

Yousef Ahmed Gomaa

SOFTWARE ENGINEER

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Summary

AI Enthusiast and Software Engineer with strong experience in Artificial Intelligence projects, Machine Learning, and Coding Education. Skilled in Python, JavaScript, and problem-solving techniques, with proven ability to design and implement AI-driven solutions. Experienced in teaching coding and AI concepts for both university students and children in educational institutions, simplifying complex technical topics into clear, engaging lessons. Passionate about clean code, software development best practices, and algorithmic problem solving. Strong background in developing multiple AI projects and applying innovative approaches to real-world problems.

Experience

AI Trainee – NTI & Huawei Scholarship

- Successfully completed an intensive scholarship program in Artificial Intelligence organized by NTI in partnership with Huawei.
- The final graduation project focused on Computer Vision and developing a Classification Model for real-world applications.
- I gained hands-on experience in Machine Learning, Deep Learning, and AI frameworks.

Participant – IEEE Robotics Competitions

- I actively participated in multiple robotics competitions organized by IEEE.
- Awarded for Best Software-Hardware Integration, recognizing ability to merge efficient code with embedded hardware systems.
- Developed skills in robotics, embedded programming, problem-solving, and teamwork.

Programming Instructor – University

- Delivered C language programming sessions for university students.
- Focused on fundamentals of structured programming, problem solving, and debugging techniques.

Coding & AI Instructor – Brainy n Bright

- Taught Python programming, Python libraries (NumPy, Pandas, Matplotlib, etc.), and Machine Learning fundamentals.
- Designed and delivered interactive lessons to children and young learners.
- Simplified complex coding and AI concepts into engaging, practical activities.

Education

BSc in Mechatronics Engineering (Senior)
Mansoura University, Egypt (Expected 2026)
GPA: 3.8 / 4.0

Technical Skills

- Artificial Intelligence (AI), Machine Learning (ML), Deep Learning
- Programming (Python, Java, C++, JavaScript)
- Problem Solving & Algorithms
- Clean Code & Software Development
- Coding Education & Mentorship
- AI Project Development & Implementatio

Projects

- **Smart Home System** (ATmega32, Arduino UNO):
Developed a full-featured smart home platform with sensor fusion, automation, and remote monitoring.
Implemented communication via **MQTT**, **HTTP** protocols.
- **Firefighting RC Car** (Award-Winning):
Designed and built an autonomous firefighting robot.
Best Hardware Circuit Award – IEEE Zagazig Competition (2024)
- **RC Car with Robotic Arm:**
Built and programmed a multi-axis robotic manipulator mounted on RC vehicle, enabling remote and autonomous tasks.
- **Smart Greenhouse (IoT, ESP32):**
Automated climate control, soil monitoring, and cloud data integration for smart agriculture applications.
- **Autonomous Vehicle SLAM & Perception:**
Developed basic mapping and perception pipeline using **ROS2 & Raspberry Pi** for autonomous navigation.

Hand Gesture Expression Classification using Computer Vision

- Developed a Computer Vision-based classification model to detect and classify hand expressions/gestures.
- Implemented using Python, OpenCV, and Machine Learning algorithms.
- Applied image preprocessing, feature extraction, and classification techniques to achieve accurate gesture recognition.
- Focused on real-world application of AI in human-computer interaction (HCI).

Volunteer Experience

- **Team Leader, Luminous Student Team (October 2024–October 2025)**
- **Presenter, YLF Business Competition Finalist (September 2024)**
- **Software Head, Luminous Student Team (December2023 – September2024)**
- **2nd Place, Emirates Red Crescent Competitions (High School)**