

Mohamed Abuella

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Scholar: Mohamed Abuella

Summary

An electrical engineer with an intensive training on Computational Analysis, Modeling and Optimization; also has research interests in Artificial Intelligence and Data Analytics for Energy and Smart Grid applications. Looking for opportunities to transfer, improve, and acquire knowledge and skills. Lists of acquired expertise are shown below in the Experience section.

Education

University of North Carolina at Charlotte (UNCC)

Ph.D in Electrical Engineering, GPA 4.0

USA

2014–2018

Southern Illinois University at Carbondale (SIUC)

M.Sc in Electrical and Computer Engineering, GPA 4.0

USA

2010–2012

Higher Polytechnic Institute & College of Industrial Technology at Misurata

DipHE in Instrumentation 82%, and B.Tech Electromechanical Engineering, 86%

Libya

2001–2008

Experience

Research Assistant

Energy Production and Infrastructure Center (EPIC) at UNC Charlotte

Statistical and Predictive Analytics to Modernize the Grid and Optimize its Integration of Renewables, Focusing on Solar Energy Resources. Supervised by Prof. Badrul Chowdhury.

○ Acquired Expertise: *Energy Analytics, Energy Markets, Renewable Energy & Supply Chain, Machine Learning*

USA

2014–

M.Sc Research

Department of Electrical and Computer Engineering at SIUC

Optimization for Electric Power Systems Including Wind Power, Supervised by Prof. Constantine Hatziaodoniu.

○ Acquired Expertise: *Power Systems Analysis, Operation and Planning, Systems Optimization, Smart Grid*

USA

2010–2012

Teaching Assistant and Lab Instructor

College of Industrial Technology at Misurata

Taught Mathematics, Power Systems Analysis, and Programmable Logic Controller (PLC).

○ Acquired Expertise: *Teaching, Tutorials, Lab Modeling & Simulations*

Libya

2008–2009

Electrical Technician

Residential Electrical Wiring and Water & Wastewater Company

Wiring and maintain electrical control equipment. Repair and rewind AC motors at the pumping stations.

○ Acquired Expertise: *Electrical Wiring & Installations, Maintenance & Operation*

Libya

2001–2008

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, for the complete list of publications, please see my profile at Google Scholar, which is named as: [Mohamed Abuella](#).

1. M. Abuella, "Using Particle Swarm Optimization for Solving Optimal Power Flow for IEEE Benchmarks that Including Wind Power Generators," (Master thesis, SIUC), 2012.
2. M. Abuella and B. Chowdhury, "Solar Power Probabilistic Forecasting by Using Multiple Linear Regression Analysis," in IEEE Southeast Con. Proceedings, 2015.
3. M. Abuella and B. Chowdhury, "Solar Power Forecasting using Artificial Neural Networks," in North American Power Symposium (NAPS), 2015.
4. M. Abuella and B. Chowdhury, "Solar Power Forecasting Using Support Vector Regression," in Proceedings of the American Society for Engineering Management 2016 International Annual Conference, 2016.
5. M. Abuella and B. Chowdhury, "Random forest ensemble of support vector regression models for solar power forecasting," in 2017 IEEE Power Energy Society Innovative Smart Grid Technologies Conference (ISGT), 2017.
6. M. Abuella and B. Chowdhury, "Hourly probabilistic forecasting of solar power," in 2017 North American Power Symposium (NAPS), 2017.
7. M. Abuella and B. Chowdhury, "Forecasting Solar Power Ramp Events Using Machine Learning Classification Techniques," in 2018 IEEE 8th International Symposium on Power Electronics for Distributed Generation Systems (PEDG), 2018.
8. M. Abuella and B. Chowdhury, "Qualifying Combined Solar Power Forecasts in Ramp Events' Perspective," in IEEE Power and Energy Society General Meeting, 2018.
9. 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.
10. M. Abuella, "Post-processing approach for Solar Power Combined Forecasts of Ramp Events," (Doctoral Dissertation, University of North Carolina at Charlotte), 2018.
11. M. Abuella and B. Chowdhury, "Forecasting of solar power ramp events: A post-processing approach," Renewable Energy, 133, 1380-1392, 2019.