

# Ismael Khorshed Abdulrahman

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## EDUCATION

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### Electrical and Computer Engineering (ECE)

- **Ph.D.** (Tennessee Technological University, Tennessee–USA) – GPA: 3.75/4.0

### Electrical Engineering

- **Master** (University of Sulaimani, Kurdistan Region–Iraq)
- **Bachelor** (Mustansiriyah University, Baghdad–Iraq)  
General Specilization (Electronic, Power, Communication, Control, Computer)

I received a scholarship from the government in Baghdad for my Ph.D. degree. I was in first place in all my elementary, middle, and high schools except the senior year when my family went through a hardship affecting my overall grade and continuation of my study for two years. I was awarded exemption from all final exams in all subjects in the seventh, eighth, tenth, and eleventh grades. The final exams in the nineth and twelveth grades were central and mandatory by the education system.

## ACADEMIC ACHIEVEMENTS

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- Asst. Lecturer at Erbil Polytechnic University, Information System Engineering, 2011-2014
- Lecturer at Erbil Polytechnic University, Information System Engineering, 2014-2022
- **Asst. Prof.** at Erbil Polytechnic University, Information System Engineering, 2022-Now

## TEACHING COURSES

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- **Quantum Computing and Information:** Postgraduate (PhD)
- **Quantum Computing:** Postgraduate (Master)
- **Electronic Circuits:** Undergraduate (Bachelor)
- **GIS:** Undergraduate (Bachelor)
- **Math I** (Calculus I)
- **Math II** (Calculus II)
- **Math III** (Engineering Analysois)

## CURRENT RESEARCH AREAS

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- Quantum computing, quantum information, machine learning, deep learning, data science, information theory, smart grid, intelligent control, renewable energy, power systems, digital communication, wireless communication, , system modeling, experimental studies, simulations, numerical algorithms, etc.

## SUPERVISING STUDENTS AND PARTICIPATING IN COMMITTEE EVALUATIONS

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- Presently, I'm supervising two PhD students in Quantum Computing and Deep Learning, along with one master's student in quantum computing. Additionally, I've contributed to six PhD defense committees.

## TECHNICAL SKILLS:

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- MATLAB ~ Simulink ~ PSSE ~ ArcGIS~ ATP-EMPTP ~ MATPOWER ~ CPLEX ~ Python

## LANGUAGES:

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- Kurdish (Mother tongue), English (fluent), Arabic (fluent).

## YOUTUBE COURSE: QUANTUM COMPUTING (NATIVE LANGUAGE)

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- <https://www.youtube.com/watch?v=VUJe3ptfhpQ&t=653s>

## PUBLICATIONS

- I. Abdulrahman, "MATLAB-Based Programs for Power System Dynamic Analysis," in *IEEE Open Access Journal of Power and Energy*, vol. 7, pp. 59-69, 2020. **IF: 3.8 (single author)**  
<https://ieeexplore.ieee.org/document/8906163>
- I. Abdulrahman, "Reinforcement-learning-based damping control scheme of a PV plant in wide-area measurement system", in *Springer Electrical Engineering*, , 2022. **IF: 1.8 (single author)**  
<https://link.springer.com/article/10.1007/s00202-022-01615-3>
- I. Abdulrahman, "An open-source Simulink-based program for simulating power systems integrated with renewable energy sources", in *Springer Electrical Engineering*, 2020. **IF: 1.8 (single author)**  
<https://link.springer.com/article/10.1007/s00202-020-01022-6>
- I. Abdulrahman and G. Radman, "Power system spatial analysis and visualization using geographic information system (GIS)", in *Springer Spatial Information System*, Vol. 28, pp. 101–112, 2020. **IF: 2.4 (1<sup>st</sup> author)**  
<https://link.springer.com/article/10.1007/s41324-019-00276-y>
- I. Abdulrahman and G. Radman, "Wide-Area-Based Adaptive Neuro-Fuzzy SVC Controller for Damping Interarea Oscillations," in *IEEE Canadian Journal of Electrical and Computer Engineering*, vol. 41, no. 3, pp. 133-144, Summer 2018. **IF: 1.7 (1<sup>st</sup> author)**  
<https://ieeexplore.ieee.org/document/8506642>
- I. Abdulrahman, R. Belkacemi, and G. Radman, "Power oscillations damping using wide-area-based solar plant considering adaptive time-delay compensation" in *Springer Energy System*, 2019. **IF: 2.3 (1<sup>st</sup> author)**  
<https://link.springer.com/article/10.1007/s12667-019-00350-2>
- I. Abdulrahman and G. Radman, "ILP-Based Optimal PMU Placement with the Inclusion of the Effect of a Group of Zero-Injection Buses", in *Springer Journal of Control, Automation, and Electrical Systems*, Vol. 29, pp. 512–524, 2018. **IF: 1.5 (1<sup>st</sup> author)**  
<https://link.springer.com/article/10.1007/s40313-018-0389-4>
- I. Abdulrahman and G. Radman, "Simulink-based programs for power system dynamic analysis", in *Springer Electrical Engineering*, Vol. 101, pp. 345–356, 2019. **IF: 1.8 (1<sup>st</sup> author)**  
<https://link.springer.com/article/10.1007/s00202-019-00781-1>
- Z. Hamad and I. Abdulrahman, "Deep learning-based load forecasting considering data reshaping using MATLAB\Simulink", in *Springer International Journal of Energy and Environmental Engineering*, 13, 853–869, 2022. **IF: 2.6 (2<sup>nd</sup> author)**  
<https://link.springer.com/article/10.1007/s40095-022-00480-x>
- I. Abdulrahman and G. Radman, "Simulink-Based Program for Simulating Multi-Machine Power Systems," 2018 *IEEE Power & Energy Society General Meeting (PESGM)*, Portland, OR, 2018, pp. 1-5. **(Best conference in power and energy)**  
<https://ieeexplore.ieee.org/document/8585773>
- I. Abdulrahman, "SimCOVID: Open-Source Simulation Programs for the COVID-19 Outbreak", in *Springer SN Computer Science*, 2022. **Scopus Q2, SJR 0.6 (single author)**.  
<https://link.springer.com/article/10.1007/s42979-022-01441-1>

