

WORK EXPERIENCE

RESEARCHER

Jan 2019 – Present

EPIC Research Cluster | Queen's University Belfast, UK (Funded PhD).

- Researching in the field of renewable energy and the integration of battery energy storage systems in the modern distribution networks to facilitate the secure and profitable deployment of low carbon technologies.
- Collaborating with different industrial entities through meetings, presentations, reports, and joint research.
- Demonstrating practical lab experiments.

ASSISTANT LECTURER

Sept 2013 – Jan 2019

Electrical & Control Engineering Department | Arab Academy for Science & Technology and Maritime Transport, Cairo, Egypt.

- Teaching and demonstrating tutorials and labs for Electrical & Control engineering courses; Power Systems, High Voltage, Electrical Circuits, Electrical Machines, Electrical Measurements and Control Systems.
- Assisting the supervision of graduation projects of undergraduate students.
- Coordinator at the department Students Advising Committee.
- Member at the Department Quality Committee and helped the university in being ABET accredited.
- Conducting research in the field of power systems and power electronics.

EDUCATION

PhD IN ELECTRICAL ENGINEERING

Jan 2019 – Present

Queen's University Belfast, UK.

Research Topic: Energy arbitrage with PV Generation and EV Charging - part of EU INTERREG VA [SPIRE2](#) (Storage Platform for the Integration of Renewable Energy 2) project.

M.Sc. IN ELECTRICAL & CONTROL ENGINEERING

Sept 2013 – July 2017

Arab Academy for Science & Technology and Maritime Transport, Cairo, Egypt.

Thesis Title: A Power Management Strategy to Enhance the Operation of Active Distribution Networks.

Grade: Excellent (GPA: 3.92/4).

BACHELOR IN ELECTRICAL & CONTROL ENGINEERING

Sept 2008 – July 2013

Arab Academy for Science & Technology and Maritime Transport, Cairo, Egypt.

Graduation Project: Design and implementation of Three Phase pure sinewave UPS.

Grade: Excellent (GPA: 3.74/4) - Class Rank: First.

OTHER EXPERIENCE

Presentations

- Presented four research papers in different IEEE international conferences (ICSG - Turkey 2017, MELECON - Morocco 2018, ISGT - Romania 2019, ISGT - Virtual 2020).
- Presented six research posters in UK local conferences (2019-2021).
- Other presentations inside the university and with industrial entities through my PhD (2019-2021).

Internships

- Impact design Jam internship organised by the graduate school of Queen's University Belfast. (2019)
- Participated in the 2nd Youth National Sustainability Summer Camp at Berlin University of Technology (TU-Berlin), Campus El-Gouna. (2015).
- Engineering student intern at [Dar Al-Handasah](#) for consultants and electrical distribution, Egypt. (2012)
- General orientation entrepreneurship internship at British University in Egypt (BUE). (2012)
- Leadership internship at American University in Cairo (AUC). (2011)
- Engineering student intern at Petromaint Company in the installations and maintenance of electrical transformers and grounding systems, Egypt. (2011)

Extracurricular Activities

- Secretary at AWARE team related to the climate change awareness, Queen's University Belfast. (2020)
- EED "Egyptian Engineering Day" organized by IEEE Egypt section and IEEE Egypt Young Professionals: Chairman (2016), Vice Chairman (2015), and Accommodation team lead (2013).
- IEEE AAST Cairo student branch co-founder (2011), chairman (2012-2013) and mentor (2013-Present) .
- Team Leader of AAST Cairo team for ROV "Remotely Operated Vehicle, Underwater Robotics" in MATE ROV Regional Competition. (2012)
- ENACTUS formerly "SIFE - Students in Free Enterprise": Team member (2011), Vice president (2012) and currently Alumni (2013 – Present).
- Participated in RYLA "Rotary Youth Leadership Awards" of Rotaract at Siwa oasis, Egypt. (2013)
- Participated in the Minesweepers robotics Competition and achieved the second place. (2012)
- Participated as a delegate in ALMUN10 "Arab League Model United Nations". (2010)
- Co-founder of "Smart Club" at AAST Cairo. (2009)
- Volunteered in organizing 2009 FIFA U-20 World Cup for Handball - Egypt. (2009)

GRANTS

FUNDED PhD Studentship | EU INTERREG VA SPIRE2

Jan 2019 – Present

[Queen's University Belfast, UK.](#)

- Tuition fees + an annual stipend of £20,000 for a period of 3 years

Travel Grant | SCHOOL OF ELECTRONICS, ELECTRICAL ENGINEERING AND COMPUTER SCIENCE

Jun 2019

[Queen's University Belfast, UK.](#)

- Travel grant of £1,500 to present a paper in ISGT Europe 2019.

Funded M.Sc. Studentship | ARAB ACADEMY FOR SCIENCE & TECHNOLOGY AND MARITIME TRANSPORT

Sept 2013 – July 2017

[Arab Academy for Science & Technology and Maritime Transport, Cairo, Egypt.](#)

- Tuition fees.

