

SUMMARY OF ACADAMIC EXPERIENCE

- Control Systems Programming
- Design Simulation and analysis
- Diagnostics and troubleshooting
- DSP tool analysis
- Time line control
- Modifications and implementation
- Training and Teaching
- BOM and tendering
- EMC frequency optimization
- Software debugging testing
- RF advanced analysis
- Writing and editing technical reports

- Majmaah University**, Al-Majmaah, Riyadh, Saudi Arabia
Assistant Professor of Electrical Engineering, College of Engineering Mar. 2018 – Present
- Majmaah University**, Al-Majmaah, Riyadh, Saudi Arabia
Community Services committee coordinator College of Engineering Aug. 2020 – May. 2021
- Majmaah University**, Al-Majmaah, Riyadh, Saudi Arabia
Member of the College of Engineering Steering Committee for NCAAA Feb. 2019 – Aug. 2020
- Majmaah University**, Al-Majmaah, Riyadh, Saudi Arabia
Chair of the Electrical Engineering Department Sep. 2018 – Aug. 2020
- Majmaah University**, Al-Majmaah, Riyadh, Saudi Arabia
Member of the College Council Sep. 2018 – Aug. 2020
- Saudi Red Crescent Authority**, Riyadh, Saudi Arabia
Specialist in IT and Wireless Communication System July. 2017- Feb. 2018
- Lawrence Technological University**, Southfield, MI
Adjunct Faculty of Electrical and Computer Engineering May. 2015 –May 2017
- Instructor of Electronics Circuits design with laboratory.
 - Instructor of Signal and Systems with laboratory.
- Oakland University**, Rochester, MI Sep. 2014 –April 2017
Teaching Assistant
- Assisted undergraduate students an introductory lab for electrical and computer engineering materials.
 - Assisted students during the lecture with study skills and preparing for exams.
- Shanghai University of Engineering Science**, Shanghai, China May. 2016 –July 2016
Adjunct Faculty of Electrical and Computer Engineering
- Instructor of Signals and Systems with laboratory.
 - Instructor of Automatic Control Systems.
 - Instructor of Technology of Microcomputer Chip Design.
- Oakland University/ part time**, Rochester, MI Sep. 2014 –May 2015
Research assistant
- Prepared research on short range radio frequency connection on 2.4 GHz modulation.
 - Optimized noise reduction and filtering for 2.4 - 5 GHz Bluetooth and Wi-Fi interference.
 - Performed short range testing and optimization on fading channel with indoor signal diffractions.
- Lawrence Technological University**, Southfield, MI Sep. 2011 –Dec 2011

Academic Tutor

- Tutored undergraduate students in computer programming and physics courses.
- Assisted students with study skills and preparing for exams.

Saudi Red Crescent Society, Riyadh, Saudi Arabia

Mar. 2005 –Dec 2006

Service Advisor

- Supervised mechanics and developed skills through training and mentoring.
- Prioritized repair and maintenance work to be completed for ambulance fleet.
- Ensured proper safety policies and procedures were followed.

Technical and Vocational Training Center, Afif, Saudi Arabia

Aug. 2002 –Mar 2005

Instructor

- Instructed and evaluated students' in automotive technology program courses and technology.
- Prepared and administered activities to assess students' competencies.
- Provided feedback and maintained student grade records.

