Ahmed Saeed Mohamed Hassan

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Professional Summary

Dedicated STEM educator and technology enthusiast with over five years of experience in Education Field teaching, physics, ICT, coding, and robotics for Middle and Secondary School Students. Expertise in designing innovative projects, mentoring students, and leading outreach programs in astronomy and STEM. Proficient in critical thinking, problem-solving, and simplifying complex scientific and Mathematical concepts, with advanced skills in Electronics, Computer Science, R&D and artificial intelligence Tools. Seeking to apply technical proficiency and educational passion in impactful, community-focused roles.

Work Experience

STEM Educator & Team Leader
STEM Sudan Initiative, Egypt
May 2024 – May 2025

Lead a team of four trainers to deliver coding and robotics courses for secondary, middle, and Preliminary school students, enhancing technical skills through hands-on projects and DIY Projects.

Developed and taught a five-day intensive course on game programming using Scratch and PictoBlox, covering AI fundamentals for 20+ students (4 hours/day), The workshop was organized by STEM Sudan Initiative and funded by the Sudanese Telecommunications and Post Regulatory Authority (TPRA).

Designed and implemented an IoT weather station using ESP32, integrating sensors for real-time data collection and analysis.

Created a color-sorting machine using Arduino and servo motors, improving students' understanding of automation and embedded systems.

Prepared curricula and lesson plans, ensuring alignment with educational goals and student engagement.

Mentored and supervised students for Codeavour 6.0, guiding them through project development and competition participation.

Head of Physics and Math Student Association (PMSA)
Omdurman Ahlia University, Sudan
2022 – 2023

Organized scientific workshops and social events, managing budgets and financial reports for 10+ annual activities.

Amplified PMSA's outreach through social media (Facebook, LinkedIn, Youtube), increasing student participation and Internet Footprint by 30%.

Facilitated hands-on astronomy workshops on University Campus using Galileo and SSVI Bresser telescopes.

Astronomy & physics Outreach Educator and Coordinator
Zamzam Refugee Camp Schools, Darfur, Sudan
October 2022

Led a three-day workshop for 570 students (80% female, grades 4–11), introducing astronomy, physics, and robotics.
Designed and presented four educational posters on television, radio, Camera and rocket functionality, enhancing scientific literacy.
Facilitated solar observations using SSVI Bresser telescopes and demonstrated robotics applications.
Collaborated with Sudanese Annual Astroinformatics School (SAAS) and funding partners, including the 2024 Vision grant.
The initiative was documented in a photo-illustrated article in the African Astronomical Society Newsletter (September 2023, Volume 2, Issue 2, Page 13), titled "Astronomy Outreach for Peace Sustainability in the Darfur Region, Sudan (2022)" by Dr. Wathela Alhassan.

Founder & Leader, Sudan Asteroid Hunter Team
International Asteroid Search Campaign (IASC), Sudan
December 2021 – Present

Trained 15+ University students in asteroid detection using Astrometrica software, submitting reports to the Minor Planet Center.
Coordinated data analysis and observation tasks, enhancing team accuracy in identifying celestial objects.
Our Team Make Finding Asteroids 2022 SL97 the Official Announcement from PACS e-Lab

STEM Summer Camp Teacher
NOW STEMSudan Initiative, Sudan
April 2017 – July 2017

Developed lesson plans for electronics and robotics, teaching 30+ students aged 10–15.
Guided hands-on projects, simplifying complex concepts to foster STEM engagement.

Volunteer Experience

IT Technical Support & Organizing Committee Member
Sudanese Astro-Informatics School (SAAS), Sudan
2020 – Present (Annually - Seasonal Work)

Provided IT support, troubleshooting hardware/software issues for 50+ participants annually.
Streamlined registration processes, improving event accessibility for students and faculty.

Head of LCOY Scientific Committee 2023

Assistant Researcher for Visually Impaired Scientist
Independent Volunteer Role, Sudan
2017 – 2020

Supported a visually impaired political science researcher at University of Khartoum Political Science Department for three years, reading articles and books aloud.
Co-authored and formatted research papers using Microsoft Word, enhancing accessibility and content quality.
Worked part-time without compensation, honing research, critical thinking, and communication skills.

Projects

IoT Weather Station (2024)
Developed an IoT based weather monitoring system using ESP32, integrating temperature, humidity, and pressure sensors.
Coded real-time data transmission to a cloud platform (Blynk and MQTTx Protocol), used as a teaching tool for IoT concepts.

Color-Sorting Machine (2024)
Designed an Arduino-based color sorter with servo motors, automating object classification by color.
Led a team of four to prototype and test, enhancing student understanding of Coding and Robotics.

Astronomical Image to Sound Conversion (2023)
Participated in NASA Space Apps Hackathon (October 2023) in AUC, developing a project to convert astronomical images into audible sound.
Applied signal processing techniques to create an accessible representation of celestial data.

