

Youssef Maaod

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EDUCATION

Ain Elsokhna, Galala University Oct 2022 - June 2026 **Bachelor's Degree of Computer Science, Specializing in Artificial Intelligence Science, Faculty of Computer Science and Engineering | CGPA:Excellent**

ACHIEVEMENTS AND AWARDS

- **Top Graduation Project, Digital Egypt Pioneers Initiative**– Selected to be between the top 10 projects out of 15,000+ students; award ceremony attended by senior officials from the Ministry of Communications.
 - **Ideal Student Award, Artificial Intelligence Science Program, 2025**–Winner at the program level; one of five finalists across the university, nominated by the program director for outstanding academic performance and significant contributions.
 - **Qualified for the Pre-Final Round, International Astronomy and Astrophysics Competition (IAAC) 2025** – Selected among top participants worldwide after successfully passing the Qualification Round, solving 4 out of 5 physics and mathematics problems.
 - **CAISAI2025 AI International Conference, Galala University (Dec 8, 2025)** – Presented my research paper “A Flash of Insight: Real-Time Meteor Shower Classification with Machine Learning”, [link](#).
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PUBLICATIONS

1. **Y. Maaod**, A Flash of Insight: Real-Time Meteor Shower Classification with Machine Learning. **IEEE CAISAI2025**—presented at CAISAI2025.
 2. **Y. Maaod**, Automated Detection and Classification of Solar Radio Bursts Using e-CALLISTO Spectrum Data and YOLO v11 deep learning model. **IAF IAC2025** [Link:\[link\]](#)—**Published September 2025.**
 3. **Y. Maaod**, Explainable AI-Based Enhanced Classification of Gravitational Wave Anomalies Using Vision Transformers. **IEEE SRC2025** [Link:\[link\]](#)—**Published September 2025.**
 4. **Y. Maaod**, Swin Transformer for Bone Metastasis Classification: A Comparative Study with Transfer Learning Models. **IEEE ITC 2025** [Link: \[link\]](#)—**Published July 2025.**
 5. **Y. Maaod**, Transformer-Based Anomaly Detection in Satellite IoT: A Hybrid Approach with Rotary Embedding and Kernelized Attention. **IEEE ITC 2025** [Link: \[link\]](#)—**Published July 2025.**
 6. **Y. Maaod**, Advancing Real-Time Military Aircraft Detection: A Comprehensive Comparative Benchmark of Object Detection Frameworks. **IEEE ITC 2025.** [Link: \[link\]](#)—**Published July 2025.**
 7. **Y. Maaod**, Leveraging Large Language Models for Smart Pharmacy Systems: Enhancing Drug Safety and Operational Efficiency. **IEEE IMCOM 2025.** [Link: \[link\]](#)—**Published Feb 2025.**
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RESEARCH AND TECHNICAL EXPERIENCE

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|---|----------------------------------|
| AI Security Academy. Fulltime Deepfake Security Researcher | August 2025 - Present |
| <ul style="list-style-type: none">• Develop Python scripts to automate and accelerate deepfake research workflows.• Produce educational videos to raise public awareness about the dangers of deepfakes in scams.• Write investigative articles on real-world deepfake scams and cyber incidents.• Implement and maintain Deepfake Labs within the AI Security Academy platform.• Test and evaluate new labs and courses to ensure quality and impact before release. | |
| AI Security Academy. Deepfake Security Researcher intern | June 2025 - August 2025 |
| <ul style="list-style-type: none">• Designed realistic deepfake attack scenarios for training and research.• Created detection challenges and awareness materials for healthcare, finance, and corporate sectors.• Investigated real-world incidents and their technical attack methods. | |
| Galala University. Part Time Software developer | May 2025 - September 2025 |
| <ul style="list-style-type: none">• Automated the university's clinical operations by developing automation clinical system, improving efficiency and reducing manual data entry by approximately 90%. | |
| Egyptian Space Agency. AI Researcher intern | Sept 2024 - June 2025 |
| <ul style="list-style-type: none">• Developed an automated radio-burst detection system from CALLISTO spectrograms, cutting classification time for 3663 images from ~2 months to seconds.• Created data pipelines for web-scraping, preprocessing, and noise reduction.• Trained CNN, ViT, Swin, ConvNeXt models with cross-validation.• Deployed YOLOv10/YOLOv11 for real-time classification and automated sorting. | |
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PROJECTS

Explainable AI-Based Enhanced Classification of Gravitational Wave Anomalies Using Vision Transformers⁰

- Developed XAI ML pipeline using ViT + Swin with SHAP/LIME for interpretability.

