Joongheon Kim

Associate Professor, Korea University – School of Electrical Engineering, Seoul, Republic of Korea

- Director, Net-Zero CAFE (Connectivity and Autonomy for Future Ecosystem) Research Center (ITRC)
 - E-mail: joongheon@korea.ac.kr WWW: https://joongheon.github.io

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, Department of Electrical Engineering)
- M.S. (05/2014) in Computer Science with specialization in High Performance Computing and Simulations
- M.S. (05/2012) in **Electrical Engineering**
- Korea University College of Informatics

Seoul, Republic of Korea

- M.S. (03/2004–02/2006) in **Computer Science and Engineering** (Advisor: Prof. Wonjun Lee)
- B.S. (03/1999–02/2004) in Computer Science and Engineering

Professional Affiliations

• Korea University, Associate Professor (03/2021–), School of Electrical Engineering

Seoul, Korea

Assistant Professor (09/2019–02/2021), School of Electrical Engineering

Adjunct Professor (03/2023–02/2028), Department of Communications Engineering (Samsung Electronics)

Adjunct Professor (11/2022–02/2028), Department of Future Science and Technology Business

Adjunct Professor (03/2021–02/2026), Department of Semiconductor Engineering (SK Hynix)

Director (07/2024–12/2031), Net-Zero CAFE Research Center (University ICT Research Center (ITRC))

Vice Department Chair (01/2025–08/2025), Academic Affairs, School of Electrical Engineering

Deputy Vice President (02/2022–08/2024), Office of Academic Affairs

Dean (06/2021–08/2023), Center for Teaching and Learning (CTL)

- Chung-Ang University, Assistant Professor (03/2016–08/2019), School of Computer Science and Engineering Seoul, Korea
- Intel Corporation, Systems Engineer (09/2013–02/2016), Platform Engineering Group Santa Clara (Silicon Valley), CA, USA
- University of Southern California, Ph.D. Student (08/2009–08/2014), Computer Science Los Angeles, CA, USA Annenberg Graduate Fellow (2009), 4-Year Full Scholarship for Ph.D. in Computer Science

Research Assistant (01/2011–08/2014), Communication Sciences Institute (CSI)

Teaching Assistant (01/2012–05/2013), Viterbi School of Engineering

• InterDigital, Intern (05/2012–08/2012), Wireless Systems Evolution Department

- San Diego, CA, USA
- LG Electronics, Research Engineer (01/2006–08/2009), CTO/Multimedia Research Lab, Seocho R&D Campus Seoul, Korea

Awards and Honors

Research and Academic Excellence (International)

• Certificate of Appreciation – IEEE/IFIP WiOpt (2024)	10/2024
• Best Editor Award – ICT Express (Elsevier)	07/2023
• Finalist (Top 25), AAAI Student Abstract and Poster Session – Oral Presentation Contest	02/2023
• IEEE ICTC Best Paper Award – IEEE Communications Society	10/2022
• Spotlight, Oral Presentation – ICML Workshop on Dynamic Neural Networks (2022)	07/2022
• IEEE MMTC Best Journal Paper Award – IEEE Communications Society	2021
• IEEE ICOIN Best Paper Award – IEEE Computer Society	01/2021
• IEEE MMTC Outstanding Young Researcher Award – IEEE Communications Society	2020
• IEEE Systems Journal Best Paper Award – IEEE Systems Council	2020
• Next Generation and Standards (NGS) Division Recognition Award – Intel Corporation	Q1/2015
Annenberg Graduate Fellowship Award – University of Southern California	2009-2013

Annenberg Graduate Fellowship Award – University of Southern California Awarded with Ph.D. Admission: 4 Year Full Scholarship (Tuition Waiver and \$120,000 Stipend (\$30,000/year for 4 years))

2024 (Bronze), 2024 (Bronze), 2023 (Bronze), 2020 (Bronze), 2019 (Gold) • IEEE Seoul Section Student Paper Contest

• IEEE VTS Seoul Chapter Award – IEEE Vehicular Technology Society

2022, 2023, 2022, 2021, 2021, 2019

Research and Academic Excellence (Korea Regional) • Roct Paper Award The Journal of KICS - KICS

•	Dest raper Award, The jo	urnar of Ries - Ries	
•	HFR Paper Award (Area: 0	Quantum Technologies and Quantum Communications) – KICS	