YouTube Downloader (2022)
Built a Python-based application for downloading YouTube videos, demonstrating intermediate programming skills.
Code available on GitHub: GitHub Link

Tic-Tac-Toe Game (2022)
Developed a Python-based Tic-Tac-Toe game, showcasing logic and user interface design.
Code available on GitHub: GitHub Link

Mini CNC Plotter Machine (2021)
Engineered an Arduino-powered CNC plotter for precise design plotting, integrating electronics and programming.

Astronomical Observation Workshop (2022)
Organized a one-day workshop at Omdurman Ahlia University, training 20+ participants in telescope operation and celestial observation.

Published Booklet: Learning Astrometrica Software (2022)
Authored a guide for the International Asteroid Search Campaign, detailing asteroid detection with Astrometrica software.

Education

BSc in Applied Physics and Electronics (Honors, GPA: 3.7/4)
Omdurman Ahlia University, Sudan
2019 – 2023

Relevant Courses: Calculus, Digital Electronics, Embedded Systems, Classical Mechanics, Differential Equations, Analog Electronics, Special Relativity, AC Circuits..etc

Diploma in Information Technology (IT) (Grade: Excellent)
University of Khartoum (2017–2018).

Completed Just first year (top of class) before delays caused discontinuation. Developed programming and IT skills supporting IT Technical Support, Physics, Math, Electronics and ICT teaching.

Relevant Courses: Basic Mathematics, DB Management (Microsoft Access), Microsoft Excel, Basic Accounting, Basic Economic Studies, Basic Business Management, Basic Computer Science, Basic Of Information Technology, Basic Of Information Systems, Basic Algorithms, Statistics, Basic Marketing.

Certifications

Certificate of Attendance, Plasma Physics School Egyplasma at Port Said, Egypt (2023), Awarded for attending and completion comprehensive crush course on plasma physics science

Certificate of Recognition, Codeavour 6.0 (10/2025) – Awarded for mentoring and supervising student participation.
Certificate of Completion, Mobile maintenance (Zain Company with 6th October training Center, 10/2024 – 11/2024) – Focused on practical mobile maintenance skills.
Certificate of Completion, Vocational Training (Carpentry) (World Food Programme with E-youth Company, 06/2025) – Enhanced hands-on and DIY skills.
Certificate, Second Sudanese Astroinformatics School (SAAS) 2020 (Institute of Space Research and Aerospace, 06–07/10/2020) – Covered Python programming, data analysis, image processing, and AI.
SolidWorks Electrical CSWA-Electrical (02/2022)
Microsoft Excel Program (Almonther Safan, 12/2017)
Microsoft Excel (Isam Kwela, 11/2017)
Basic English Conversation (Mohammed Ibn Nagi Al-yamani, 12/2017)
Nanotechnology Fundamentals (Dr. Mohammed Hasan Khalaf, 04/2018)

Technical Skills

Programming: Python, C++, Scratch, PictoBlox, Arduino, ESP32
Electronics: PCB Design (Proteus and KiCad), Soldering, Digital/Analog Circuits, IoT, Robotics
Data & AI: Data Analysis, Image Processing, Artificial Intelligence Tools.
Software: SolidWorks, Microsoft Office, Linux, WordPress
STEM Education: Curriculum Development, Hands-On Workshops, AI Fundamentals

Publications

Learning How to Hunt Asteroids Using Astrometrica Software in IASC Campaign (book, 60 pages)
Scientific poster: How Television Works
Scientific poster: How Radio Works
Scientific poster: How a Camera Works
Scientific poster: Rockets

Professional Development

8th Egyplasma School, Port Said, Egypt (03/2023) – Studied plasma physics applications.
Indaba X Sudan, Sudan (11/2022) – Explored machine learning and deep learning trends.
Astro-Informatics School, Sudan (2019–2022) – Focused on astronomy and informatics convergence.
World Space Week Sudan, Sudan (2015–2021) – Participated in space science lectures.
NASA Space Apps Hackathon, Egypt (10/2023) – Developed innovative solutions for space data accessibility.

Personal Skills

Critical Thinking & Problem-Solving
Simplifying Scientific Information
Research & Fact-Checking
Leadership & Team Coordination
Communication skills
Collaboration & Event Organization

Languages

Arabic: Native
English: B2

References

Available upon request:

Professor Nadir William Amin, Omdurman Ahlia University aminnadir2@gmail.com
PhD. Wathela Alhassan, Warsaw University wathelahamid@gmail.com

PhD, Yousif Hassan Alsheikh, Head of Physics and Math Department Omdurman Ahlia University
PhD, Arwa Gadal Falih, OAU Associate professor arwagfalih@yahoo.com
Hassan Ahmed baba, Director Of STEM Sudan Initiative hassanbaba@stem.sd

Additional Information

Date of Birth: March 23, 1995
Citizenship: Sudanese
Driver's License: Valid Sudanese license
Hobbies: Astronomy, Electronics, Carpentry, Jogging, Reading