PUBLICATIONS

1. Ali Siddique, Abdul Rauf Bhatti, Ahmed Bilal Awan, Arslan Dawood Butt, **Ali S. Alghamdi**, Muhammad Farhan & Nadia Rasheed (2021) "Efficient video transmission—a critical review of various protocols and strategies", *Journal of the Chinese Institute of Engineers*, 44:8, 740-750. ISI (IF: 1.14)
2. Qasaymeh, Yazeed, Abdullah Almuhausen, and **Ali S. Alghamdi**. 2021. "A Compact Sequentially Rotated Circularly Polarized Dielectric Resonator Antenna Array" *Applied Sciences* 11, no. 18: 8779. ISI (IF: 2.67)
3. Hussein Abdel-Mawgoud, Salah Kamel, Sinan Q. Salih, **Ali S. Alghamdi**. 2021. "Optimal integration of capacitor and PV in distribution network based on nomadic people optimizer". *Indonesian Journal of Electrical Engineering and Computer Science*. 23, no 3, 1237-1248. Scopus (IF: 2.00)
4. **Alghamdi, A. S.** (2021). "Integration of Virtual Resistor in Charging Control System of Electric Vehicles to Mitigate the Harmonic Issues at Power Grid Side". *International Transaction Journal of Engineering, Management, & Applied Sciences & Technologies*, 12(3), 12A3T, 1-16.
5. Kharrich, Mohammed, Salah Kamel, **Ali S. Alghamdi**, Ahmad Eid, Mohamed I. Mosaad, Mohammed Akherraz, and Mamdouh Abdel-Akher. 2021. "Optimal Design of an Isolated Hybrid Microgrid for Enhanced Deployment of Renewable Energy Sources in Saudi Arabia" *Sustainability* 13, no. 9: 4708.
6. Abo-Khalil, Ahmed G., and **Ali S. Alghamdi** 2021. "MPPT of Permanent Magnet Synchronous Generator in Tidal Energy Systems Using Support Vector Regression" *Sustainability* 13, no. 4: 2223.
7. Kharrich, Mohammed, Salah Kamel, Rachid Ellaia, Mohammed Akherraz, **Ali S. Alghamdi**, Mamdouh Abdel-Akher, Ahmad Eid, and Mohamed I. Mosaad 2021. "Economic and Ecological Design of Hybrid Renewable Energy Systems Based on a Developed IWO/BSA Algorithm" *Electronics* 10, no. 6: 687.
8. **Alghamdi, Ali S.** 2021. "Performance Enhancement of Roof-Mounted Photovoltaic System: Artificial Neural Network Optimization of Ground Coverage Ratio" *Energies* 14, no. 6: 1537.
9. Ahmed, D.; Ebeed, M.; Ali, A.; **Alghamdi, A.S.**; Kamel, S. "Multi-Objective Energy Management of a Micro-Grid Considering Stochastic Nature of Load and Renewable Energy Resources". *Electronics* 2021, 10, 403.
10. Abo-Khalil, AG, Eltamaly, AM, Alsaud, MS, Sayed, K, **Alghamdi, AS.** "Sensorless control for PMSM using model reference adaptive system". *Int Trans Electr Energ Syst*. 2021; 31: e12733.

11. H. M. Sultan, A. S. Menesy, S. Kamel, **A. S. Alghamdi** and C. Rahmann, "Optimal Design of a Grid-Connected Hybrid Photovoltaic/Wind/Fuel Cell System," *2020 IEEE Electric Power and Energy Conference (EPEC)*, 2020, pp. 1-6.
12. M. Bastawy, M. Ebeed, A. Rashad, **A. S. Alghamdi** and S. Kamel, "Micro-Grid Dynamic Economic Dispatch with Renewable Energy Resources Using Equilibrium Optimizer," *2020 IEEE Electric Power and Energy Conference (EPEC)*, 2020, pp. 1-5.
13. **Alghamdi, A. S.**, Sayed, K., Abokhalil, Awan, A. B., Mohamed A. Zohdy, M. A. (2021). A Soft Switching DC-Link Quasi Resonant Three-Phase Inverter for AC Servo-Motor Drive Applications. *International Transaction Journal of Engineering, Management, & Applied Sciences & Technologies*, 12(1), 12A1N, 1-13.
14. Awad, A., Kamel S., **Alghamdi, A.S.**, Jurado, F., Zohdy, M. (2021). C-UPFC Modeling in NEPLAN for Power Flow Analysis. *International Transaction Journal of Engineering, Management, & Applied Sciences & Technologies*, 12(1), 12A1F, 1-11.
15. R.P. Praveen, Vishnu Keloth, Ahmed G. Abo-Khalil, **Ali S. Alghamdi**, Ali M. Eltamaly, Iskander Tlili, "An insight to the energy policy of GCC countries to meet renewable energy targets of 2030", *Energy Policy*, Volume 147, 2020.
16. Amlak Abaza, Asmaa Fawzy, Ragab A. El-Sehiemy, **Ali S. Alghamdi**, Salah Kamel, "Sensitive reactive power dispatch solution accomplished with renewable energy allocation using an enhanced coyote optimization algorithm", *Ain Shams Engineering Journal*, 2020.
17. Abo-Khalil, Ahmed G.; Eltamaly, Ali M.; R.P., Praveen; **Alghamdi, Ali S.**; Tlili, Iskander. 2020. "A Sensorless Wind Speed and Rotor Position Control of PMSG in Wind Power Generation Systems." *Sustainability* 12, no. 20: 8481.
18. **A. S. Alghamdi**, K. Hua, M. Zohdy, A. Al-Ahmadi, A. G. Abo-Khalil and Y. Qasaymeh, "Unscented Kalman Filter for Indoor Bluetooth Voice Transmission Interference over Non-Gaussian Fading Channel," *2020 IEEE 6th World Forum on Internet of Things (WF-IoT)*, New Orleans, LA, USA, 2020, pp. 1-6, doi: 10.1109/WF-IoT48130.2020.9221365.
19. Sultan, H. M., Menesy, A. S., Kamel, S., **Alghamdi, A. S.**, Zohdy, M. (2020). Optimal Sizing of Isolated Hybrid PV/WT/FC System Using Manta Ray Foraging Optimization Algorithm. *International Transaction Journal of Engineering, Management, & Applied Sciences & Technologies*, 11(16), 11A16H, 1-12.
20. T. A. Jumani, M. W. Mustafa, **Ali S. Alghamdi**, M. M. Rasid, A. Alamgir and A. B. Awan, "Swarm Intelligence-Based Optimization Techniques for Dynamic Response and Power Quality Enhancement of AC Microgrids: A Comprehensive Review," in *IEEE Access*, vol. 8, pp. 75986-76001, 2020. ISI (IF: 3.74)
21. Ashraf, Naveed; Izhar, Tahir; Abbas, Ghulam; Awan, Ahmed B.; **Alghamdi, Ali S.**; Abo-Khalil, Ahmed G.; Sayed, Khairy; Farooq, Umar; Balas, Valentina E. 2020. "A New Single-Phase Direct Frequency Controller Having Reduced Switching Count without Zero-Crossing Detector for Induction Heating System." *Electronics* 9, no. 3: 430. ISI (IF: 2.41)
22. A. Selim, S. Kamel, **A. S. Alghamdi** and F. Jurado, "Optimal Placement of DGs in Distribution System Using an Improved Harris Hawks Optimizer Based on Single- and Multi-Objective Approaches," in *IEEE Access*, vol. 8, pp. 52815-52829, 2020. ISI (IF: 3.74)
23. J. P. Therattil, RP Praveen, Jenson Jose, Ahmed Abo-Khalil, **Ali S. Alghamdi**, GR Bindu, Khairy Sayed "Hybrid control of a multi-area multi-machine power system with FACTS devices using non-linear modelling," in *IET Generation, Transmission & Distribution*, vol. 14, no. 10, pp. 1993-2003, 22 5 2020. ISI (IF: 3.22)
24. Paracha, K.N.; Butt, A.D.; **Alghamdi, A.S.**; Babale, S.A.; Soh, P.J. "Liquid Metal Antennas: Materials, Fabrication and Applications". *Sensors* 2020, 20, 177. ISI (IF: 3.03)
25. Khaled Daqrouq , Abdel-Rahman Al-Qawasmi , Ahmed Balamesh, **Ali S. Alghamdi** , and Mohamed A. Al-Amoudi. "The Use of Arabic Vowels to Model the Pathological Effect of Influenza Disease by Wavelets" *Computational and Mathematical Methods in Medicine* Volume 2019, 8 pages. ISI (IF: 1.56)

