

Abdulrahman Hussein

(Environmental Remote Sensing, Hydrogeochemistry, & AgriTech)

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LinkedIn: [linkedin.com/in/climatawy](https://www.linkedin.com/in/climatawy) | **Location:** Kent, OH, USA | **Current Role:** Graduate Teaching Assistant, Kent State University

Summary of Qualifications

High-achieving **Graduate Teaching Assistant, PhD Student, and AI Ethics Ambassador** at Kent State University with over 10 years of experience in **Advanced Sensing (AI/ML/Remote Sensing), Sustainable Agriculture, and Climate Adaptation**. Proven ability to secure competitive national and international research and project funding, totaling over **EGP 1.37 Million, USD 63,000+, and 10,000 ERU** to date. Expert in applying geochemical and spatial analysis principles to complex environmental challenges and leading academic integrity initiatives in the age of AI. Demonstrated success in higher education, supporting learning and academic integrity for over **1,600+ students** across undergraduate and graduate levels. Recognized as a high-potential researcher and entrepreneur, consistently winning funding and fully-funded international scholarships through technical excellence.

Education

Kent State University | Kent, OH, USA

PhD Student, Earth Sciences | January 2023 – Present

- **GPA: 4.0 / 4.0**

Texas A&M University | College Station, TX, USA

USAID Egyptians Pioneers Scholarship (Climate Change Training) | October 2024

- Fully funded scholarship valued at **USD 50,000**; focused on climate policy and sustainability.

Aswan University | Aswan, Egypt

PhD Preparation Coursework, Soil Resources | September 2023 – June 2024

- **GPA: 4.0 / 5.0** | Fulfilled all required coursework for PhD candidacy.

Aswan University | Aswan, Egypt

Master of Science (MS), Natural Resources (Soils) | July 2023

- **GPA: 5.0 / 5.0 (Perfect Score)**
- Thesis: "Assessment of Potassium Status in Some Lands of Upper Egypt."

Aswan University | Aswan, Egypt

Bachelor of Science (BS), Agriculture & Natural Resources | July 2016

- **GPA: 3.401 / 4.0 | First Class Honors** (Ranked 1st in Department).

Professional Experience

Kent State University | Kent, OH, USA

Graduate Teaching Assistant | January 2023 – Present

- **Instruction & Support:** Supporting student learning for **121 students** over consecutive semesters.
- **Technical Mentorship:** Provided specialized guidance to a Master's student on **Sentinel-2 cloud masking** techniques and Python-based remote sensing workflows.
- **Research Integration:** Processing hyperspectral data for lab initiatives under Dr. Joseph Ortiz.

GPTZero | Global / Remote

Higher Education Ambassador | February 2026 – Present

- **AI Leadership:** Competitively selected to lead **Professional Development (PD) sessions** for higher education faculty and researchers.
- **Curriculum Design:** Customizing educational resources and slide decks to equip educators with AI literacy, focusing on academic integrity and ethical LLM use in research.

Agricultural Services Foundation | Upper Egypt

Consultant & Guest Lecturer (Smart Climate Agriculture & AI) | January 2023 – Present

- **Technical Training:** Deliver high-level technical lectures on AI adaptation and Smart Agriculture to **Agricultural Engineers, MS/PhD students, and Government Administrators**.
- **Strategic Advisory:** Expert consultant for government corporate representatives on empowering decision-making in Egyptian agriculture through data-driven frameworks.

Agricultural Services (SAIL/IFAD) | Upper Egypt

AgriTech & Greenhouse Systems Consultant | January 2024 – Present

- **Technical Evaluation:** Findings resulted in the **re-construction of study areas** to correct technical errors in hydroponic/aquaponic greenhouse systems.
- **Training & Outreach:** Delivered workshops and climate-control sessions for **100+ farmers**.

Aswan University, Institute of African Research & Studies | Aswan, Egypt

Teaching Assistant (Affiliate Position) | December 2017 – Present

- **Examinations Control Room:** Oversight of grad-level exam integrity for **1,000+ students**

annually.

- **Scientific Coordination:** Digital Coordinator for the Scientific Journal; managed records for **50+ research articles annually**.

Aswan University, Faculty of Agriculture & Natural Resources | Aswan, Egypt

Assistant Lecturer (Permanent Faculty Track) | September 2016 – September 2019

- **Excellence-Based Appointment:** Hand-selected for a **permanent lifetime faculty track** based on academic merit.

Research, Publications & Patents

Current Research Initiatives | Kent State University | January 2023 – Present

- **PhD Dual-Track Research:** Tracing pollution sources in neutralized lake systems (Iraq cooperation) and leading a 2-year funded UAV-based hyperspectral phenotyping study.
- **Lead Researcher – Toshka Project:** Utilizing **EnMAP** and **NISAR** (NASA's newest sensor) for novel soil moisture and salinity detection.
- **Python Framework Development:** Automated Stepwise Regression for lab workflows and developed custom algorithms for Sentinel-2 cloud masking.

Journal Publications

- Ahmed Hussein, & Abdulrahman Rabee. (2023). تأثير بعض خواص التربة علي انطلاق عنصر البوتاسيوم في بعض أراضي مصر العليا (Potassium release as affected by some indigenous soil properties in Upper Egypt). مجلة المعهد العالي للدراسات النوعية, 3(1), 915-940.

