Joongheon Kim

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Highlights

Research Milestones

- 107 Journals (among them, 80 IEEE Journals), https://sites.google.com/view/aimlab-kuee/publications/journals 87 Published/Accepted (among them, 69 IEEE), 7 Under-Revision, and 13 Under-Review Journals
- 12 Top Conferences, i.e., INFOCOM (2023, review), ICSE (2023, review), AAAI (2023), CIKM (2022), WiOpt (2022), ICDCS (2022), INFOCOM (2022), ICDCS (2020), IJCAI (2019), ICDCS (2018), MM (2017), MobiSys (2010, Citation: 600+)
- 5505+ Citations (H-index: 35+, i10-index 134+), obtained from Google Scholar Profile (as of November 26, 2022)
- IEEE MMTC Best Journal Paper Award (2021), IEEE Communications Society
- IEEE MMTC Outstanding Young Researcher Award (2020), IEEE Communications Society
- IEEE Systems Journal Best Paper Award (2020), Top 7 among 793 accepted papers in 2019 (0.88%)
- 7 Awards from IEEE Conferences and Contests, i.e., IEEE ICTC Best Paper Award (2022), IEEE ICOIN Best Paper Award (2021), IEEE Seoul Section Student Paper Contest Awards (1 in 2020; 1 in 2019), and IEEE VTS Seoul Chapter Awards (2 in 2021; 1 in 2019)
- 6 Tutorials at IEEE Conferences, i.e., ICUFN (2022), ICOIN (2022), ICUFN (2021), ICAIIC (2021), ICOIN (2019), and ICC (2018)
- 65+ Patents are granted, and among them, 46 Granted Patents are successfully adopted by 60 GHz Millimeter-Wave IEEE 802.11 Standards, i.e., IEEE 802.11ad and IEEE 802.11ay
- **Research Funds (since March 2016):** 6,280,384 USD ≈ 6,280,384,000 KRW (except University Internal Funds)

Research Supervision and Teaching (As a faculty member since March 2016)

- 2 Tenure-Track Professors (formerly supervised by Prof. Joongheon Kim (Postdoctoral, Ph.D., M.S., Interns)), i.e., Minseok Choi (*Kyung Hee University, Korea*), Soyi Jung (*Ajou University, Korea*)
- 8 Best Teaching Awards at Korea University, i.e., 4 awards are for top 5% (*Granite Tower Best Teaching Award*) and 4 awards are for top 20% (*Best Teaching Award*)

IEEE Society Academic Activities

- Senior Member of the IEEE (2018–) and IEEE Membership (2005–) for 18+ years
- Distinguished Lecturer, IEEE Communications Society (ComSoc) (class of 2022–2023)

• Editor (2022–), IEEE Transactions on Machine Learning in Communications and Networking

IEEE ComSoc IEEE Systems Council

Distinguished Lecturer, IEEE Systems Council (class of 2022–2024)

IEEE ComSoc

• **Associate Editor (2020–)**, *IEEE Transactions on Vehicular Technology*

- IEEE VTS
- Guest Editor (06/2022), IEEE Communications Standards Magazine (S.I. on Recent and Future Evolution of Wi-Fi) IEEE ComSoc
 - IEEE VTS
- IEEE Vehicular Technology Society (VTS), Seoul Chapter Treasurer for 3 years (2020–2023)
 99+ Technical Program Committee (TPC) and 26+ Organizing Committee (OC) Contributions for IEEE Conferences

Educational Backgrounds

- University of Southern California (USC) Viterbi School of Engineering, Los Angeles, California, USA
 - Ph.D. (08/2009–08/2014) in Computer Science (Advisor: Prof. Andreas F. Molisch, Fellow of the IEEE)
 - M.S. (05/2014) in Computer Science with specialization in High Performance Computing and Simulations
 - M.S. (05/2012) in Electrical Engineering
- Korea University, Seoul, Republic of Korea
 - M.S. (03/2004–02/2006) in Computer Science and Engineering
 - B.S. (03/1999–02/2004) in Computer Science and Engineering

R&D Positions

Full-Time Positions

- Korea University College of Engineering, Seoul, Republic of Korea
 - Associate Professor (03/2021-Present), Assistant Professor (09/2019-02/2021), School of Electrical Engineering
 - Adjunct Professor (03/2023–Present), Department of Communications Engineering (with Samsung Electronics)
 - Adjunct Professor (11/2022–Present), Department of Future Science and Technology Business (Graduate School)
 - Adjunct Professor (09/2022–Present), Department of Smart Convergence (Graduate School, with LG Electronics)
 - Adjunct Professor (03/2021–02/2023), Department of Semiconductor Engineering (with SK Hynix)
 - R&D Positions
 - * Vice Director (10/2020–Present), Artificial Intelligence Engineering Research Center (KU-AIER)
 - Administrative Positions
 - * Dean (06/2021–Present), Center for Teaching and Learning (CTL)
 - * Deputy Vice President (02/2022–Present), Office of Academic Affairs
 - * Steering Committee Member (09/2022–08/2023), Academic Affairs and Planning Steering Committee
 - * Steering Committee Member (07/2020–06/2022), Korea University Institute of Data Science (KUIDS)

- * Steering Committee Member (06/2021–03/2022), Academic Affairs and Planning Steering Committee
- Chung-Ang University College of Computer Science and Software, Seoul, Republic of Korea
 - Assistant Professor (03/2016–08/2019), School of Computer Science and Engineering
- Intel Corporation Platform Engineering Group, Silicon Valley (Santa Clara), CA, USA
 - Systems Engineer (09/2013-02/2016), mmWave Standards and Advanced Technology (mSAT) Team (with Dr. Ali S. Sadri)
- University of Southern California (USC) Viterbi School of Engineering, Los Angeles, CA, USA
 - Annenberg Graduate Fellow (08/2009), Awarded with Ph.D. admission in Computer Science from USC (2009)
 - Ph.D. Research Assistant (01/2011–08/2014), Communication Sciences Institute (Advised by Prof. Andreas F. Molisch)
 - Teaching Assistant (01/2012-05/2013), Computer Science and Electrical Engineering Departments (CSCI455x and EE579)
- InterDigital, San Diego, CA, USA
 - Intern (05/2012–08/2012), Wireless Systems Evolution Department
 - Subject Matter Expert in IEEE 802.11ad (01/2012–02/2012), Wireless Systems Evolution Department
- LG Electronics CTO Office, Seoul, Republic of Korea
 - Research Engineer (01/2006-08/2009), Multimedia Research Laboratory, Seocho R&D Campus

Industry, Advisory, and Consulting Positions

• Samsung Electronics (C-Lab), Seoul National University R&D Center, Seoul, Republic of Korea *Advisory Professor* (02/2020–08/2020), Nonlinear Regression Deep Learning Algorithm Design and Implementation

Academia (Membership, Editorial Boards, and Services)

