



MOSTAFA A. ARAFA

LECTURER ASSISTANT/RESEARCH ASSISTANT AT FACULTY OF
ENGINEERING – AIN SHAMS UNIVERSITY (MECHATRONICS
ENGINEERING)

PROPOSAL LEADER AT (PICS PS) PETROLEUM INDUSTRIES
CONSULTING SERVICES PROCESS SYSTEMS

PROFILE

- Solid Background in Components Design in Hardware and Software domains.
- Experience in data preparation, processing, and analysis.
- Published research work in ML based control scheme for Prosthetic Hands.
- Strong programming and algorithm building skills.
- Strong analytical and research skills in addition to technical reporting.
- Experience in technical training and Material Preparation.
- Proven knowledge in control strategies development as well as HMIs building.
- Solid background in the preparation of engineering documentations e.g. control narrative, FDS, CAD Drafting, technical/commercial proposals, etc.

CONTACT

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WEBSITE:

[LinkedIn Profile](#)
[Scopus Profile](#)

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PERSONAL INFORMATION

Date of Birth: 18/01/1991

Military Status: Exempted

Marital Status: Married

Home Address:

18 – 31 Street, 5th District, 5th Settlement,
New Cairo, Egypt

EDUCATION

Master of Science in Mechatronics Systems Engineering

Faculty of Engineering – Ain Shams University

[01/10/2012 – 08/03/2018]

Thesis title:

"Development of a Real Time Pattern Recognition Myoelectric Control Scheme for a Hand Prosthesis".

Brief Description:

The use of surface electromyography sensors for identification of amputee's intention, which are non-invasive sensors, gives the hand prosthesis advantage of being a plug and play prosthetic limb with non-painful invasive electrodes. In this thesis the surface EMG sensors are being used to detect the user intention of motion, to achieve simultaneous control of the prosthetic hand. A hybrid pattern classification and proportional controller technique is being used for the reproduction of hand kinematics.

Conference Publication:

Mostafa A. Arafa, Mohammed I. Awad and Farid A. Tolbah "Proportional myoelectric prosthetic hand control using multi-regression model estimator with pattern classifier selector" IEEE International Workshop on Advanced Robotics and its Social Impacts ARSO 2017 – Austin, Texas, USA.

Bachelor of Science in Mechanical Engineering - Mechatronics section

Faculty of Engineering – Ain Shams University

[01/09/2007 – 15/07/2012]

- Accumulative Grade **Very Good (B)**.
- Ranked the 5th among **Mechatronics class'12** according to the accumulative grade.
- **Graduation project:** Data Acquisition and analysis of oil and gas pipeline networks (Awarded Grade: **Excellent (A)**)

American Diploma

The International Schools of Kenana - American Division

[01/09/2005 – 01/07/2007]

SAT 1: Critical Reading: 480/800, Writing: 570/800, Math: 720/800

SAT 2: Math: 620/800, Physics: 610/800

WORK EXPERIENCE

Lecturer Assistant at Mechatronics Department Faculty of Engineering Ain Shams University

[01/03/2013 – Current]

Participated in teaching Modeling, Control, Embedded Systems (Microcontrollers Interfacing, Embedded Systems Interfacing, Real-time Operating Systems for Embedded Systems and Automotive Embedded Networking) and Biomechatronics Courses.

Embedded Systems Trainer

Canadian International College (Cape Breton University – Zayed Campus)

[01/10/2020 – Current]

Using Texas Instruments TIVA-C123 Board

Proposals Leader and Lead Project Engineer

PICS Process Systems-EG (Petroleum Industries Consulting Services)

[01/01/2019 – Current]

Senior Project Engineer

PICS Process Systems-EG (Petroleum Industries Consulting Services)

[01/01/2018 – 01/01/2019]

Projects:

- Egyptian Petrochemicals Company (PVC production plant) Controller upgrade. (Vendor: Schneider Electric)
- Tank Battery DCS Upgrade for Petrobel (Belayim Petroleum Copany). (Vendor: Schneider Electric)
- Sonker F&G system for Building (Engineering Documents Issuing). (Vendor: Honeywell)
- NCIC Fertilizers Complex DCS (Engineering Documents Issuing). (Vendor: Honeywell)

Co-founder and Projects Manager

Leanution Co. Ltd.

[01/02/2013 – 01/07/2016]

Leanution Co. Ltd. (Lean Manufacturing solutions) has been awarded “The winning company” in Injaz's (JA Worldwide) entrepreneurship competition, also incubated by Americana Company (The Company Program).

Projects:

- ICAPP Plant – Americana Group:
 - 5S implementation.
 - Capacity Study
 - Packaging area re-layouting
- Farm frites Plant – Americana Group:
 - 5S implementation.
 - TPM training.

Project Engineer

IPS (Invensys Process System – Currently Schneider Electric)

[01/09/2012 – 01/10/2013]

Projects

- Khalda Petroleum Well Head Control Panels – Triconex project.
- Assil & Karam – DCS – Triconex – F&G – ESD.

Maintenance Engineer

Biomedical Engineering department in Concept Est.

[01/07/2011 – 01/09/2011]

(Medical Equipment maintenance and medical services) Jeddah -Saudi Arabia.

Biomedical Engineer Trainee

Erfan and Bagedo General Hospital - Jeddah - Saudi Arabia.

[01/08/2010 – 01/09/2011]

SOFTWARE SKILLS

Programming Skills:

- Python
- Embedded C
- C++
- AUTOSAR stacking (AUTomotive Open System ARchitecture)
- MISRA C compliance

MicroControllers used:

- NXP's – FRDM KI25Z
- TI's – TIVA-C123
- Motorola's – HCS12
- PIC18

MathWorks Products:

- MATLAB
- Simulink
- Embedded Coder

Autodesk Products:

- AutoCAD 2D
- Inventor

LANGUAGES

Arabic: Mother Tongue.

English:

Excellent Reading
Very Good Writing
Very Good Speaking
IELTS: 7.0
TOEFL PBT: 580

French: Fair Knowledge

MEMBERSHIPS AND LICENSE

- IEEE Robotics & Automation Society
- Egyptian Engineering Syndicate
- Valid Egyptian Driving License

COURSES

Enterprise Excellence (Lean Six Sigma Approach) – *American University in Cairo*

Specialization in Self Driving Cars
University of Toronto (Coursera Platform)
[15/06/2020 – Current]

IBM AI Engineering Professional Certificate
IBM (Coursera Platform)
[28/9/2020 – Current]