



Mahmoud A. Abdel Wahab, M.Sc.

□ Tel: +201098101008, E-mail: mahmoud_attef47@ymail.com

Research Interests

Nonplanar 3d printing, Robotics, Mechatronics systems, Metal additive Manufacturing, Reverse engineering, Automatic Control, Pneumatic systems, Mechanism design, and Industrial automation.

Education

- | | |
|-----------|--|
| 2018-2022 | M.Sc. Mechanical Engineering, Benha University- with a title of “Study of parameters affecting quality of 3D printed parts”. |
| 2012-2017 | B.Sc. Mechanical Engineering Department, Production and Design Branch, Benha University, Egypt.
Percentage: (81.2%) (Very Good with Honor Degree) & ranked 3rd among peers. |

Publications

- | | |
|------|--|
| 2024 | “Optimization of the 3D non-planar printing process parameters based on neural network model” (90% complete). |
| 2022 | “Analysis of The Parameters Affecting 3d Printed Parts for Planar and Nonplanar Models”, at 6th International Conference on Robotics and Automation Sciences (ICRAS 2022), Scopus indexed. |

Skills

- | | |
|----------------|---|
| Programming | C++, C, MATLAB (Simulink), Python (basic), Arduino, PLC (siemens), KRL (Kuka robot language), and G-code. |
| Software Tools | Solidworks, AutoCAD, slicer, Cura, Simplify3d, Automation studio, and TIA portal (Siemens PLC), DX (Design expert). |
| Mechatronics | Pneumatics, controls (e.g., PID controllers, feedback systems), robotics, automation. |

Work & Research Experience

2024 - present	Member of the university center for career development UCCD at Delta Technological University.
2023 - present	Lecturer assistant at the Faculty of Technological Industry and Energy, Delta Technological University.
2021-2023	Teaching assistant at the Faculty of Technological Industry and Energy, Delta Technological University.
2019-present	Working for Caionix for automation systems and industrial robots company R&D department (part-time).
2019-2021	Working for Caionix for automation systems and industrial robots company R&D department (Full-time).

Workshops:

2023	Basic Life Support (CPR/AED) & First Aid, at the Egyptian Red Crescent.
2019	Scientific research ethics course, at Benha University.
2019	Scientific research Methodologies, at Benha University.

Projects:

2023	Custom-made E-bike.
2022	Case Packer solution for Unilever, Borg Elarab, Egypt (Caionix): Developed an automated packaging system using 6 axis and Scara robot with the help of PLC and pneumatic controls.
2021	Non-planar FDM 3D printer: Designed and fabricated a 3D printer capable of non-planar printing, improving print quality by 20%.
2020	Four production lines with automatic cartooning have been Developed at Mondelez International company (Caionix).

B.Sc. Project: Dual extrusion 3D printer (FDM type) became a part of the mechatronics lap at Benha Faculty of Engineering.

2017	Pick and place robot (AGV) : Designed and implemented an autonomous robot for material handling.
2016	FDM 3d printer, Full design, and fabrication.
2016	Autonomous climbing stairs robot and FDM 3D printer.
2015	water level automatic control.

Local and international Competitions:

2024	Mentor, AAKRUTI Global Contest, providing technical and strategic advice throughout the project development and competition phases.
2021	Judge, AESEF Menoufia Competition Judged high school student projects in a regional science and engineering competition.
2019	Remotely operated underwater vehicle (ROV) competition.
2017	Helwan Competition for Autonomous Box Sorting and Carrying Robot 1 th place.
2016	Mine Sweeper Competition 2016 4 th place in Zewail City for Science.

2016	Helwan Competition for Autonomous stairs climbing robot 1 th place.
2015	Robots' Cemetery 2.0 IEEE El-Mansoura University branch 3 th place.
2014	Automated guided vehicle (line follower robot).
2013	Mobile Robot.

Internships

2024	Future of Africa – TVET capacity building program, Hangzhou, China.
2023	Egyptian drilling company (EDC), Egypt.
2016	Benha electronics company, Egypt.
2015	Factory of production and repair of armor, Egypt.
2014	Technological Institute of Engineering and Construction, Egypt.

Training courses

Courses Taught

Delta Technological University

-Introduction to Mechanics-, -Hydraulic basics-, -Metrology and quality control for technologists-, -Basic Mechatronics workshop-, -Sensors and Instrumentation-, -Robotic Systems-, -Computer-Aided Kinematics-, -Pneumatics and Hydraulics practice-, -PLC-, -Material Selection for Technical Applications-, -PLC-, -Mechatronic Systems for Technologists-, -3D CAD and Mechanical Modeling-, -Material tests-, -Material selection-, and -Health, Safety and Risks assessment in workplaces-.

Languages

1 st	Arabic: Native Language.
2 nd	English: IELTS overall band (6) valid certificate.
3 rd	French: Elementary Level

References

Prof. Ahmed EL-assal (supervisor during my in M.Sc.) emeritus professor at Benha Faculty OF Engineering, Egypt, ahmed.el-assal@bhit.bu.edu.eg (+2) 01228777437.

Prof. Mohamed Ezzat Ibrahim head of the mechatronics program at Delta Technological University, Egypt, en.ezzat@yahoo.com (+2) 01068025625.

Prof. Mahmoud Magdy (supervisor during my M.Sc.) Ph.D. Mechatronics and Robotics Engineering Department, Benha Faculty OF Engineering, Egypt, mahmoud.mohamed@bue.edu.eg, (+2) 01004324304.

Prof. Hussein Fouad Mohamed Ali Ph.D. Mechatronics and Robotics Engineering Department, Benha Faculty OF Engineering, Egypt, huss_ali77@yahoo.com, (+2) 01025388477.