Ahmed Abdelraouf **Mohamed**

PERSONAL PROFILE

An ambitious researcher in the field of electrical engineering with more than 6 years in the field of teaching and research, completing the PhD at a Russell group university as a part of a funded cross-border project that allowed me to gain many transferable skills in addition to producing high quality research and improving my teaching skills as well as establishing effective collaborations between the academia and the industry which enriched my nontechnical and technical experiences.

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, 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 six research papers in different IEEE conferences (ICSG - Turkey 2017, MELECON - Morocco 2018, ISGT - Romania 2019, ISGT - Virtual 2020) and IET RPG Conference 2021.
- 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 the 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 - 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": Team member (2011), Vice president (2012) and 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)
- Volunteered in the organization of 2009 FIFA U-20 World Cup for Handball - Egypt. (2009)

Technical

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

Non-Technical

- Attended and participated in more than 40 courses/sessions/workshops in non-technical topics include communication and presentation skills, leadership, entrepreneurship, HR, personal effectiveness, and more. Details on these courses can be found here.

GRANTS

FUNDED PhD Studentship | EU INTERREG VA SPIRE2
Jan 2019 – Present
Queen's University Belfast, UK.

- Tuition fees + an annual stipend 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 to present a paper in ISGT Europe 2019.

Travel Grant | IEEE REGION 8 BEST STUDENT PAPER AWARD
Jun 2018
IEEE, REGION 8.

- Travel grant to present a paper in IEEE MELECON 2018.

Funded M.Sc. Studentship | ELECTRICAL AND COMPUTER ENGINEERING DEPARTMENT
Sept 2013 – July 2017
Arab Academy for Science & Technology and Maritime Transport, Cairo, Egypt.

- Tuition fees.

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.

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
NEPLAN
ETAP
AutoCAD
Eagle
OpenDSS
DIgSILENT
GAMS
PWS
Microsoft Office
Python
Java
C#
C++
Assembly

MEMBERSHIPS OF PROFESSIONAL BODIES

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

PUBLICATIONS

Published/Presented

- 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,"9th IET Renewable Power Generation Conference, Dublin, 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," 9th IET Renewable Power Generation Conference, Dublin, 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," IEEE PES Innovative Smart Grid Technologies Europe (ISGT-Europe), 2020.
- 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, R. J. Best, X. Liu, and D. J. Morrow, "Domestic Battery Power Management Strategies to Maximize the Profitability and Support the Network", IEEE PES General Meeting, 2021.
- A. A. R. Mohamed, R. J. Best, X. Liu, and D. J. Morrow, "Residential Battery Energy Storage Sizing and Profitability in the Presence of PV and EV", IEEE PowerTech Conference, 202.
- A. A. R. Mohamed, D. J. Morrow, R. Best, A. Cupples, I. Bailie, and J. Pollock, "Distributed Battery Energy Storage Systems Operation Framework for Grid Power Levelling in the Distribution Networks", IET Smart Grid, 2021.

Submitted

- A. A. R. Mohamed, W. A. Omran, and R. El-Sharkawy "Centralized/Decentralized Power Management Strategy for the Distribution Networks based on OPF and Multi-Agent Systems", IEEE PES Innovative Smart Grid Technologies Europe (ISGT-Europe), 2021.
- A. F. Moreno Jaramillo, A. A. R. Mohamed, D. M. Laverty, J. M. Del Rincón, and A. M. Foley "Photovoltaic Power Disaggregation using Non-Intrusive Load Monitoring Regression Model", IEEE Irish Signals and Systems Conference (ISSC), 2021.