26. Abo-Khalil, Ahmed G.; Alghamdi, Ali S.; Eltamaly, Ali M.; Al-Saud, M. S.; R. P., Praveen; Sayed, Khairy; Bindu, G. R.; Tlili, Iskander. 2019. "Design of State Feedback Current Controller for Fast Synchronization of DFIG in Wind Power Generation Systems." *Energies* 12, no. 12: 2427. ISI (IF: 2.70)
 27. Sayed, Khairy; Abo-Khalil, Ahmed G.; **S. Alghamdi, Ali**. 2019. "Optimum Resilient Operation and Control DC Microgrid Based Electric Vehicles Charging Station Powered by Renewable Energy Sources." *Energies* 12, no. 22: 4240. ISI (IF: 2.70)
 28. Muhammad Rashid, **Ali S Alghamdi**, Q Mahmood, M Hassan, M Yaseen, and A Laref. "Optoelectronic and thermoelectric behavior of $X\text{In}_2\text{Te}_4$ ($X = \text{Mg}, \text{Zn}$ and Cd) for energy harvesting application; DFT approach" *et al 2019 Phys. Scr.* 94 125709. ISI (IF: 2.15)
 29. **A. S. Alghamdi**, "Design a Universal Remote Controlled Thermostat Based on FPGA," *2019 6th International Conference on Control, Decision and Information Technologies (CoDIT)*, Paris, France, 2019, pp. 918-921.
 30. A. Al-Ahmadi, Y. M. Qasaymeh, P. R. P., and A. Alghamdi, "Bayesian Approach for Indoor Wave Propagation Modeling," *Progress In Electromagnetics Research M*, Vol. 83, 41-50, 2019.
 31. Uddin, R., **Alghamdi, A.S.**, Uddin, M.H. et al. "Ethernet-Based Fault Diagnosis and Control in Smart Grid: A Stochastic Analysis via Markovian Model Checking", *J. Electr. Eng. Technol.* (2019) 14: 2289. ISI (IF: 0.64)
 32. A. G. Abo-Khalil, **A. Alghamdi**, I. Tlili and A. M. Eltamaly, "Current controller design for DFIG-based wind turbines using state feedback control," in *IET Renewable Power Generation*, vol. 13, no. 11, pp. 1938-1948, 19 8 2019. ISI (IF: 3.60)
 33. Khan, I.A.; **Alghamdi, A.S.**; Jumani, T.A.; Alamgir, A.; Awan, A.B.; Khidrani, A. "Salp Swarm Optimization Algorithm-Based Fractional Order PID Controller for Dynamic Response and Stability Enhancement of an Automatic Voltage Regulator System". *Electronics* 2019, 8, 1472. ISI (IF:1.76)
 34. Ali, H. S.; **Alghamdi, Ali S.**; Murtaza, G.; Arif, H. S.; Naeem, Wasim; Farid, G.; Sharif, Sadia; Ashiq, Muhammad G.B.; Shabbir, Syeda A. 2019. "Facile Microemulsion Synthesis of Vanadium-Doped ZnO Nanoparticles to Analyze the Compositional, Optical, and Electronic Properties." *Materials* 12, no. 5: 821. ISI (IF:2.97)
 35. Kun Hua, Xing Liu, Zheyi Chen, **Ali S. Alghamdi**, Mahdi N. Ali. "An Efficient Cross-layer Approach for Throughput-Maximal and Delay-Minimal Green Vehicular Networks" accepted in ICNC 2018, Maui, Hawaii, USA, March 5-8, 2018.
 36. **Alghamdi, A.**, Ali, M., Zohdy, M., and Kun Hua. "Non-Coherent Demodulation in Bluetooth Voice Transmission using Unscented Kalman Filter in Fading Channel with Non-Gaussian Noise" in progress to submitted to *Journal of Signal and Information Processing*.
 37. K. Hua, W. Wang, H. Wang, **A. Alghamdi**, "Multiplexing-Diversity Balanced Cooperative Wireless Cellular Networks Based on Alamouti Space Time Code for Multimedia Transmission," in *Proc. IEEE Global Communications Conference (GLOBECOM)*, 5pp, Dec. 2012.
 38. **Alghamdi Ali S.**, KENAYA RIYADH L., "FPGA Based IR Code Recognizer", in the Book "Applied Mathematics in Electrical and Computer Engineering", *CIRCUITS, SYSTEMS, SIGNAL and TELECOMMUNICATIONS (CSST'12)*, Cambridge, MA, USA, January 25-27, 2012, pp. 286-291.
 39. **Alghamdi Ali**, Kun Hua, "An Adaptive Modulation Scheme in Wireless Multimedia Sensor Networks," 2nd IEEE Workshop on Multimedia Communications & Services, and 45th Annual Simulation Symposium- IEEE GLOBECOM 2011, Houston, Texas, U.S.A, Dec 2011.
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TECHNICAL PROJECTS

