



MOSTAFA ASHRAF IBRAHIM ALI ELFEEL

MECHATRONICS, ROBOTICS, AND AUTOMATION SYSTEMS ENGINEER

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GitHub

LinkedIn

Education

Bachelor's Degree in Mechatronics and Automation Engineering, Ain Shams University ICHEP

"2018 - 2023"

GPA: 3.38/4.00

El Manara Language School for boys [English Taught]

"2006 - 2018"

Grade: 94%

Graduation Project

"Swarm of Autonomous Drones for Environment mapping aka SADEM" Grade: A+

The project aimed to create a swarm of autonomous drones capable of generating detailed 3D visualizations of indoor and outdoor areas. The system consisted of multiple drones with stereo ZED cameras and an on-ground base station for computation. The drones used inertial navigation and visual odometry for navigation, while wireless protocols and algorithms enabled communication and coordination.

Awards:

- 2nd place out of 183 teams in International Competition on Smart Cities (ICSC) Competition 2023.
- 2nd place in Ebdaa Festival in the IOT category 2023.
- ASRT Project Fund.
- ITIDA Project Fund.
- Dell Technologies Envision the Future finalists.

Totalling to over 200k EGP in financial awards

Other Projects

- SADEM Simulation ROS2.
- CNN-Based Linear Regression for Car Thrust and Steering Prediction with PyTorch.
- Semi-Autonomous Train Ticket Examiner Robot (Komsary).
- Turtlebot3 localization-2D Kalman Filter.
- Mini-Production-Line: An Automated Assembly System.
- Face-Detection-Simulation-CoppeliaSim.
- A-Star-Path-Planning-Simulated-On-Coppeliassim-ROS2.
- 6-DoF-Manipulator-Simulation.
- Automation Project using Timer and Counter.
- Classification Problem Using CIFAR-100 Dataset with TensorFlow.
- On-demand traffic light control system built using AVR ATMEGA32.
- SALE transaction system using C programming language.
- PID Longitudinal and Pure Pursuit Lateral Control for Bicycle Model.

Skills

Software	C++, Embedded C, Python, Object-oriented programming, Lua, Linux Ubuntu
Design	Inventor, SolidWorks, AutoCAD, ANSYS
Control	MATLAB, Simulink, Simscape
Autonomous	ROS1&ROS2, Vision (OpenCV), Path Planning, Perception, Localization
Automation	PLC programming, LOGO programming, HMI & SCADA Design, TIA Portal, Ladder Diagram, Factory I/O
Embedded	Arduino, Tiva C(tm4c123gh6pm), FreeRTOS, Proteus
Microsoft	Word, Excel, PowerPoint
Other	Leadership, Planning, Communication, Management, Problem Solving
Linguistic skills	Arabic (Native Speaker), English (Advanced), German (A1)

Extracurricular Activities

Instructor at Autotronics Research Lab (ARL), Racing Team, Ain Shams University

"Aug 2023 - Nov 2023"

- In AI racing team workshops for the 2024 season, I taught ROS2 and CoppeliaSim, providing insights into robotic simulations and integrating CoppeliaSim with ROS2 for robust system development.

Electric Vehicles member, Racing Team, Ain Shams University

"Oct 2021 - Mar 2022"

- Calculated the heat produced by the EV car and determined the required pressure to design an efficient radiator system for optimal heat dissipation.
- Utilized ANSYS for simulation to validate the calculations.

Public Relations member, IClub, IHub, Ain Shams University

"2020 - 2021"

- Skilled PR professional adept at crafting compelling narratives and executing impactful media campaigns.
- Management skills
- Presentation skills

Trainings and Internships

HMI and Scada systems training-Schneider	"Summer 2022"
Practical Applications of Mechanics and Automation-AIT	"Summer 2022"
Maintenance Engineer trainee-ADD-ME	"Summer 2021"
Bavarian Auto Group	"Summer 2021"
Access control-ZKteco	"Summer 2021"
CNC camp-RTE	"Summer 2020"
Programmable Logic Controller basic training-Schneider	"Summer 2020"