraduate students.

<u>Management Positions</u>
- Head of the Computer Science Department.
- Head of examinations committee, Faculty of Computer Science and Information Technology.

Industry experience

The Information Technology Development Company   01/2021 —06/2022

<u>Projects Manager</u>   📍 Al Fashir, Sudan

The modern Institute for Technology and Computer Science   11/2010 — 03/2012

<u>Data Analyst</u>   📍 Al Fashir, Sudan

Professional Certificates

- **Certificate of Competency**: Fundamental of Deep Learning - NVIDIA Deep Learning Institute.
- **Python for Data Science and AI**: Coursera.

Prizes

Second Prize- Flash Presentation ⦿ South Africa
Postgraduate Research & Innovation Symposium (PRIS), UKZN**.** November 2023

Scholarships
- ✓ Scholarship from Ministry of Higher Education and Scientific Research, Ph.D. level, Khartoum, Sudan.

Badges Certificates:

- ✓ Activist at ARID Scientific Events Badge 2020.
- ✓ Initiative Researcher Badge, from ARID Scientific platform.

Memberships

- ✓ Institute of Electrical and Electronics Engineers (IEEE)
- ✓ South African Institute of Computer Scientists and Information Technologists (SAICSIT)
- ✓ ARID platform for Arabic-speaking scholars, experts and researchers (arid.my/0005-3906).
- ✓ IEEE Computer Society.
- ✓ The Institute of IT Professionals South Africa (IITPSA).

Skills

- **Technical Skills**: Academic Research, Lecturing, exams preparation, Students performance assessment, Software Engineering, Programming Languages (PHP, C, Python), Thinking, Software testing, Advanced Excel, Microsoft Office Programs (Excel, PowerPoint, MS Word, Outlook)
- **Soft Skills:** Communication Skills, Attention to Details, Adaptability, Decision Making, Problem Solving, Time Management, Interpersonal Communication, Decisiveness, Delegation, Patience.
- **Teamwork:** Developed through working in groups that consist of different nationalities at UKZN, Durban, South Africa.
- **Language Skills:** Arabic: Native, English: Fair.