

Dr. Joon Wan Kim

Professor & Dept Chair of Electrical and Computer Engineering, LeTourneau University

University Faculty since 2003

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Education

- Ph.D. University of Alabama, Huntsville 2003
- M.S.E.E. University of Alabama, Huntsville 1999
- B.S.E.E. Daegu University, S. Korea 1993

Current Research Interests

- Hardware implementation of an Adaptive Noise Canceller.
- Performance analysis of the Self-Correcting Adaptive Filter and the adjusted step size NLMS algorithm.
- Semiconductor Fabrication Process.

Courses Taught

- CPGR/EEGR 4233 Introduction to Microprocessors and Microcomputers
- CPGR/EEGR 4253 Microcomputer Design
- EEGR 3213 Digital Electronics
- EEGR 4283 Digital Signal Processing

Honors and Awards

- Co-Principle Investigator (Co-PI) of Sandia National Laboratories Twitcher LDRD 20-0187, Addendum: Adversarial Signal Study. Amount: \$300,000 from August 2019 to July 2022
- Awarded the Robert H. Selby Teaching Scholar Award (Faculty of the Year), Nominated and selected by faculty vote. 2021, LeTourneau University
- Director of LeTourneau University Electrical Engineering senior design projects supported by Rockwell Collins Inc., STEMCO, General Dynamics, Flanders Inc., CCI group and Tripaga. Amount \$350,000 from Aug. 2007 to Present
- Principal Investigator of National Science Foundation DUE-0728613: Scholarships for Electrical Engineering and Computer Science (SEECs). Amount: \$529,000 from Feb. 2008 to Jan. 2014
- Dean's Award for Scholarship, May 2019, LeTourneau University
- Serving on NSF (National Science Foundation) S-STEM (Scholarships in Science, Technology, Engineering, and Mathematics) Review Panel, Washington D.C, Sep. 26 - 28, 2010
- Reviewer of Journal of Communications and Networks (JCN), Dec. 2005~ Feb 2007

- Serving on NSF (National Science Foundation) REU (Research Experiences for Undergraduates) Review Panel, Washington D.C, Nov.28 -30, 2005

Selected Publications

- Hoo Kim, Joshua R. Millikan, Joon Wan Kim, Alan Clipperton, "Developing Hands-On Semiconductor Fabrication and Testing Courses Through Industry-University Partnerships in a Teaching-Focused Undergraduate School", ASEE -GSW Annual Conference, Arlington, TX, March 2025
- Savannah Orton, Joon W. Kim, "Non-invasive respiratory rate detection using thermal imaging and facial recognition", SPIE (The International Society for Optics and Photonics) Health Monitoring of Structural and Biological Systems conference, Long Beach, CA, March 2023
- Jacob Landreth, Hoo Kim, Joonwan Kim, Nathan Green, "Implementation of Convolutional Neural Networks for Respiratory Rate Detection", SPIE (The International Society for Optics and Photonics) Medical Imaging conference, San Diego, CA, February 2022
- H. Kim, P. Leiffer, and J. Kim, "Essential Elements in the Application of a Story-Building Approach Learned from Three Engineering Senior Design Projects," *2022 Christian Engineering Conference*.
- Hoo Kim, Paul R. Leiffer, Laura Kathryn Neal, Kathleen Mays, Joonwan Kim, "Engineering Capstone Senior Design Project as a Story-Building Platform", Proceedings of the 128th ASEE Annual Conference & Exposition, July 2021.
- Gohn, Andrew, Kim, J., "Implementation of LMS Adaptive Filter Algorithm based on FPGA" Proceedings of 62nd IEEE MWSCAS (International Midwest Symposium on Circuits & Systems), Dallas, TX. Aug 2019.
- Jeremy Goossen, Dr. Joonwan Kim "Development of a Versatile ADS-B Communications System" Proceedings of 2018 IEEE Texas Symposium on Wireless and Microwave Circuits and Systems, Waco, TX., April. 2018
- Tim Hong, Dr. Joonwan Kim "FPGA Implementation of JADE ICA Algorithm " Proceedings of 2015 ISOC (International System on Chip Design Conference), KyeongJu, S. Korea, Nov., 2015
- Ryan Tiemann, Dr. Joonwan Kim "LeTourneau Motor Analyzer Senior Design Project" Proceedings of 2014 ISOC (International System on Chip Design Conference), Jeju, S. Korea, Nov., 2014
- Zachary Phillips, Joonwan Kim "High Frequency Antenna Coupler Using an Arduino," Proceedings of the ESC (Embedded Systems Conference) Boston, Sep., 2012

- Donald E. Willcox, John Wineman Joonwan Kim “Implementation of Digital Radio Mondiale Receiver-Part II,” Proceedings of the IEEE 43rd Southeastern Symposium on System Theory, Auburn University,AL., March, 2011
- Paul Leiffer, Joonwan Kim “Diversity Receiver for Digital Radio Mondiale – A Multi-Year Design Project” Proceedings of the 117th ASEE Annual Conference & Exposition, Louisville, Kentucky, 20 - 23 June, 2010