

Hazem Abuelanin

Computer Engineering student

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Summary

I am Senior Computer Engineering student with a passion for research and development, constantly driven by a curiosity to explore innovative technologies. I thrive on solving complex problems and continuously seek opportunities to learn and grow, with a strong focus on both hardware and software integration.

Experience

Shoubra Autonomous Racing Team 2024 - 2025

Founder & Team Lead

- * Founded the first autonomous vehicle team at Benha University – Shoubra Faculty of Engineering.
- * Led formation of the Shell Eco-marathon Autonomous Team.
- * Established the university’s first F1TENTH autonomous racing team.
- * Initiated the Formula Student Driverless Team.
- * Designed the initial hardware framework for the college’s first autonomous vehicle.

Shoubra racing team 2023 - 2024

Embedded systems team member

Participated as an embedded systems engineer in the team's electrical car by developing and integrating embedded systems using AVR Microcontrollers.

Education

Benha university, Shoubra faculty of Engineering Undergraduate

Computer Engineering

GPA: 3.34

Projects

Machine Translation Model using Transformers

Developed a translation model combining Bidirectional GRU layers with Transformer-inspired techniques like embeddings and sequence padding, optimizing for contextual accuracy

Mobile Robot for Emirates Robotics Competition

Designed the software and perception of a turtlebot3 robot to navigate a previously unseen area and collect debris to clean the environment.

Designing a fully autonomous vehicle for Shell Eco-marathon Competition

Made the design and architecture of the software including Computer Vision, LiDAR Processing and Sensor fusion algorithms to Motion planning and energy-efficient Controlling

Autonomous Vehicle for Electrical Vehicle Rally in Egypt

Developed a full autonomous system using ROS and VREP with LiDAR, mono/depth cameras, and IMU.

Autonomous racing vehicle for F1TENTH competition

Developed Autonomous system for F1TENTH Competition using C++, ROS2 and LIDAR Processing algorithms.

Distance alarm ECU

System for detecting close objects to the rear of the car using AVR, used in the electrical vehicle rally

Skills

Programming

C - C++ - Python - Java - Dart

Robotics

ROS - ROS2 - Perception - Motion planning - SLAM - Controlling

Embedded software engineering

Embedded C - Microcontrollers interfacing - Communication protocols - Microcontrollers architecture

Artificial intelligence engineering

Data analysis - Machine learning - Deep learning - Computer vision - NLP

Awards

Second place worldwide Shell Eco-marathon APC June 2025

Clutched second place out of 24 teams worldwide representing Egypt in the prestigious 40-year Shell Eco-marathon competition for designing and deploying a fully autonomous energy-efficient vehicle

Third place over Egypt in the autonomous cars competition - EVER - Electric Vehicle Rally August 2024

EVER - Electric Vehicle Rally

Managed to clutch the third place in autonomous system design over Egypt against 15 top universities.

Fourth place globally at F1TENTH Competition October 2024

Managed to achieve 4th place globally out of 58 international teams at F1TENTH simulation league for autonomous cars racing at IROS 2024 competition.

Training

Digital Egypt Pioneers April 2024 - September 2024

Microsoft Machine Learning Engineer Trainee

Languages

Arabic

Native language

English

Very good