- IEEE
 - Senior Member (2018–), Member (2006–2017)
 - Distinguished Lecturer (2022–2023), IEEE Communications Society
 - Editor (2022-), IEEE Transactions on Machine Learning in Communications and Networking
 - Associate Editor (2020-), **IEEE Transactions on Vehicular Technology** (Area: Vehicular Electronics and Systems)
 - Guest Editor (03/2022), IEEE Communications Standards Magazine (S.I. on Recent and Future Evolution of Wi-Fi)
 - IEEE Vehicular Technology Society (VTS) Seoul Chapter
 - * Chapter Treasurer (2022–Present), Chapter Treasurer (2020–2021)
 - * IEEE VTS Asia Pacific Wireless Communications Symposium (APWCS) Organizing Committee: Finance Chair (2022), Finance Co-Chair (2021)
- Elsevier
 - *Editor* (2021–), **ICT Express** (Area: AI for ICT Applications)
 - Guest Editor (10/2022), Computer Networks (S.I. on ML and AI for the Internet of Things, 5G, and Beyond)
 - Guest Editor (03/2022), ICT Express (S.I. on Artificial Intelligence and Machine Learning Approaches to Communication)
 - Guest Editor (06/2021), ICT Express (S.I. on Mobile and Edge Computing Systems)

Awards and Honors

Research and Academic Excellence (International)

- Highly Cited Publications (Top 10 Publications) Google Scholar Profile (as of November 26, 2022)
 - (624+) Energy-efficient rate-adaptive GPS-based positioning for smartphones, MobiSys ('10)
 - (157+) Quality-aware streaming and scheduling for device-to-device video delivery, TON ('16)
 - (109+) Communication-efficient and distributed learning over wireless networks: Principles and applications, PIEEE ('21)
 - (107+) Towards characterizing blockchain-based cryptocurrencies for highly-accurate predictions, ISJ ('20), Best Paper Award
 - (105+) Residential demand response for renewable energy resources in smart grid systems, TII ('17)
 - (103+) Fast millimeter-wave beam training with receive beamforming, JCN ('14)
 - (098+) Auction-based charging scheduling with deep learning framework for multi-drone networks, TVT ('19)
 - (085+) Energy-efficient mobile charging for wireless power transfer in Internet of things networks, IOTJ ('18)
 - (074+) Cooperative management for PV/ESS-enabled electric vehicle charging stations: A multiagent deep reinforcement learning approach, TII ('20)
 - (064+) Wireless video caching and dynamic streaming under differentiated quality requirements, JSAC ('18)
- Magazine and Journal Statistics, (totally, 107 papers)
 - (IEEE) 80 publications (including 4 magazines and 44 ComSoc/VTS journals)
- (non-IEEE) 27 publications (including 2 Computer Networks Journal (Elsevier))
- Top Conference Statistics, (totally, 12 papers)
- (Quantum) [INFOCOM'23 (review)], [ICSE'23 (review)], [AAAI'23], [ICDCS'22]
- (Network) (and Mobility/Systems) [WiOpt'22], [INFOCOM'22], [ICDCS'20], [ICDCS'18], [MM'17], [MobiSys'10] (AI/Learning) [CIKM'22], [IJCAI'19]
 - IEEE ICTC Best Paper Award (2022) IEEE Communications Society (with J.-H. Lee, D.P. Selvam, A.F. Molisch)
 - J.-H. Lee, D.P. Selvam, A.F. Molisch, and J. Kim, "Reinforcement Learning Empowered Massive IoT Access in LEO-based Non-Terrestrial Networks," IEEE ICTC, Jeju, Korea, October 2022.
 - Best Special Issue Guest Editor Award (2022) ICT Express (Elsevier), S.I. on Mobile Edge Computing Systems (06/2021)
 - Distinguished Lecturer (class of 2022–2024) IEEE Systems Council
 - Distinguished Lecturer (class of 2022–2023) IEEE Communications Society
 - IEEE VTS Seoul Chapter Award (2022) IEEE Vehicular Technology Society (with H. Lee)
 - "Deep Reinforcement Learning for Loitering Munition Mobility Control: Algorithm Design and Visualization"

- Spotlight Presentation (2022) ICML Workshop on Dynamic Neural Networks (2022)
 - W.J. Yun, J.P. Kim, S. Jung, J. Park, M. Bennis, and J. Kim, "Slimmable Quantum Federated Learning," *ICML Workshop on Dynamic Neural Networks*, Baltimore, MD, USA, July 2022.
- IEEE MMTC Best Journal Paper Award (2021) IEEE Communications Society (with M. Choi, A.F. Molisch)
 - M. Choi, A.F. Molisch, and J. Kim, "Joint Distributed Link Scheduling and Power Allocation for Content Delivery in Wireless Caching Networks," *IEEE Transactions on Wireless Communications*, 19(12):7810-7824, December 2020.
- IEEE VTS Seoul Chapter Award (2021) IEEE Vehicular Technology Society (with Y. Kwak, S. Jung, J.-H. Kim) "Quantum Scheduling for Millimeter-Wave Observation Satellite Constellation"
- **IEEE VTS Seoul Chapter Award (2021)** *IEEE Vehicular Technology Society* (with H. Lee, S. Jung) "Distributed and Autonomous Aerial Data Collection in Smart City Surveillance Applications"
- IEEE ICOIN Best Paper Award (2021) IEEE Computer Society (with S. Jung, W.J. Yun, J.-H. Kim)
 - S. Jung, W.J. Yun, J. Kim, and J.-H. Kim, "Infrastructure-Assisted Cooperative Multi-UAV Deep Reinforcement Energy Trading Learning for Big-Data Processing," *IEEE ICOIN*, Jeju, Korea, January 2021.
- IEEE MMTC Outstanding Young Researcher Award (2020) IEEE Communications Society
- Bronze Paper Award (2020) 2020 IEEE Seoul Section Student Paper Contest (with S. Park) "Reliable Offloading Target Selection using Deep Reinforcement Learning for Large Fire Accident"
- IEEE Systems Journal Best Paper Award (2020) IEEE Systems Council (with M. Saad, J. Choi, D. Nyang, A. Mohaisen)
 - M. Saad, J. Choi, D. Nyang, J. Kim, and A. Mohaisen, "Towards Characterizing Blockchain-based Cryptocurrencies for Highly-Accurate Predictions," *IEEE Systems Journal*, 14(1):321-332, March 2020.
- Gold Paper Award (2019) 2019 IEEE Seoul Section Student Paper Contest (with J. Yoo)
 - "Stabilized Super-Resolution Deep Learning Adaptation for UAV-Assisted Mobile Edges: A Lyapunov Optimization Approach"
- IEEE VTS Seoul Chapter Award (2019) IEEE Vehicular Technology Society (with S. Park, D. Kwon, M. Shin) "Joint Offloading and Streaming in Mobile Edges: A Deep Reinforcement Learning Approach"
- Next Generation and Standards (NGS) Division Recognition Award (Q1/2005) Intel Corporation
 For developing a 3-dual sector mmWave backhaul link software stack with mesh, relay, and load balancing capability for modular antenna array (MAA) proof-of-concept (POC)
- Annenberg Graduate Fellowship Award (2009) *University of Southern California* Awarded with Ph.D. Admission 4 Year Full Scholarship (\$30,000/year for 4 years, i.e., \$120,000)

Research and Academic Excellence (Korea Regional)