Egyptian Space Agency. Radio Burst Detection System: CALLISTO Observatory Data & Deep Learning⁰

- Developed a Python-based real-time system for spectrogram image detection using YOLO models.
- Developed custom web-scraping and Python scripts to collect, clean, and re-annotate e-Callisto data.
- Integrated Vision Transformers, pre-trained models, and CNNs for comprehensive performance benchmarking.

Egyptian Space Agency Training. Ionospheric Forecasting Using GNSS Observation⁰

- Designed BiLSTM/BiGRU models to forecast VTEC from solar activity.
- Improved accuracy through outlier removal, resampling, and hyperparameter tuning.

Digital Egypt Pioneers Initiative - DEPI. Artificial Vincent Van Gogh⁰

- Led DCGAN + neural style transfer project to generate images in Van Gogh's style.
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SKILLS

- **Programming Languages:** Python, C++, SQL
 - **Artificial Intelligence:** Machine Learning, Deep Learning, Object Detection, NLP, Transformers
 - **Computer Vision:** OpenCV, Roboflow, You Only Look Once (YOLO)
 - **Others:** Git, GitHub, Jupyter Notebook, HuggingFace
 - **Frameworks:** Tensorflow, Pandas, Numpy, Pytorch, Scikit-Learn, Keras
 - **Science:** Astronomy, Space Weather, Space Environment, Physics, Mathematics, Astrophysics, Solar Physics, Statistics
 - **Soft Skills:** Leadership, Public speaking, Teamwork, Academic Writing
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LEADERSHIP AND VOLUNTEERING

SDG-AI. International Conference Organizer

December 2024

- Organized the First International SDG Conference and Third AI Sciences Conference at Galala University.
- Managed logistics and coordinated with local and international speakers.

NASA Space Apps Cairo 2024-2025. Competition Volunteer

June 2024 - October 2025

- Managed the judging system and score calculations for accurate results.
- Served as Discord server administrator, ensuring smooth event communication and support for 797 participants.
- Developed NASA Intelligent Discord Assistant Chatbot (N.I.D.A.C) and integrated it into the event's Discord server to provide participants with guidance and competition information.
- Created and managed two Discord communities for the virtual hackathon and virtual bootcamp.

Hult Prize Galala University. Logistics Volunteer

Feb 2024 - March 2024

- Developed a scoring application for Hult Prize Galala University, reducing score calculation time by 83.3% and managed IT operations to support smooth event execution.

IEEE Galala University SB. Technical Head

Feb 2024 - March 2024

- Led the technical committee at IEEE Galala University Student Branch, managing team consisting of 8 volunteers.
- Organized 4 technical workshops with a total of 69 attendees.

CAISAI 2023. International Conference Organizer

September 2023

- Served as on-site organizer for the 2nd CAISAI 2023 International Conference.
 - Administrated the conference's LinkedIn page, engaging a global audience.
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COURSES

- **Microsoft Machine Learning Engineer Track**— Digital Egypt Pioneers Initiative - DEPI⁰ (160 Hours)
 - **Deep Learning Specialization**—Deeplearning.ai⁰ (125 Hours)
 - **Machine Learning Specialization**—Deeplearning.ai, Stanford University⁰ (94 Hours)
 - **Space Environment & Space Weather Training**—Egyptian Space Agency⁰ (60 Hours)
 - **Astronomy: Exploring Time and Space**—The University of Arizona⁰ (43 Hours)
 - **Data-driven Astronomy**—The University of Sydney⁰ (22 Hours)
 - **Machine Learning In Healthcare Training**—TachyHealth (16 Hours)
 - **What is Innovation**—Arizona State University⁰ (10 Hours)
 - **Healthcare Digital Twin & Industry 4.0 Training**—SDG Innovation Network (Canada) & Galala University International Collaboration (In Progress)
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REFERENCES AVAILABLE UPON REQUEST