# Abdelrahman Abounida

## Mechatronics Engineer

Self-learning and hard work may be important skills for any successful person but for me they are my life


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## WORK EXPERIENCE

### Junior Teaching Assistant
German University in Cairo

*09/2018 - 01/2021*

*Achievements/Tasks*

- I was responsible for helping students in circuits lab by solving any hardware or software problems that face them, and also teach them how to simulate their circuits using PSPICE software.

### Research Assistant in Robotics/AI
Fraunhofer

*10/2022 - 03/2023*

*Achievements/Tasks*

- Computer vision system for pin/ container detection at ports (Yolov7, Tensorflow)
- API Design and implementation (DRF)

### Software Design Lab tutor
TUHH

*10/2022 - 01/2023*

*Achievements/Tasks*

- I am assigned to help students with any problem they face with their project. they are mainly using Java, GIt and Legos EV3 API

### Python Fullstack developer, Langchain, Chat GPT , AI
Upwork

*02/2022 - Present*

## EDUCATION

### Bachelor of Mechatronics Engineering
German University In Cairo

*10/2016 - 07/2021* *GPA 1.02 (A)*

### Master of Mechatronics Engineering
Hamburg university of Technology

*10/2021 - Present* *GPA: 1.9*

## SKILLS

Python | Flask | Django | Tensorflow | Yolo | Arduino | Raspberrypi | ROS | Bootstrap | Docker

## PERSONAL PROJECTS

### Custom Pin Detection (Yolo)
- Fine Tuning Yolov7 model to classify and detect port'containers' pins

### Traffic System
- Traffic System demonstration using couple of vehicles , NFR24L01 , IR sensors, arduino, some other communication components

### Robust Fiducial Markers Detection
- Apriltag detection using opencv (Raspberrypi)

### Bittle ROS
- Apriltag detection simulation using ROS-Gazebo Using Quadruped Robot (Bittle model)

### Seagrass Supply Delivery (BlueROV)
- Localization, path planning and control of underwater vehicle (bluerob) in both simulation (ROS-Gazebo) and real implementation

### Arduino-Flask
- Serial communication between arduino and FLask to load sensor data and push it to the server

### Robot Web view
- Dashboard which open a web socket connection with ros using (Ros bridge server) , React and Django to handle authentication and API Implementation

### Lejos-EV3-Autonomous-Robot
- EV3Lejos robot maneuvering through no-loop maze to find a specific colorful wall with the latter dertermined by the user. (java-EV3Lejos API)

## ACHIEVEMENTS

1- One of the top 10 students (2nd) of the whole country ( Secondary School)

2- Bachelor Engineering scholarship – German university in Cairo

## LANGUAGES

English
*Full Professional Proficiency*

German
*Limited Working Proficiency*