- Haedong Young Scholar Award (2018) KICS and Haedong Foundation
 - For recognizing a researcher under the age of 40 who has made outstanding contributions to communication sciences R&D
- Outstanding Paper Award (2008) LG Electronics CTO Office, Multimedia Research Laboratory
 - W. Lee, E. Kim, J. Kim, I. Lee, and C. Lee, "Movement-Aware Vertical Handoff of WLAN and Mobile WiMAX for Seamless Ubiquitous Access," *IEEE Transactions on Consumer Electronics*, 53(4):1268-1275, November 2007.
- RFID Expert Group President Award (2007) The 3rd RFID/USN Research Paper Contest
- ETRI President Award (2006) The 2nd RFID/USN Research Paper Contest
- Korea Association of RFID/USN (KARUS) President Award (2005) The 1st RFID/USN Research Paper Contest
- Scholarships for Academic Excellence (Fall 1999, Fall 2000) Korea University. Department of Computer Science and Engineering

Research and Academic Excellence of the Students under Joongheon Kim's Supervision

- Excellence Paper Award (02/2022) 2022 Summer Workshop on Computer Communications (SWCC) (with H. Lee, S. Jung)
- Excellence Paper Award (02/2022) 2022 KICS Winter Conference (with Y. Kim, Y.K. Lee, S. Jung)
- ICT Express Best Reviewer Award (2021) ICT Express (Elsevier) (Awarded to Soohyun Park)
- ICT Express Best Reviewer Award (2021) ICT Express (Elsevier) (Awarded to Haemin Lee)
- Haedong Paper Award (06/2021) 2021 KICS Summer Conference (with H. Baek, Y.J. Ha, M. Yoo, S. Jung)
- Excellence Paper Award (06/2021) 2021 KICS Summer Conference (with B. Lim, W.J. Yun, Y.-C. Ko)
- Excellence Paper Award (Undergraduate) (06/2021) 2021 KICS Summer Conference (with G. Lee, W.J. Yun, S. Jung)
- Encouragement Paper Award (11/2020) 2020 KICS Fall Conference (with W.J. Yun)
- Encouragement Paper Award (06/2020) 2020 KICS Summer Conference (with W.J. Yun)
- Encouragement Paper Award (02/2020) 2020 KICS Winter Conference (with S. Oh, J. Choi)
- Encouragement Paper Award (02/2020) 2020 KICS Winter Conference (with J. Kim)

Teaching and Supervision Excellence

• Granite Tower Best Teaching Award (Top 5%) – Korea University (Future Mobility Technology, GEQR075)	Spring 2022
• Best Teaching Award (Top 20%) – Korea University (Probability and Random Process, KECE209)	Spring 2022
• Granite Tower Best Teaching Award (Top 5%) – Korea University (Computer Language and Lab, EGRN151)	Fall 2021
• Best Teaching Award (Top 20%) – Korea University (Object Oriented Programming, SEMI104)	Fall 2021
• Granite Tower Best Teaching Award (Top 5%) – Korea University (Introduction to Computers, SEMI103)	Spring 2021
• Best Teaching Award (Top 20%) – Korea University (Probability and Random Process, KECE209)	Spring 2021
• Best Teaching Award (Top 20%) – Korea University (Computer Language and Lab, EGRN151)	Fall 2020
• Granite Tower Best Teaching Award (Top 5%) – Korea University (Computer Language and Lab, EGRN151)	Fall 2019

- Outstanding Contribution Award (02/2022) KIISE Information Network Society
- Outstanding Contribution Award (12/2021) Open Standards and ICT Association (OSIA)
- Outstanding Contribution Award (11/2021) KICS
- **Appreciation Recognition (10/2021)** *Daegu Gyeongbuk Institute of Science and Technology (DGIST)*
- Outstanding Contribution Award (11/2019) KICS
- Fellow Employee Recognition [#3081146] (12/2014) Intel Corporation
- Certificate of Appreciation (09/2010) Department of Computer Science, University of Southern California

Business Administration

• The 5th Hyundai/Kia Motors Marketing Forum (02/2004), 2nd Prize Winner (Sales Promotion)

R&D Projects (Totally, 6,280,384 USD ≈ 6,280,384,000 KRW)

 Advancement Technology Development for Torpedo Deception Strategies in Submarines 	11/2022–11/2026
Funded by LIG Nex1 [Grant: \$700,000; Primary-PI]	
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Mapping between Real World and Virtual Reality (VR) for End-Edged Cloud Real-Time VR Servers 09/2020–09/2024
 Funded by Samsung Electronics – Samsung Advanced Institute of Technology [Grant: \$286,000; Primary-PI]

• Quantum Machine Learning-based Objection Detection for Point Cloud and its Acceleration 12/2022–11/2023 Funded by *Hyundai Motors Group (Hyundai NGV)* [Grant: \$100,000; Primary-PI]

• Distributed Learning Algorithms to Build AI Models with Multi-Center Clinical Data
Funded by *Cipherome* [Grant: \$12,000; Primary-PI]

• Cellular/Wi-Fi Handover Technology Development 02/2022–12/2022 Funded by LG Electronics CTO Division – Smart Mobility Lab., Advanced R&BD Center [Grant: \$88,000; Primary-PI]

• Research Trends in Digital Twin Applications to Autonomous Driving
Funded by *Hyundai NGV* [Grant: \$1,000; Primary-PI]

• Distributed Learning System Design and Implementation for Clinical Applications
Funded by *Cipherome* [Grant: \$15,000; Primary-PI]

Super-Resolution Performance Optimization in Mobile Platforms
 Funded by Samsung SDS [Grant: \$15,000; Primary-PI]

 Deep Learning Algorithms for mVOC Concentration Analysis
 Funded by Samsung Electronics [Grant: \$12,000; Primary-PI]

• Visual Recognition Software Implementation using Deep Learning Tools
Funded by Hundai/Kia Motors Company (Hundai NGV) [Grant: \$59,500: Primary-PI]

Funded by Hyundai/Kia Motors Company (Hyundai NGV) [Grant: \$59,500; Primary-PI]

• A Priori Techniques Research for Efficient Multi-Edge Computing
Funded by Samsung Electronics Software Center [Grant: \$80,000; Co-PI]

University/Center-Level Projects

• Intelligent 6G Wireless Access System Research Center
Funded by Institute for ICT Promotion (IITP) [2021-0-00467, Grant: \$154,000 (2 yrs); Co-PI]

• Nano UAV Intelligence Systems Research Lab (NUiSRL) – *ADD Military Special Research Center* 10/2020–08/2023 Funded by *Agency for Defense Development (ADD)* [UD200027ED, Grant: \$130,000; Co-PI], PI: Kwangwoon University (Korea)

• 5G/Unmanned Vehicle Research Center (5G/UV-RC) – *ITRC* 06/2020–12/2022 Funded by *Institute for ICT Promotion (IITP)* [2020-0-01637, Grant: \$55,709; Co-PI], PI: Hanyang University (Korea)

• Human Resource Development for the Biomedical Unstructured Big Data Analysis – *ITRC* 08/2018–12/2021 Funded by *Institute for ICT Promotion (IITP)* [2018-0-01833; Co-PI], PI: Seoul National University Hospital (Korea)

