

Ali S. Alghamdi, Ph.D.

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SUMMARY OF PROFESSIONAL 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 Sep. 2018 – Present
Chair of the Electrical Engineering Department

Majmaah University, Al-Majmaah, Riyadh, Saudi Arabia Mar. 2018 – Present
Assistant Professor of Electrical Engineering

Saudi Red Crescent Authority, Riyadh, Saudi Arabia July. 2017- Feb. 2018
Specialist in IT and Wireless Communication System

Lawrence Technological University, Southfield, MI May. 2015 –May 2017
Adjunct Faculty of Electrical and Computer Engineering

- 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.

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

- 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.
- **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.
- **Alghamdi, A.S.**, Ali, M.N. and Zohdy, M.A. "Robust Non-Coherent Demodulation Scheme for Bluetooth Voice Transmission Using Linear, Extended, and Unscented Kalman Filtering". Journal of Signal and Information Processing, 6, 9-27, January 28, 2015.
- 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.
- **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.
- **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.

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.
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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.
- College of Technology, Riyadh, Saudi Arabia** Jun 2002
- Associate Degree of Vehicles and Engine Technology.