- **Design a Robust Modulation Scheme in Bluetooth Voice Transmission using Kalman Filter**
 - Developed the Bluetooth is modulated and demodulated by Gaussian frequency shift key (GFSK) technique over additive white Gaussian noise (AWGN) channel.
 - Tested on vehicle telematics system.
- **Design a Digital Controller for Digital Camera**
 - Developed a digital controller meet specific requirements to increase the speed of step response. Specifically, compensators that design in order to reduce time response for high quality picture snap.
- **Channel Equalizer using Constant-Modulus Algorithm**
 - Developed a channel equalization scheme using C-M algorithm for PSK modulation. Parallel systematic implementation improved the receiving signal detection for communication system suitable in synchronization.

SKILLS

- **Programming Languages**
 - C/ C++
 - MySQL for Oracle
 - JAVA script
 - Matlab script file
 - VHDL
- **Simulation Software**
 - Pspice and Micro-cap Circuits Analysis
 - Simulink Model Design and Analysis
 - Maple Math tools and Maple Sim
- **Hardware Tools**
 - Spectrum Analyzer
 - Network Analyzer
 - Radio Frequency Capture.

EDUCATION

- Oakland University, Rochester, MI** May 2017
 - Ph.D. in Electrical and Computer Engineering.

Dissertation: "Robust Non-Coherent Demodulation Scheme for Bluetooth Voice Transmission Using Kalman Filtering"
Adviser: Mohamed A. Zohdy, Ph.D.

Lawrence Technological University, Southfield, MI July 2012
 - Master of Science in Electrical and Computer Engineering.
 - Graduate Certificate in Telecommunication Engineering.

Lawrence Technological University, Southfield, MI July 2012
 - Bachelor of Science in Electrical Engineering (*Cum Laude*).

Lawrence Technological University, Southfield, MI Dec 2010
 - Bachelor of Science in Computer Engineering (*Cum Laude*).
 - Undergraduate Certificate in Embedded Systems.