• Intelligent Internet of Energy (IoE) Data Research Center – *ITRC*Funded by *Institute for ICT Promotion (IITP)* [2018-0-01396; Co-PI], PI: Kookmin University (Korea)

Government-Funded Projects

• AI Bots Collaborative Platform and Self-Organizing Artificial Intelligence Technology Development 04/2022–12/2026 Funded by *Institute for ICT Promotion (IITP)* [2022-0-00907, Grant: \$950,000; Co-PI]

Funded by *National Research Foundation of Korea* [2022R1A2C2004869, Grant: \$600,000; Primary-PI]

• K-Starlink: Dynamic Reconfigurable and Intelligent Space-Terrestrial Networks

06/2021–05/2024

Funded by *National Research Foundation of Korea* (Basic Research Lab) [2021R1A4A1030775, Grant: \$161,000 (2 yrs); Co-PI]

Funded by National Research Foundation of Korea (Basic Research Lab) [2021R1A4A1030775, Grant: \$161,000 (2 yrs); Co-PI]
 Development of Integrated Development Framework that supports Automatic Neural Network Generation and Deployment optimized for Runtime Environment

Funded by Institute for ICT Promotion (IITP) [2018-0-00170, Grant: \$230,000; Co-PI]

• Integrated Perception Technology Developments for Public Safety Platforms

06/2019–05/2023

Funded by National Research Foundation of Korea [2019M3E3A1084054, Grant: \$400,000; Co-PI]

• Development of Quantum Deep Reinforcement Learning Algorithm using QAOA Funded by *Ministry of Science and ICT* [2019M3E4A1080391, Grant: \$503,250; Primary-PI]

10/2019-04/2022

05/2019-11/2019

02/2020-05/2020

• mmWave Radar and Deep Reinforcement Learning based Optimal Policy Autonomous Driving Funded by National Research Foundation of Korea [2019R1A2C4070663, Grant: \$275,000; Primary-PI]	06/2019-02/2022
• Development of Privacy-Reinforcing Distributed Transfer-Iterative Learning Algorithm Funded by Ministry of Health and Welfare [HI19C0842, Grant: \$150,000; Co-PI]	07/2019–12/2021
• Virtual Presence in Moving Objects through 5G (PriMO-5G) Funded by Institute for ICT Promotion (IITP) [2018-0-00170, Grant: \$246,464; Co-PI]	06/2018-06/2021
Distributed Secure Platform for Scalable Clinical OMOP CDM Models Funded by Ministry of Health and Welfare [HI19C0572, Grant: \$90,000; Co-PI]	04/2019-12/2020
Network Engineering: Development and Application of Novel Data Science Driven	
Framework for Efficient Network Design	06/2017-05/2020
Funded by National Research Foundation of Korea (Basic Research Lab) [2017R1A4A1015675, Grant: \$150,000; Co-PI]	
• mmWave High-Speed Networking Platform Design for Next-Generation Convergence Services Funded by <i>National Research Foundation of Korea</i> [2016R1C1B1015406, Grant: \$150,000; Primary-PI] – Selected as Initial Innovation Lab [Grant: \$60,000]	06/2016-05/2019
• Feasibility Study of 60 GHz IEEE 802.11ad for Virtual Reality (VR) Platforms Funded by Institute for ICT Promotion (IITP) [Grant: \$33,333; Primary-PI]	04/2017–12/2017
Government-Funded Research Institute Projects	
Autonomous Intelligent COA Search Methods for Cyber-Attacks Funded by Agency for Defense Development (ADD) [UI210009XD, Grant: \$100,000; Primary-PI]	12/2021-11/2022
• Research on Intelligent Agent-based CPS Security and Reliability Funded by <i>Telecommunications Technology Association (TTA)</i> [Grant: \$48,000; Primary-PI]	05/2021-11/2021
Multi-GPU based Automotive HPC Platform Development	04/2020-10/2020
(A Development of Driving Decision Engine for Autonomous Driving using Driving Experience Info	
Funded by <i>Electronics and Telecommunications Research Institute</i> [19HS2720 (IITP 2017-0-00068), Grant: \$20	
• Cooperative Deep Reinforcement Learning for Online Game Multi-Agents	04/2020–08/2020
(Human-Agent Cooperation Algorithm Design in Multi-Agent Environment)	,
Funded by Electronics and Telecommunications Research Institute [19YE1400, Grant: \$28,000; Primary-PI]	
Verification Testbed Implementation for Privacy-Preserving Trust Data Generation	10/2019-11/2019
Funded by Electronics and Telecommunications Research Institute [Grant: \$44,000; Co-PI]	
 Measurement and Analysis of Multi-Task GPU Scheduling Delays 	05/2019-10/2019
(A Development of Driving Decision Engine for Autonomous Driving using Driving Experience Info	ormation)
Funded by Electronics and Telecommunications Research Institute [19HS2720 (IITP 2017-0-00068), Grant: \$40	
Probabilistic Decision Making and Econometric Methods for Micro-Grid	05/2017–04/2019
Funded by Korea Electric Power Corporation (KEPCO) Research Institute [R17XA05-41, Grant: \$143,128; Prin	
GPU Scheduling Performance Analysis under Queueing Delay Considerations	05/2018–10/2018
(A Development of Driving Decision Engine for Autonomous Driving using Driving Experience Info	
Funded by Electronics and Telecommunications Research Institute [18HS1420 (IITP 2017-0-00068), Grant: \$40	04/2018–10/2018
 Improving Massive Deep Learning Training via Computation and Communication Acceleration (Development of HPC System for Accelerating Large-Scale Deep Learning) 	04/2010-10/2010
Funded by <i>Electronics and Telecommunications Research Institute</i> [18HS1710 (IITP 2016-0-00087), Grant: \$30	1000 Primary-PII
• Parsing Techniques for Artificial Neural Network (ANN) Data Processing	09/2017–11/2017
(A Development of Driving Decision Engine for Autonomous Driving using Driving Experience Information States of the Property o	ormation)
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<u>University of Southern California (USC) – Viterbi School of Engineering (Ph.D. Research Projects)</u>	

• Video Aware Wireless Networks (VAWN) Research Program

Funded by Intel Labs, Verizon Wireless, and Cisco Systems; Under the guidance of Prof. Andreas F. Molisch (University of Southern California, USA) and Prof. Giuseppe Caire (Technische Universität Berlin, Germany)

60 GHz Real-Time Wireless Video Broadcasting

Supported by a Gift from *Disney Research Zürich*; Under the guidance of Prof. Andreas F. Molisch (University of Southern California, USA), Prof. Yafei Tian (Beihang Univ, China), and Dr. Stefan Mangold (Disney Research Zürich, Switzerland)

Selected Publications

- 5505+ Citations (H-index: 35+, i10-index 134+), obtained from Google Scholar Profile (as of November 26, 2022)
- Totally, 107 journals, https://sites.google.com/view/aimlab-kuee/publications/journals
 - 80 IEEE publications, among them, 48 publications are in IEEE Magazines and ComSoc/VTS Journals

