Research and Teaching Statements

I have a good experience in teaching postgraduate students in the field of Mechatronics and Robotics. Furthermore, I have supervised over 12 master and PhD thesis. Also, I have been published and submitted several papers. The following are the details of my research supervision, research interest and thesis supervision in postgraduate levels.

A. Research Supervision

1. Soft Robotics application as SPA and SPM
2. Development of Tracking System for Solar Cells using Artificial Intelligence
3. Modeling and Control of Upper limb Mechanism for an open Source Humanoid
4. Developing the Inverse Kinematics for Object Grasping for an open Source Humanoid
5. Design and Control of an Adaptive gripper
6. Design of a Novel Serial-Parallel Manipulator
7. System Identification and Control of a Twin Rotor

B. Thesis Supervision

1. Mahmoud Salah, Design and implementation for Soft Pneumatic Actuator, **Faculty of Engineering and Applied Sciences – Nile University**
2. Menna Allah Hefny, Novel design of Soft Pneumatic Actuator to bend and twist, **Faculty of Engineering and Applied Sciences – Nile University**
3. Mohamed Hesham, Path tracking optimization and control of a nonlinear skid steering tracked robot, **Faculty of Engineering and Applied Sciences – Nile University**
4. Ahmed Emad, Design and Control of a NOVEL 7 DOF parallel to serial Manipulator, **Faculty of Engineering at Shoubra**, Benha University, 2018 – Present.
5. Baher Mohamed, Solving Inverse Kinematics and Path planning for mobile manipulator with 5 DOF, **Faculty of Engineering at Shoubra**, Benha University, 2018 – Present.
6. Nourhan Hafaz, Adaptive soft gripper for grasping irregular objects, **Faculty of Engineering at Shoubra**, Benha University, 2018 – Present.
7. Ehab Awadallah, **an adaptive grasping tool for 6 DOF Serial Manipulator,** PhD Thesis, Production Engineering, **Faculty of Engineering at Shoubra**, Benha University, 2016 – Present.
8. Mohamed Azizz, Control Algorithm of Hybrid Twin Rotor, M.Sc. thesis, Production Engineering, **Faculty of Engineering at Shoubra**, Benha University, 2016 – 2020.
9. Mohamed Medhat, **An adaptive Learning Algorithm for Predicting forward and inverse Kinematics for 5 DOF Articulated Robot**, M.Sc. thesis, Mechatronics Engineering, **Universite Francaise d'Egypte**, 2016 – 2017.

10. Mahmoud Yassin, **Design and Control of an adaptive grasping tool for 6 DOF Serial Manipulator,** M.Sc. thesis, Mechatronics Engineering, **Universite Francaise d'Egypte**, 2016 – 2017.
11. Mina George, **Position control of 6 DOF Serial Manipulator based on VSLAM,** M.Sc. thesis, Mechatronics Engineering, **Universite Francaise d'Egypte**, 2016 – 2017.
12. Ali Megahid, **An Adaptive trajectory Planning for 6 DOF Robotic System" ,** M.Sc. thesis, Mechatronics Engineering, **Universite Francaise d'Egypte**, 2016 – 2017.

C. Funding Projects

1. BEMT – Project (Integrating Blended Entrepreneurial and Manufacturing Technology Competency into Soco-economic Development in Egypt). (Technical Project Director)
   Project number: (561929-epp-1-2015-1-ES-EPPKA2- CBHE –JP)
   The project is ended by 30 -9 - 2018 and funded by Erasmus Program +

2. VET – ENG Project (Blended Vocational Engineering Industry Shared Learning Environment for Stream of Socially- and Technically-Competent Technicians and Engineers/VET-ENG. (Technical Project Director)
   Project number: (574114-EPP-1-2016-1-FI-EPPKA2-CBHE-JP)
   The project is ended by 14 -9 - 2019 and funded by Erasmus Program +

3. Innovative Lifelong e-Learning for Professional Engineers (e-ProfEng) (Technical Project Director)
   Project number: (586391-EPP-1-2017-1-SE-EPPKA2-CBHE-JP)
   The project is ended by 30 -9 - 2020 and funded by Erasmus Program +

4. Development and Manufacturing of Soft Actuated Under Water Robots (SUWR)
   The Project Starts 1 -7 – 2020 and funded by ASRT with Budget 1.5 Millon (Co-PI)
   The project is ended by 30 -9 - 2021

D. Research Interest

1. Grasping with Soft gripper
2. Continuum Manipulator
3. Mobile Continuum Manipulator
4. Human-Robot Interaction
5. Rehabilitation and Assistive Device
6. Humanoid Robots AI
7. Delta Robot manipulation
8. Hybrid Serial-Parallel Robots
9. Remotely Operated Vehicles
10. Neuro- Fuzzy and ANFIS