Mohamed Abuella

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Summary

An electrical engineer with an intensive training on Computational Analysis, Systems Modeling and Optimization, who also has research interests in Data Analytics for Smart Grid and Artificial Intelligence for Sustainability. Looking for opportunities to transfer, improve, and acquire knowledge and skills. Lists of ***Acquired Expertise*** are shown below.

Education

University of North Carolina at Charlotte (UNCC) **USA**
Ph.D in Electrical Engineering, GPA 4.0 *2014–2018*

Southern Illinois University at Carbondale (SIUC) **USA**
M.Sc in Electrical and Computer Engineering, GPA 4.0 *2010–2012*

Higher Polytechnic Institute & College of Industrial Technology at Misurata **Libya**
DipHE in Instrumentation and B.Tech Electromechanical Engineering, 86% equiv.to GPA 4.0 *2001–2008*

Experience

Researcher **Sweden**
Halmstad University *2022– –*
Postdoctoral Researcher at the Center for Applied Intelligent Systems Research (CAISR).Dig into research related to AI for Sustainability by applying Machine Learning techniques.
- Acquired Expertise: *Integrated Industry-Academia Collaboration, Big-Data & Spatiotemporal Analysis, Explainable AI (XAI).*

Lecturer **Libya**
College of Industrial Technology at Misurata *2020–2022*
Taught Electrical Circuits, Electrical Measurements, Math 101.
- Acquired Expertise: *Curriculum Revision & Preparing, Dedication, Listening, "Try to Modeling the Student's Way of Thinking"*

Research Assistant **USA**
Energy Production and Infrastructure Center (EPIC) at UNC Charlotte *2014–2020*
A Post-Processing Approach for Solar Power Combined Forecasts of Ramp Events. Supervised by Prof. Badrul Chowdhury.
On this research, I have been applying AI and Data-driven Analytics to modernize the power grid and optimize its integration of renewables, focusing on Solar Energy. It is at the intersection between Energy, Operations Research and Artificial Intelligence domains. Taking courses including some related to my research such as Energy Markets, Energy Analytics, and Engineering Systems Optimization.
- ***Acquired Expertise***: *Energy Analytics, Energy Markets, Renewable Energy Integration, Asset & Supply Chain Management, Time Series Analysis & Modeling, Risk & Uncertainty Quantification, Machine Learning, Big-Data Processing, Research Publishing & Peer Reviewing, Software Tools including SAS, R, and Python*

M.Sc Research **USA**
Department of Electrical and Computer Engineering at SIUC *2010–2012*
Optimization for Electric Power Systems Including Wind Power. Supervised by Prof. Constantine Hatziadoniu.
- ***Acquired Expertise***: *Power Systems Analysis, Operation and Planning, Systems Optimization, Smart Grid, Research Conducting, MATPOWER, PowerWorld, PSAT, LaTeX*

Teaching Assistant and Lab Instructor **Libya**
College of Industrial Technology at Misurata *2008–2009*
Taught Mathematics, Power Systems Analysis, and Programmable Logic Controller (PLC).
- ***Acquired Expertise***: *Teaching, Tutorials, Lab Modeling & Simulations, MS Office, MATLAB, NEPLAN, PLC's Ladder Logic*

Electrical Technician **Libya**
Residential Electrical Wiring and Water & Wastewater Company *2001–2008*
Wiring and maintain electrical control equipment. Repair and rewind AC motors at the pumping stations.
- Acquired Expertise: *Electrical Wiring & Installations, Maintenance & Operation*

Recognitions

Outstanding Reviewer: IEEE Transactions on Sustainable Energy *2017*

Third Prize for Student Papers: The 47th North American Power Symposium *2015*

The 12th Place: Global Energy Forecasting Competition *2014*

The 1st Place: Department of Electromechanical Engineering at College of Industrial Technology *2008*

Publications

Wrote dozen of published papers, including:

1. M. Abuella and B. Chowdhury, "Improving Combined Solar Power Forecasts Using Estimated Ramp Rates: Data-driven Post-processing Approach," IET Renewable Power Generation Journal, 12(10), 1127-1135, 2018.

2. M. Abuella and B. Chowdhury, "Forecasting of solar power ramp events: A post-processing approach," Renewable Energy, 133, 1380-1392, 2019.

For the complete list of publications, please see my profile at Google Scholar, which is named as: Mohamed Abuella.