Dissertation, Books, and Book Chapters

■ Ph.D. Dissertation

• Elements of Next-Generation Wireless Video Systems: Millimeter-Wave and Device-to-Device Algorithms Ph.D. Dissertation (Computer Science), University of Southern California (Los Angeles, California, USA, August 2014)

■ Books

• Fundamentals of 6G Communications and Networking, Springer, Month Year. (X. Lin, J. Zhang, Y. Liu, J. Kim)

■ Book Chapters

- Chapter 6. Dynamic Decision-Making for Stabilized Deep Learning Software Platforms, *Advances and Applications in Deep Learning*, IntechOpen, September 2020. (Editor: M.A. Aceves-Fernandez) (S. Park, D. Kim, J. Kim)
- Chapter 9. Device-to-Device Communications, *Towards 5G: Applications, Requirements and Candidate Technologies*, Wiley, January 2017. (Editors: R. Vannithamby, S. Talwar) (*A.F. Molisch, M. Ji, J. Kim, D. Burghal, A.S. Tehrani*)
- Chapter 19. Millimeter-Wave (mmWave) Medium Access Control: A Survey, Opportunities in 5G Networks: A Research and Development Perspective, CRC Press, April 2016. (Editor: F. Hu) (J. Kim)
- Chapter 17. Millimeter-Wave (mmWave) Radio Propagation Characteristics, *Opportunities in 5G Networks: A Research and Development Perspective*, CRC Press, April 2016. (Editor: F. Hu) (*J. Kim*)
- Chapter 22. Weighted Localized Clustering: A Coverage-Aware Reader Collision Arbitration Protocol in RFID Networks, Handbook on Mobile and Ubiquitous Computing: Status and Perspective, CRC Press, October 2012. (Editors: L.T. Yang, E. Syukur, S.W. Loke) (J. Kim, E. Kim, W. Lee, D. Kim, J. Choi, J. Jung, C.K. Shin)
- Coverage-Time Optimized Dynamic Clustering for Two-Tiered WM2Nets, Wireless Mesh Networking, McGraw-Hill, August 2008. (Editor: G. Aggelou) (J. Kim, W. Lee, E. Kim, T.K. Shih)

Selected Papers, i.e., IEEE Journals, Top-Tier Conferences, Awarded/Honored, and GLOBECOM/ICC/VTC

■ Quantum Deep Learning: Algorithms, Systems, and Applications

- [TNNLS] (Review) Stereoscopic Scalable Quantum Convolutional Neural Networks, *IEEE Transactions on Neural Networks and Learning Systems*. (H. Baek, W.J. Yun, J. Kim)
- [TNNLS] (Review) SlimQFL: Quantum Federated Learning using Slimmable Neural Networks, *IEEE Transactions on Neural Networks and Learning Systems*. (W.J. Yun, J.P. Kim, S. Jung, J. Park, M. Bennis, J. Kim)
- [TSMC] (Review) Projection Valued Measure-based Quantum Machine Learning for Multi-Class Classification, *IEEE Transactions on Systems, Man, and Cybernetics: Systems.* (W.J. Yun, H. Baek, J. Kim)
 - [SPL] (Review) Quantum Split Neural Network Learning using Cross-Channel Pooling, IEEE Signal Processing Letters. (W.J. Yun, H. Baek, J. Kim)
 - [SPL] (Review) Scalable Quantum Convolutional Neural Networks, *IEEE Signal Processing Letters*. (H. Baek, W.J. Yun, <u>J. Kim</u>)
- [ICML] (Review) International Conference on Machine Learning, July 2023. (W.J. Yun, H. Baek, J. Park, J. Kim)
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 - [CIKM'22] Hierarchical Reinforcement Learning using Gaussian Random Trajectory Generation in Autonomous Furniture Assembly, ACM Conference on Information and Knowledge Management, October 2022. (W.J. Yun, D. Mohaisen, S. Jung, J.-K. Kim, J. Kim)
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 - [Access'21.09] Spatio-Temporal Split Learning for Privacy-Preserving Medical Platforms: Case Studies with COVID-19 CT, X-Ray, and Cholesterol Data, *IEEE Access*, 9:121046–121059, September 2021. (Y.J. Ha, M. Yoo, G. Lee, S. Jung, S. Choi, J. Kim, S. Yoo)
 - [DSN'21] Spatio-Temporal Split Learning, IEEE/IFIP DSN Supplemental Volume, June 2021. (S. Park, S. Jung, M. Choi, J. Kim)
 - [ISJ'21.03] Multiscale LSTM-Based Deep Learning for Very-Short-Term Photovoltaic Power Generation Forecasting in Smart City Energy Management, *IEEE Systems Journal*, 15(1):346–354, March 2021. (D. Kim, D. Kwon, L. Park, <u>I. Kim</u>, S. Cho)
 - [ICML'20] XOR Mixup: Privacy-Preserving Data Augmentation for One-Shot Federated Learning, ICML Workshop on Federated Learning for User Privacy and Data Confidentiality, July 2020. (M. Shin, C. Hwang, J. Kim, J. Park, M. Bennis, S.-L. Kim)
 - [TII'20.05] Cooperative Management for PV/ESS-Enabled Electric-Vehicle Charging Stations: A Multiagent Deep Reinforcement Learning Approach, *IEEE Transactions on Industrial Informatics*, 16(5):3493–3503, May 2020. (M. Shin, D. Choi, J. Kim)
 - [ICCV'19] Deep Multi-modal Unsupervised Pen Pressure Stylization, IEEE/CVF ICCV Demo, November 2019. (D. Kim, J. Kim)
 - [IJCAI'19] Randomized Adversarial Imitation Learning for Autonomous Driving, International Joint Conference on Aritificial Intelligence, August 2019. (M. Shin, J. Kim) (Acceptance Ratio: 17.89% (850/4,752))
 - [DSN'19] Privacy-Preserving Deep Learning Computation for Geo-Distributed Medical Big-Data Platforms, IEEE/IFIP DSN Supplemental Volume, June 2019. (J. Jeon, J. Kim, J. Kim, K. Kim, A. Mohaisen, J.-K. Kim)
 - [ICML'19] Adversarial Imitation Learning via Random Search in Lane Change Decision-Making, ICML Workshop on AI for Autonomous Driving, June 2019. (M. Shin, J. Kim)
 - [TIE'19.02] Joint Geometric Unsupervised Learning and Truthful Auction for Local Energy Market, *IEEE Transactions on Industrial Electronics*, 66(2):1499–1508, February 2019. (*L. Park, S. Jeong, J. Kim, S. Cho*)
 - [MobiSys'18] Neural Network Syntax Analyzer for Embedded Standardized Deep Learning, ACM MobiSys Workshop on Embedded and Mobile Deep Learning, June 2018. (M. Shin, J. Kim, A. Mohaisen, J.Park, K.H. Lee)
 - [Access'18.05] Soft Memory Box: A Virtual Shared Memory Framework for Fast Deep Neural Network Training in Distributed High Performance Computing, *IEEE Access*, 6:26493–26504, May 2018. (S. Ahn, J. Kim, E. Lim, S. Kang)
 - [TII'17.12] Residential Demand Response for Renewable Energy Resources in Smart Grid Systems, *IEEE Transactions on Industrial Informatics*, 13(6):3165–3173, December 2017. (*L. Park, Y. Jang, S. Cho, J. Kim*)
 - [TII'15.12] Energy-Efficient Dynamic Packet Downloading for Medical IoT Platforms, *IEEE Transactions on Industrial Informatics*, 11(6):1653–1659, December 2015. (*J. Kim*)
 - [TSMC'15.11] Stochastic Decision Making for Adaptive Crowdsourcing in Medical Big-Data Platforms, *IEEE Transactions on Systems*, *Man, and Cybernetics: Systems*, 45(11):1471–1476, November 2015. (*J. Kim, W. Lee*)