MEMBERSHIPS OF PROFESSIONAL BODIES

- IEEE Member and brand ambassador. (2010 – Present)
 - Egyptian Engineering syndicate member. (2013 – Present)
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PUBLICATIONS

Published

- A. A. R. Mohamed, D. J. Morrow and R. Best, "The Deployment of Low Carbon Technologies in Modern Distribution Networks," IEEE PES Innovative Smart Grid Technologies Europe (ISGT-Europe), Bucharest, Romania, 2019.
- E. Beshr, A. A. R. Mohamed, "Development of a Demand Response Program: A Case Study of Cairo, Egypt," 53rd International Universities Power Engineering Conference (UPEC), Glasgow, 2018.
- A. A. R. Mohamed, "A multi-objective distributed generation allocation and sizing using swarm intelligence based algorithms," 19th IEEE Mediterranean Electrotechnical Conference (MELECON), Marrakech, Morocco, 2018.
- A. A. R. Mohamed, R. El-Sharkawy and W. A. Omran, "Power management strategy to enhance the operation of active distribution networks," 5th International Istanbul Smart Grid and Cities Congress and Fair (ICSG), Istanbul, 2017.

Accepted

- A. A. R. Mohamed, D. J. Morrow and R. Best, "Maximizing the profits of the battery energy storage systems in the integrated single electricity market," IET Renewable Power Generation Conference, 2021.
- A. A. R. Mohamed, D. J. Morrow and R. Best, "Real-time model predictive control of battery energy storage active and reactive power to support the distribution network operation," IET Renewable Power Generation Conference , 2021.
- A. A. R. Mohamed, D. J. Morrow, R. Best, I. Bailie, A. Cupples and J. Pollock, "Battery Energy Storage Systems Allocation Considering Distribution Network Congestion," 2019 IEEE PES Innovative Smart Grid Technologies Europe (ISGT-Europe), 2020.

LANGUAGES

	Reading	Speaking	Writing
English (TOEFL iBT Score: 91)	Excellent	Excellent	Excellent
Arabic	Native	Native	Native

HONORS & AWARDS

- First place award in the IEEE Region 8 [SPC](#) (Student Paper Contest). (2018)
- Scientific Excellence Plaques from Arab Academy for Science, Technology and Maritime Transport. (2017), and (2013).
- Certificate of Appreciation from IEEE AAST Cairo. (2014)
- Certificate of Appreciation from Egyptian Military for working on upgrading and maintaining the electrical devices and equipment. (2014)
- Certificate of Appreciation for Scientific Excellence from Arab Academy for Science, Technology and Maritime Transport. (2012)

SOFTWARE SKILLS & PROGRAMMING LANGUAGES

MATLAB	<div><div></div><div></div><div></div><div></div><div></div></div>	Proteus	<div><div></div><div></div><div></div><div></div><div></div></div>	Python	<div><div></div><div></div><div></div><div></div><div></div></div>
NEPLAN	<div><div></div><div></div><div></div><div></div><div></div></div>	DigSILENT	<div><div></div><div></div><div></div><div></div><div></div></div>	Java	<div><div></div><div></div><div></div><div></div><div></div></div>
ETAP	<div><div></div><div></div><div></div><div></div><div></div></div>	GAMS	<div><div></div><div></div><div></div><div></div><div></div></div>	C#	<div><div></div><div></div><div></div><div></div><div></div></div>
AutoCAD	<div><div></div><div></div><div></div><div></div><div></div></div>	PWS	<div><div></div><div></div><div></div><div></div><div></div></div>	C++	<div><div></div><div></div><div></div><div></div><div></div></div>
Eagle	<div><div></div><div></div><div></div><div></div><div></div></div>	Microsoft Office	<div><div></div><div></div><div></div><div></div><div></div></div>	Assembly	<div><div></div><div></div><div></div><div></div><div></div></div>

COURSES & TRAININGS

Technical

- NEPLAN AG training at NEPLAN office, Zurich, Switzerland. (March 2019)
- Electrical distribution systems design at Jeledcom, Cairo, Egypt. (2018).
- PLC applications and implementation at Jeledcom, Cairo, Egypt. (2012).

Non-Technical

- Had more than 30 course in non-technical topics include communication and presentation skills, leadership, entrepreneurship, HR, personal effectiveness, and more. Details on these courses can be found in Appendix I.

SKILLS

Communication & Presentation

- Experienced in delivering oral and written reports and results to academic and non-academic audiences empowered from attending and presenting in many local & international conferences, academic & industrial meetings, lab demonstrations, and university trainings & courses.

Project Management and Leadership

- Alongside my research, I have participated in other activities that allowed me to improve my leadership and project management skills. For instance, acted as chairman of the Egyptian Engineering Day 2016, which is a huge event with 260 volunteers, 40 speakers, 52 judges, 660 exhibitors from 34 Universities, and 6,000 visitors from all over Egypt. Besides acting in other executive committees for different activities in addition to supervising graduation projects.

Self Management and Collaborative

- Successful in self management as evidenced by bachelor, MSc, and PhD successes as well as committing to teaching and research responsibilities. Furthermore, have the ability to work individually or in team work in addition to the ability to collaborate as demonstrated by the industrial collaboration with NIE Networks and ESB Networks during my PhD.

Information Management and Analysis

- Experienced in many software programs related to optimization, statistics, power system, and power electronics as well as skilled in several programming languages. This experience can be showed by the developed algorithms, tools, strategies, and publication during my research. Furthermore, very open to learn new software tools and programming languages if needed.