Patents

- Hussein, F.M., Hussein, F.M. “**Smart Pot.**” Egypt Patent, No 196/2023. (Filed: 05 Feb 2023).

Presentations & Invited Lectures

- **Poster Presentation** | **2026 Graduate Research Symposium**, Kent State University (March 2026). Title: “*Automating the Detection of Cryptic Sulfate Pollution: Python and Machine Learning Implementation for Neutralized Waters.*”
- **Guest of Honor & Keynote Speaker** | Launch of the 3rd National Initiative for Smart Green Projects, Aswan Governorate (2025). Invited by the Governor of Aswan to present professional journey as a model for youth innovation.
- **Invited Lecture** | “From Vision to Reality: AI and Empowering Decision Making in Agriculture” | Agricultural Services Foundation (2025).
- **Guest Expert** | Channel 8 – Egyptian National Television (2025). Featured to present the vision of **Planty** (AI platform).
- **Field Training on Modern Agriculture** | IFAD SAIL Project (2025). Conducted hands-on training on greenhouses and smart climate practices for regional farmers.
- **TED X Speaker** | “Turning Challenges Into Opportunities” (2024).
- **Invited Lecture** | “Soil Management in Aswan: Problems, Solutions, and Modern

Techniques” | Agricultural Services Foundation (2024).

- **Field Presentation** | “Sustainable Soil Management & Fertilization for Date Palm Cultivation” | Abu El-Reesh Association (2024). *Hands-on training for smallholder farmers.*
- **Selected Participant** | **German Science Day 2024 & 2025**, DAAD Regional Office Cairo. Chosen via competitive application for the COSIMENA project; participated in one-on-one scientific counseling with German professors.
- **Workshop Lead** | “Artificial Intelligence: Innovation and Application” (2024).
- **Workshop Lead** | “Be the Tech Guy: Arduino and Microcontrollers” (2022).

Honors & Awards (Funded & Competitive)

- **Certificate of Appreciation – Governor of Aswan:** Served as Guest of Honor for the 3rd cycle launch of the National Initiative for Smart Green Projects. (2025)
- **GPTZero Ambassador Selection:** Competitively selected for the global ambassador program to lead AI literacy initiatives in higher education. (2026)
- **SIRDS Project Grant (EU-Funded):** Secured **EGP 900,000** for community development and sustainable agriculture. (2025)
- **Startup Power Competition – Abu Hashima Foundation:** Secured **1st in Agritech & AI** for Planty. Awarded **EGP 100,000**. (2025)
- **AI Hackathon (Aswan University & Google): 1st Place (Agritech);** Awarded **EGP 30,000 incubation** and **USD 3,000** in Google AI services. (2025)
- **Upper Egypt Gemini Africa Incubator:** Selected for **EGP 30,000** program. Featured as primary visual representation on [official website](#). (2025)
- **Upper Egypt Startup Olympics:** Secured **2nd Place** overall; Awarded **EGP 15,000** in funding. (2025)
- **USAID Egyptians Pioneers Scholarship:** Awarded **USD 50,000** for training at Texas A&M. (2024)
- **African Union Certificate of Appreciation:** Awarded by the **African Union and Ministry of Youth** for leadership in youth development. (2023)
- **National Initiative for Smart Green Projects: 1st Place winner** for two consecutive years (2023–2024).
- **Aswan University TIEC Competition:** Winner for best innovation ideas and patent registration support. (2023)
- **King Abdulaziz University (KAU) PhD Scholarship:** Fully-funded track offer (Ranked 102 Globally). Upgraded to PhD track after MS defense. (2023)
- **Athar Accelerator & USAID Climate Grant:** Selected for **USD 10,000 Accelerator** and won **1st place in Climate Hackathon**. (2023)
- **Crossroads Emerging Leaders Program:** Fully funded participant (Acceptance rate <5%). (2020)
- **King Fahd University (KFUPM) Scholarship:** Fully funded offer for Soil Science research. (2020)
- **GREAT-RAU Scholarship (UK):** Awarded **10,000 ERU**; Full tuition scholarship offer for

Royal Agricultural University. (2020)

- **AUC & HSBC Excellence Grant:** Awarded **EGP 300,000** for CARES Professional Career Program. (2020)

Technical Skills & Training

Core Research Areas:

- **Sustainable Agriculture:** Smart Climate Agriculture, Soil Fertility, Climate Change Adaptation, Precision Farming.
- **Environmental Remote Sensing Diagnostics:** Geochemical Tracing, Stable Isotopes ($\delta^{34}S$), XRD/XRF Principles, AI Detection & Academic Integrity.

Remote Sensing & Data:

- **Software:** QGIS, Python (ML/Data Fusion), R, MATLAB, ArcGIS, SPSS, R Studio, Fusion 360, WordPress, Blynk.

Professional Memberships

- **Geological Society of America (GSA)** | Member since February 2026.

Community Service

- **Volunteer & Co-Organizer** | Hayah Karima Presidential Institution (2022–Present).
- **Volunteer, Public Relations** | Balanah Society Development Association (2018–Present).

Languages & Verifications

- **Languages:** Arabic (Native), **English: B2 (Upper Intermediate)** – Duolingo Score: 125.
- **Certifications:** [Credly Digital Badge Profile](#)

References

- Available upon request.