## Developed Toolboxes

- I. Abdulrahman, "Power System Simulation Using MATLAB", *MATLAB Central File Exchange*, 2019.  
[https://www.mathworks.com/matlabcentral/fileexchange/73836-power-system-simulation-using-matlab?s\\_tid=prof\\_contriblnk](https://www.mathworks.com/matlabcentral/fileexchange/73836-power-system-simulation-using-matlab?s_tid=prof_contriblnk)
- I. Abdulrahman, "Power System Simulation Using Simulink", *MATLAB Central File Exchange*, 2019.  
[https://www.mathworks.com/matlabcentral/fileexchange/73834-power-system-simulation-using-simulink?s\\_tid=prof\\_contriblnk](https://www.mathworks.com/matlabcentral/fileexchange/73834-power-system-simulation-using-simulink?s_tid=prof_contriblnk)
- I. Abdulrahman, "Power System Simulation Using Simulink (Renewable Energy)", *MATLAB Central File Exchange*, 2020.  
[https://es.mathworks.com/matlabcentral/fileexchange/84993-power-system-simulation-using-simulink-renewable-energy?s\\_tid=srchtitle](https://es.mathworks.com/matlabcentral/fileexchange/84993-power-system-simulation-using-simulink-renewable-energy?s_tid=srchtitle)
- I. Abdulrahman, "Reinforcement-Learning Based Damping Control Scheme of a PV Plant", *MATLAB Central File Exchange*, 2022.

[https://www.mathworks.com/matlabcentral/fileexchange/124525-reinforcement-learning-based-damping-control-scheme-of-a-pv?s\\_tid=srchtitle](https://www.mathworks.com/matlabcentral/fileexchange/124525-reinforcement-learning-based-damping-control-scheme-of-a-pv?s_tid=srchtitle)

- I. Abdulrahman, "Optimal PMU Placement", *MATLAB Central File Exchange*, 2019.  
[https://www.mathworks.com/matlabcentral/fileexchange/73830-optimal-pmu-placement-ilp-1-cplex-2-built-in-function?s\\_tid=prof\\_contriblnk](https://www.mathworks.com/matlabcentral/fileexchange/73830-optimal-pmu-placement-ilp-1-cplex-2-built-in-function?s_tid=prof_contriblnk)
- I. Abdulrahman, "SimCOVID5", *MATLAB Central File Exchange*, 2020.  
<https://www.mathworks.com/matlabcentral/fileexchange/75025-simcovid5>

#### More Information

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- <https://scholar.google.com/citations?user=4gmb1ugAAAAJ&hl=en&oi=ao>
- <https://www.researchgate.net/profile/Ismael-Abdulrahman-2>
- <https://www.youtube.com/@ismaelabdulrahman7295/videos>
- <https://www.facebook.com/profile.php?id=100091947498836>
- <https://academicstaff.epu.edu.iq/faculty/ismael.abdulrahman>