최진석 Jinseok Choi

전기전자공학과 / Electrical Engineering

01098093413

jinseokchoi@unist.ac.kr

https://sites.google.com/site/jinseokchoi89/

LAB Engineering BLDG 3. Rm 301-5

Curriculum Vitae

-Oct. 2020 -present: Assistant Professor, Electrical and Computer Engineering, UNIST, Ulsan, Republic of Korea,
-Nov. 2019-Sep. 2020: Senior System Engineer, Qualcomm Wireless R&D, San Diego, CA, USA,
-2016, 2017, 2018 Summer: Graduate Intern, FutureWei Technologies, Plano, TX, USA

Academic Credential

-Ph.D in Electrical and Computer Engineering, The University of Texas at Austin, Austin, TX, USA, 2019.
-MS in Electrical and Computer Engineering, The University of Texas at Austin, Austin, TX, USA, 2016.
-Bachelor in Business Administration (dual degree), Yonsei University, Seoul, Korea, 2014.
-BS in Electrical and Electronic Engineering, Yonsei University, Seoul, Korea, 2014.

Awards/Honors/Memberships

-Engineering Fellowship Award, 2017 Friends of Alec Graduate Student Fellowship Fund, The University of Texas at Austin
-Top Electrical and Computer Engineering Teaching Assistant Award, 2016, The University of Texas at Austin
-Electrical and Computer Engineering Teaching Assistant Award, 2016, The University of Texas at Austin
- ECE Professional Development Award, 2016, 2018, The University of Texas at Austin
-Best Project Award in EE381V, 2015, The University of Texas at Austin

Intelligent Wireless Communications Laboratory
지능형 무선통신 연구실

Our primary field of research is wireless communication which is an essential technology for accomplishing a life-level 4th industrial revolution that requires both 6G communication systems and life-level IoT environments. For next generation wireless communication systems, we aim to develop state-of-the-art communication techniques based on information theory, signal processing, and machine learning. In addition, we are expanding our research interests into developing IoT-oriented communication systems to realize true life-level IoT environments.
IWCL 연구실의 주 연구분야는 무선통신이며, 이것은 4차 산업혁명을 실생활 수준으로 실현시키기 위한 필수적인 기술이다. 이를 실현시키기 위해서는 6G 통신 시스템 그리고 실생활에서 적용되는 IoT 환경이 필요하다. 따라서 IWCL 연구실은 정보이론, 신호처리, 그리고 머신러닝을 이용하여 차세대 통신 시스템 구축을 위한 알고리즘을 개발하고 있으며, IoT환경을 실생활에서 구축하기위한 IoT-oriented 통신시스템 개발에 대한 연구도 진행중이다.

관심분야	희망분야
Wireless Communications, Machine Learning-aided Communication Systems	Deep Learning, Wireless Communications for Machine Learning

Research Keywords and Topics

Wireless Communications, Multiple-Input and Multiple-Output (MIMO) Systems, Massive MIMO, Millimeter Wave Communications, Beamforming, Hybrid Analog/Digital Beamforming, Machine Learning-aided Communications, IoT Communications, Massive Connectivity, Physical Layer Security, Ultra Low Latency Communications, Energy Efficient Communications, Systems with Low-Resolution ADCs and DACs, Cloud Radio Access Network, Device-to-Device Communications, Reconfigurable Intelligent Surface-aided Communications,

Research Publications

[1]. Jinseok Choi, Gilwon Lee, Ahmed Alkhateeb, Alan Gatherer, Naofal Al-Dhahir, and Brian L. Evans, "Advanced Receiver Architectures for Millimeter Wave Communications with Low-Resolution ADCs", IEEE Communications Magazine, vol. 58, no. 8, Aug. 2020, pp. 42-48, DOI 10.1109/MCOM.001.2000122
[2]. Jinseok Choi, Gilwon Lee, and Brian L. Evans, "Two-Stage Analog Combining in Hybrid Beamforming Systems with Low-Resolution ADCs", IEEE Transactions on Signal Processing, vol. 67, no. 9, pp. 2410-2425, May 1, 2019.
[3]. Jinseok Choi, Brian L. Evans, and Alan Gatherer, "Resolution-Adaptive Hybrid MIMO Architectures for Millimeter Wave Communications", IEEE Transactions on Signal Processing, vol. 65, no. 23, pp. 6201-6216, Dec. 2017.

Patents

[국외]. Alan Gatherer and Jinseok Choi, "ADC Bit Allocation under Bit Constrained MU-Massive MIMO Systems", U.S. Patent Application No. 15/720,743