

Ahmed Hossam Abdelrahman

AI / Machine Learning Engineer

📍 Nasr City, Cairo, Egypt | 📞 +20 106 540 9960 | ✉️ ahmedhoss.2023@gmail.com

🌐 [LinkedIn: linkedin.com/in/ahmed-hossam61](https://www.linkedin.com/in/ahmed-hossam61) | [GitHub: github.com/AhmedHossam61](https://github.com/AhmedHossam61)

Summary

AI/ML Engineer with hands-on experience in supervised & unsupervised learning, deep learning, and computer vision. Proficient in Python, TensorFlow, and Keras. Experienced in deploying ML models via Streamlit and GitHub. Strong background in algorithm design, data preprocessing, and model optimization.

Core Competencies & Technical Skills

- **AI/ML Domains:** Deep Learning (CNNs, RNNs), Computer Vision, Natural Language Processing, Generative AI, LLM fine-tuning, MLOps, Feature Engineering
 - **Programming:** Python, C++, MATLAB
 - **Frameworks & Libraries:** TensorFlow, PyTorch, Keras, Scikit-learn, OpenCV, Hugging Face
 - **Data & Cloud Tools:** AWS SageMaker, GCP AI Platform, Docker, Streamlit, GitHub Actions
 - **Data Science Tools:** Pandas, NumPy, Matplotlib, Seaborn
 - **Soft Skills:** Leadership, Team Collaboration, Technical Training, Communication, research, time-management
-

Work Experience

Electronics Research Institute (ERI) 07/2023 – 08/2023

AI Engineer Intern

- Implemented optimized A* pathfinding algorithm in Python, reducing computation time by 30% for real-time robotic path navigation.
- Studied machine learning and Deep learning techniques.

ISchool-Demi project 06/2024 – 08/2024

Coding & AI instructor

- Taught children the programming basics (4 groups, 25 students per group, 2 sessions per week),
- Led children to achieve 90% of their projects.

Competitor – Kaggle ML Competition (AI Talents League), Ranked Top 50% – 06/2025

Selected Projects

Graduation Project – Capacitive Seat for Cardiovascular Diseases | Mediapipe, OpenCV, Signal Processing

- Developed 4 real-time drowsiness detection approaches, selecting Mediapipe with adaptive calibration for optimal accuracy & speed.
- Created a driver authentication system using facial recognition to enhance vehicle security.
- Designed ECG signal processing pipeline to detect anomalies and send real-time alerts to remote servers.

Diabetes Classification | Python, Scikit-learn, Streamlit

- Performed data preprocessing & feature selection on patient health data for improved model interpretability.
- Trained and evaluated SVM & Naive Bayes classifiers, achieving 84% and 89% prediction accuracy on unseen test data.
- Deployed the model as a **cloud-based web app** using Streamlit & GitHub Actions, enabling real-time inference.

Candy types detection | Yolo, CNN, OpenCV , Pytorch

- Gathered 200 images for different candy types, applied image annotation for Yolo Training.
- Implemented real-time video Candy detection pipeline, integrated via OpenCV for **live monitoring applications**.

Facial Emotion Recognition | TensorFlow, CNN, OpenCV

- Built a Convolutional Neural Network (CNN) model to classify facial emotions from images.
- Processed & augmented 10k+ labeled images to improve generalization and reduce overfitting.
- Achieved 92% classification accuracy and integrated OpenCV for live video-based emotion detection.

Education

Faculty of engineering- Helwan university

- Bachelor of Science (B.Sc.) in Electronics and Communications Engineering 09/2020 - 07/2025
- GPA: 70% ("Good")
- **Relevant Coursework:** Machine Learning, Digital Signal Processing, Probability & Statistics, Neural Networks, Advanced Algorithms.

ACTIVITIES

Leadership & Activities

- **Google Developer Student Club (GDSC)** – Founder & Lead (2022–2023), Team Member (2021–2022)
 - Organized **12+ AI workshops** attended by over **300 students**.
 - Managed a **25-member technical team**, securing partnerships for training initiatives.

Certificates & Courses

Machine Learning Specialization – Coursera by Andrew Ng

- Topics: Supervised/Unsupervised Learning, Model Evaluation, Bias-Variance Tradeoff, Deep Learning, Reinforcement Learning

Generative AI with AWS – Udacity, 2024

- *Fine-tuned foundation models using Amazon Bedrock and custom datasets*
- Deployed LLMs on **AWS SageMaker** with scalable inference endpoints

AI Fundamentals – DataCamp, 2023