Patents (Granted), totally, 65

- 21 US Patents: (US 10637154), (US 9973364), (US 9887755), (US 9786985), (US 9167562), (US 8842640), (US 8761063), (US 8738068), (US 8619741), (US 8605634), (US 8599731), (US 8565200), (US 8547889), (US 8503317), (US 8493949), (US 8493948), (US 8483171), (US 8422372), (US 8416782), (US 8411644), (US 8379612)
- 20 Korean Patents: (KR 102444449), (KR 102442891), (KR 102433897), (KR 102370599), (KR 102340895), (KR 102293287), (KR 102244380), (KR 102240442), (KR 102240425), (KR 102234007), (KR 102178895), (KR 102167344), (KR 102052835), (KR 102015429), (KR 101663613), (KR 101619964), (KR 101606951), (KR 101567829), (KR 101558017), (KR 100779165)

- 7 European Patents: (EP 3255730), (EP 2441203), (EP 2422578), (EP 2343836), (EP 2282601), (EP 2262342), (EP 2260669)
- 11 Chinese Patents: (CN 107634349), (CN 102461318), (CN 102461050), (CN 102388658), (CN 102349340), (CN 102342162), (CN 102318430), (CN 102318425), (CN 102204115), (CN 102132602), (CN 102057739)
- 6 Japanese Patents: (JP 5584209), (JP 5584205), (JP 5580308), (JP 5508403), (JP 5368573), (JP 5364785)

Teaching Experience, Research Supervision, and Professional Activities

Teaching Experience

- Korea University Graduate Courses, Faculty Member
 - IT R&D Policies 1 (ECE723): Fall 2020
 - Design and Analysis of Wireless Communication Systems (ECE721): Spring 2021
 - Advanced Network Theory (ECE657): Fall 2022
 - Smart Mobile Platform (ECE654): Fall 2021, Fall 2020, Fall 2019
 - Advanced Topics in Socialware IT (ECE545): Spring 2022
 - Wireless and Mobile Networks (ECE522): Spring 2020
 - Wireless Network 2 (ITH525) Fall 2022
 - Wireless Network 1 (ITH524) Spring 2021

■ Korea University – Undergraduate Courses, Faculty Member

- Introduction to Artificial Intelligence (IWC420): Winter 2021 (12/2021–01/2022)
- Data Communications (KECE316): Fall 2020
- Digital System Design and Laboratory (KECE210): Fall 2020
- Probability and Random Process (KECE209): Spring 2022 (Best Teaching Award, Top 20%), Spring 2021 (Best Teaching Award, Top 20%), Spring 2020
- Digital System (KECE207): Spring 2020
- Computer Language and Laboratory (EGRN151): Fall 2022, Fall 2021 (Granite Tower Best Teaching Award, Top 5%), Fall 2020 (Best Teaching Award, Top 20%), Fall 2019 (Granite Tower Best Teaching Award, Top 5%)
- Object-Oriented Programming (SEMI104): Fall 2021 (Best Teaching Award, Top 20%)
- Introduction to Computers (SEMI103): Spring 2021 (Granite Tower Best Teaching Award, Top 5%)
- Future Mobility Technology (GEQR075): Spring 2022 (Granite Tower Best Teaching Award, Top 5%)

■ Chung-Ang University – College of Computer Science and Software, Faculty Member

- Optimal Design Theory and Applications (Graduate): Spring 2019, Spring 2018, Spring 2017
- Topics in Computer Science and Engineering (Graduate): Fall 2018, Fall 2017, Fall 2016
- Numerical Analysis (Undergraduate): Spring 2019
- Compiler Design (Undergraduate): Spring 2019, Spring 2018, Spring 2017
- Principles of Programming Languages (Undergraduate): Fall 2018, Fall 2017, Fall 2016
- Algorithm Analysis (Undergraduate): Fall 2016
- Operating Systems (Undergraduate): Spring 2017, Spring 2016
- Calculus (Undergraduate): Spring 2017, Spring 2016
- Mobile Application Development (Undergraduate): Fall 2018, Fall 2017

■ University of Southern California – Viterbi School of Engineering, Teaching Assistant

- Wireless and Mobile Networks Design and Lab [EE579] (Spring 2013), Lectured by Professor Murali Annavaram Graduate Course dedicated to Android Mobile Platform Research and Programming
- Programming Systems Design [CSci455x] (Spring 2012, Fall 2012)
 Undergraduate Course dedicated to Object-Oriented Programming (Java and C++) and Advanced Data Structures

Research Collaboration and Supervision

■ Postdoctoral Scholars

- Dr. Minseok Choi (09/2018–02/2019), Professor at Kyung Hee University, Yongin, Korea Jointly with University of Southern California (co-advised by Prof. Andreas F. Molisch)
- Dr. Soyi Jung (03/2021–08/2021), Professor at Ajou University, Suwon, Korea
 Jointly with University of California at Irvine (co-advised by Prof. Marco Levorato)
- Dr. Ju-Hyung Lee (08/2021–), Postdoctoral Visiting Scholar at University of Southern California (co-advised by Prof. Andreas F. Molisch)

■ Ph.D. Course Students and Alumni

- Soohyun Park (03/2019–08/2023 (expected)), Postdoctoral Scholar at Korea University, Seoul, Korea
- Haemin Lee (09/2020–02/2024 (expected)), Postdoctoral Scholar at Yonsei University, Seoul, Korea
- Won Joon Yun (03/2021–08/2024 (expected))
- Hankyul Baek (03/2021–08/2024 (expected)), Postdoctoral Scholar at Korea University, Seoul, Korea
- Hyunsoo Lee (03/2021–)
- Chanyoung Park (09/2022–)
- Gyu Seon Kim (03/2023–)

■ Ph.D. Course Students and Alumni (Tight Collaboration for Ph.D. Dissertation)

- Minseok Choi (Advisor: Prof. Jaekyun Moon at KAIST), Professor at Kyung Hee University, Yongin, Korea
- Laihyuk Park (Advisor: Prof. Sungrae Cho at CAU), Professor at Seoul National University of Science and Technology, Seoul, Korea
- Seungyo Ryu (Advisor: Prof. Dongseung Kim at Korea University), Researcher at LG Electronics, Changwon, Korea
- Soyi Jung (Advisor: Prof. Jae-Hyun Kim at Ajou University), Professor at Ajou University, Suwon, Korea

■ M.S. Course Students and Alumni

- Kyeongseon Kim (09/2017–08/2019), Researcher at Upstage, Seongnam, Korea
- Dohyun Kwon (03/2018–02/2020), Researcher at Hyundai Motors Group, Uiwang, Korea

- Dohyun Kim (03/2018–02/2020), Researcher at Naver Corporation, Seongnam, Korea
- MyungJae Shin (03/2018–02/2020), Engineer at mofl (startup), Daejeon, Korea
- Jaeho Choi (03/2019-02/2021), Researcher (Military Service Exception) at Korea Meteorological Administration, Seoul, Korea
- Youngkee Kim (03/2021–02/2023), Researcher at Korea Electronics Technology Institute (KETI), Seoul, Korea
- Minjae Yoo (03/2021–)
- Seok Bin Son (03/2022-)
- Jae Pyoung Kim (03/2023–)

■ Intel Corporation (Santa Clara, California, USA), Graduate Interns

- Minseok Choi, Ph.D. in EE from KAIST (02/2016–07/2016), now with Kyung Hee University, Yongin, Korea
- Hidekazu Shimodaira, Ph.D. in EEE from Tokyo Institute of Technology (07/2015–12/2015), now with NTT DOCOMO, Tokyo, Japan

■ USC Viterbi School of Engineering (Los Angeles, California, USA), Graduate Students

- Feivu Meng, M.S. in EE from USC (Summer 2013, Fall 2013), now with Apple, Silicon Valley, CA, USA
- Vivek Sankaravadivel, M.S. in EE from USC (Spring 2011, Fall 2011), now with Uber, Silicon Valley, CA, USA

Talks and Presentations (Selected)

■ IEEE Distinguished Lectures

Federated Learning for Medical and Mobile Platforms: Motivation, Challenges, and Potential Solutions
 California State University, Long Beach (Long Beach, CA, USA, 01/2020), Hosted by Prof. Sean Kwon and Prof. Henry Yeh IEEE Systems Council – IEEE Coastal Los Angeles Section Chapter

■ IEEE Conference Tutorials and Special Session Talks

- IEEE ICUFN 2022 Tutorial (Barcelona, Spain, 07/2022), A Paradigm Shift in Future Networks with Quantum Deep Learning
- IEEE ICOIN 2022 Tutorial (Online, 01/2022), Advanced Deep Learning Methods for Autonomous Mobility
- IEEE ICUFN 2021 Tutorial (Jeju, Korea, 08/2021), Distributed and Split Deep Learning: Theory and Applications
- IEEE ICAIIC 2021 Tutorial (Online, 04/2021), Multi-Agent Deep Reinforcement Learning for Connected and Autonomous Vehicles
- IEEE ICTC 2019 Special Session Talk (Jeju, Korea, 10/2019), Advanced Deep Learning Methods and Their Applications to Distributed and Network Platforms
- IEEE ICOIN 2019 Tutorial (Kuala Lumpur, Malaysia, 01/2019), Distributed Platform Research for Emerging Deep Learning Applications
- IEEE ICC 2018 Tutorial (Kansas City, MO, USA, 05/2018), Securing the Internet of Things: A Machine Learning Approach (Making Machine Learning Practical), Joint Presentation wih Prof. Aziz Mohaisen (University of Central Florida, Orlando, FL, USA)

■ Korean (Local) Conference Tutorials and Special Session Talks

- 2022 KIPS Fall Conference Tutorial (Chuncheon, 11/2022), Quantum Deep Learning Basics
- 2022 Korea A.I. Conference Tutorial (Jeju, 09/2022), Trends in Deep Reinforcement Learning
- 2022 KICS Summer Conference Tutorial (Jeju, 06/2022), Quantum Multi-Agent Deep Reinforcement Learning
- 2022 KIEES Winner Conference Tutorial (Online, 02/2022), Deep Learning Theory and Implementation
- 2021 Korea A.I. Conference Tutorial (Jeju, 09/2021), Understanding the Potential Risks of Sharing Elevation Information on Fitness Applications
- 2021 JCCI Mobile Machine Learning Special Session (Online, 04/2021), Multi-Agent Deep Reinforcement Learning for Autonomous Vehicles
- 2020 Korea A.I. Conference Tutorial (Jeju, 12/2020), Randomized Adversarial Imitation Learning for Autonomous Driving
- 2020 KICS Fall Conference Tutorial (Seoul, 11/2020), Trends in Multi-Agent Deep Reinforcement Learning for Distributed Computing
- 2020 KICS Summer Conference Tutorial (Jeju, 08/2020), Deep Learning Computation for Economic Theory and Its Applications
- 2020 KICS Winter Conference Tutorial (Kangwon, 02/2020), Deep Learning Applications to Computer Networking
- 2020 KICS Winter Conference Tutorial (Kangwon, 02/2020), Deep Neural Network Basics
- 2019 KICS Fall Conference Special Session Talk (Seoul, 11/2019), AI Methods for Network and Mobility Platform
- 2019 IEEK Hyundai Motors Special Session (Jeju, 06/2019), Explainable AI (XAI) and Imitation Learning for Automotive Applications
- 2019 KIPS Spring Conference Tutorial (Seoul, 05/2019), Deep Learning Basics and Representative Models
- 2019 KICS Winter Conference Tutorial (Kangwon, 01/2019), Deep Learning Methods for Advanced Network
- 2017 KICS Summer Conference Tutorial (Jeju, 06/2017), GPU Computing Platforms and Software for Deep Learning
- 2017 KCC Summer Conference Special Session (Jeju, 06/2017), Dynamic Control and Software for Next-Generation Distributed Platforms
- 2017 KICS Winter Conference Tutorial (Kangwon, 01/2017), Machine Learning Techniques for Mobile Computing

■ Industry Presentations (Selected)

- <u>International:</u> Huawei Research Center (Text-Aware Image Understanding Workshop) (Online, 11/2021), Ericsson-LG (R&D Hackathon / AI Learning Challenge Keynote Speech) (Seoul, Korea, 05/2021), Huawei Research Center (Deep Learning/Machine Learning for Computer Vision) (Online, 09/2020), Huawei Research Center (Fundamental and Applied Problems of Machine Learning) (Nizhny Novgorod, Russia, 12/2019), City University of Hong Kong (Hong Kong, 11/2018), Intel Communications and Devices Group (iCDG) [Cellular Modem TechTalk] (Santa Clara, CA, USA, 01/2016), Nokia Research Center at Berkeley (Berkeley, CA, USA, 08/2014), Qualcomm Research Center (San Diego, CA, USA, 02/2014)
- <u>Korea:</u> Korea Meteorological Administration (Seoul), SK Telecom (SKT) (Seoul), SK Hynix (Icheon), Naver Labs Robotics Lab (Pankyo), ETRI (Daejeon), KT AI Tech Center (Seoul), LG Electronics (Seoul), Posco ICT (Pankyo), LG U+ (Seoul), SK Broadband (Seoul), Korea Electronics Technology Institute (KETI) (Pankyo), Korea Electric Power Corporation (KEPCO) Research Institute (Daejeon), Samsung Electronics Memory Business (Hwasung)

■ Prototyping at Industry Exhibitios

- Mobile Edge mmWave Backhaul and Access; Mobile World Congress (MWC) 2016 (Barcelona, Spain, 02/2016)
- mmWave MAA Client Access & Backhaul Platform; Intel 360 degree 2016 (Anaheim, CA, 02/2016)
- mmWave Modular Antenna Array Client Access & Backhaul Platform; Intel Asia Innovation Summit 2015 (Taipei, Taiwan, 10/2015)
- Enabling 5G Densification; Intel Developer Forum (IDF) 2015 (San Francisco, CA, USA, 08/2015)
- Enabling 5G Densification; Intel Design and Test Technology Conference (DTTC) 2015 (Portland, OR, USA, 08/2015)
- Enabling 5G Densification; Mobile World Congress (MWC) 2015 (Barcelona, Spain, 03/2015)

■ Demonstration at Academic Conferences

Quantum Multi-Agent Reinforcement Learning via Variational Quantum Circuit Design; IEEE ICDCS 2022 (Bologna, Italy, 07/2022)

- Visualization of Deep Reinforcement Autonomous Aerial Mobility Learning Simulations; IEEE INFOCOM 2021 (Online, 05/2021)
- Deep Multi-modal Unsupervised Pen Pressure Stylization; IEEE/CVF ICCV 2019 (Seoul, Korea, 11/2019)
- Light-Weight Programming Language for Blockchain; ACM MobiSys 2019 (Seoul, Korea, 06/2019)
- mmWave MAA Client Access & Backhaul Platform; IEEE GLOBECOM 2015 (Industry Demonstration ID-14) (San Diego, CA, 12/2015)
- mmWave Modular Antenna Array for Next-Generation Wireless Networks; IEEE GLOBECOM 2014 (Expo) (Austin, TX, USA, 12/2014)
- Adaptive Video Streaming for Device-to-Device Mobile Platforms; ACM MobiCom 2013 (Miami, FL, USA, 10/2013)

Conference Activities and Services

■ Organizing Committee (OC) Activities

- IEEE WiOpt: 2022 (Organizer, Caching, Computing and Delivery in Wireless Networks Workshop (CCDWN))
- IEEE GLOBECOM: 2015 (Organizer, Workshop on Millimeter-Wave Backhaul and Access (mmWave))
- IEEE ICC: 2022 (Patronage Chair)
- IEEE ICTC: 2022 (TPC Vice Chair for Administration, a.k.a., Secretary), 2021 (Workshop Organizer, Workshop on KU-AIER (Korea University, A.I. Engineering Research)), 2021 (Secretary), 2020 (Secretary), 2020 (Special Session Organizing Chair, Special Session on KU-AIER (Korea University, A.I. Engineering Research), 2019 (Secretary), 2018 (Secretary)
- IEEE ICUFN: 2022 (Workshop Chair), 2021 (Workshop Chair), 2021 (Workshop Organizing Chair, Artificial Intelligence Emerging Applications (AIEA) Workshop)
- IEEE ICAIIC: 2019 (Publication Chair)
- IEEE VTS APWCS: 2022 (Finance Chair), 2021 (Finance Co-Chair), 2017 (Publication Vice Chair)
- IEEE ICOIN: 2023 (Workshop Co-Chair), 2023 (Workshop Organizing Chair, Workshop on Artificial Intelligence and Mobility), 2022 (Workshop Organizing Chair, Workshop on Artificial Intelligence and Mobility), 2021 (Workshop Organizing Chair, Workshop on Artificial Intelligence and Mobility)
- IEEE ICASSP: 2018 (Special Session Organizing Chair, Special Session on Cybersecurity and Privacy)
- IEEE APCC: 2022 (Local Arrangement Chair)
- IEEE ICEIC: 2021 (Local Arrangement Chair)
- ACM CoNEXT: 2019 (Poster Session Chair)

■ Technical Program Committee (TPC) Chair-Level Activities

- CCNC: 2022 (Track Chair for T7 (Security, Privacy and Content Protection))
- ICTC: 2022 (TPC Vice Chair for Administration)
- ICAIIC: 2023 (TPC Co-Chair), 2022 (TPC Co-Chair), 2021 (TPC Co-Chair), 2020 (TPC Co-Chair), 2019 (TPC Co-Chair)
- ICOIN: 2021 (TPC Vice Chair), 2020 (TPC Vice Chair), 2019 (TPC Vice Chair), 2018 (TPC Vice Chair)
- NAS: 2019 (Track Co-Chair for Network Track)
- GLOBECOM: 2015 (TPC Chair for the Workshop on Millimeter-Wave Backhaul and Access)

■ Technical Program Committee (TPC) Non-Chair-Level Activities

- 2023: ICC (Wireless Communications Symposium), ICC (Integrated Sensing and Communication Track), ICC (Reconfigurable Intelligent Surfaces and Smart Environments Track), WCNC, ICOIN, IE
- 2022: GLOBECOM (Selected Areas in Communications Machine Learning for Communications), MASS, ICC (Wireless Communications Symposium), WCNC, VTC-Fall, COMNETSAT, ICAIIC, ICTC, ICUFN, ICOIN, IPDPS (Heterogeneity in Computing Workshop), ICCC, WCSP, CyberneticsCom, ICEIC, MSN (Track 3: Security, Privacy, Trust, and Blockchain), ICNGC
- 2021: GLOBECOM (Selected Areas in Communications Machine Learning for Communications), GLOBECOM (IoTSN), ICC (Wireless Communications Symposium), ICCCN, MSN, COMNETSAT, ICTC, ICTC (Workshop on Intelligent 6G Communication Systems), ICTC (Workshop on KU-AIER (Korea University, A.I. Engineering Research)), WCNC, ICCC, IGESSC, ICAIIC, ICUFN, ICOIN, MASS, EuCAP, ICEIC, ICNGC, ITC-CSCC
- 2020: GLOBECOM (Ad-hoc and Sensor Networks Symposium), ICTC, WCNC, WCNC (Workshop on Aerial Communications in 5G and Beyond Networks), IGESSC, ICUFN, ICOIN, Blockchain, ICCC, COMNETSAT
- 2019: ICTC, ICCC, IGESSC, ICUFN, VTC-Spring, ICDCS (Distributed Green Computing & Energy Management), NAS (Network Track), Blockchain, MobiHoc, EuCAP, IE, WISA, SecureComm, ICPADS (Security & Dependable Computing)
- 2018: ICTC, IGESSC, ICUFN, WCSP, APWCS, ICOIN, AsiaCCS (Workshop on Security in Cloud Computing), SigTelCom, ATC, IE
- **2017:** ICUFN, ICTC, IE
- 2016: ICUFN, VTC-Spring
- 2015: VTC-Spring, EuCAP
- 2014: VTC-Fall
- 2012: MASS (Workshop on Internet of Things Technology and Architectures)

References

- Prof. Andreas F. Molisch (Fellow of the IEEE), Ph.D. Research and Dissertation Advisor
 - Solomon Golomb Andrew and Erna Viterbi Chair at the University of Southern California (Los Angeles, California, USA)
 - Professor of Electrical and Computer Engineering at the University of Southern California (Los Angeles, California, USA)
 - URL: https://wides.usc.edu/founder.html