11/2024 11/2023

• Korea Electronics Technology Institute (KETI) President Award – KICS

06/2023

Haedong Paper Award – KICS

02/2023, 06/2021

• Haedong Young Scholar Award – KICS and Haedong Foundation For recognizing a researcher under the age of 40 who has made outstanding contributions to IT R&D

01/2008

12/2018

• Outstanding Paper Award – LG Electronics CTO Office, Multimedia Research Laboratory

10/2007

• RFID Expert Group President Award – The 3rd RFID/USN Research Paper Contest

 ETRI President Award – The 2nd RFID/USN Research Paper Contest Korea Association of RFID/USN (KARUS) President Award – The 1st RFID/USN Research Paper Contest Scholarships for Academic Excellence – Korea University (Computer Science and Engineering) 	11/2006 10/2005 all 2000, Fall 1999
 Korea University Granite Tower Best Research Award (Top 3%) – Korea University 	06/2025
 For recognizing top 3% research achievement among Korea University faculty members in 2024 Best Research Achievement Award –Korea University, School of Electrical Engineering Insung Research Grant Award (Top 5%) – Korea University For recognizing professors in top 5% research excellence during the first 3 years at Korea University Granite Tower Best Teaching Award (Top 5%) Spring 2024, Spring 2022, Fall 2021, Spring 2021, Spring 2022, Fall 2021, Fall 2021, Spring 2022, Fall 2021, Spring 2022, Fall 2021, Fall 2	03/2025 01/2023
• Best Teaching Award (Top 20%) Spring 2024, Spring 2024, Spring 2022, Fall 2021, Spring 2024, S	0
<u>Academic and University Services</u> • Outstanding Contribution Award – KICS	2024, 2021, 2019
 Outstanding Contribution Award – KIISE Information Network Society 2022 Best Chapter Award, IEEE Vehicular Technology Society Chapter, Awarded as a Treasure Outstanding Contribution Award – Open Standards and ICT Association (OSIA) Appreciation Recognition – Daegu Gyeongbuk Institute of Science and Technology (DGIST) Fellow Employee Recognition [#3081146] – Intel Corporation Certificate of Appreciation – Department of Computer Science, University of Southern California 	2023, 2022 2022 2021 2021 2014 2010
R&D Projects	
 Nano UAV Intelligence Systems Research Lab (10/2020–08/2023) ADD Military Special Research Center 5G/Unmanned Vehicle Research Center (5G/UV-RC) (06/2020–12/2022) Human Resource Development for the Biomedical Unstructured Big Data Analysis (08/2018–12/2021) ITRC Novel Data Science Driven Framework for Efficient Network Design (06/2017–05/2020) Basic Research Lentelligent Internet of Energy (IoE) Data Research Center (02/2020–05/2020) Industry-Funded Projects Advancement Technology Development for Torpedo Deception Strategies in Submarines (11/2022–11/2026) Advancement Tech Dev for Submarine Target Identification and Engagement Support Intelligence (11/2022–11/2020) Mapping between Real World and VR for End-Edged Cloud Real-Time VR Servers (09/2020–09/2025) Research on Learning-based Swarm Mission Planning Algorithms (03/2024–02/2025) Quantum Machine Learning-based Objection Detection for Point Cloud and its Acceleration (12/2022–04/2024) Routing Algorithms for LEO Satellite Networks (12/2022–08/2023) Optimal Positioning Algorithms for Wide-Area Relaying Networks (12/2022–08/2023) 	ter (Korea Univ) earch Lab (Ajou) er (Kwangwoon) ITRC (Hanyang) C (SNU-Hospital) Lab (Chung-Ang) ITRC (Kookmin) LIG Nex1 26) LIG Nex1 sung Electronics LIG Nex1 Hyundai Motors Solvit System
	Hyundai NGV Cipherome Samsung SDS ectronics (C-Lab) Hyundai Motors
,	ftware Star-Lab)
 Quantum-Empowered Spatio-Temporal Multi-Scale Digital Twin System (03/2025–02/2028) 6GARROW: 6G AI-Native Integrated RAN-Core Networks (09/2024–08/2027) AI Bots Collaborative Platform and Self-Organizing Artificial Intelligence Technology Development (04/2022–12/2 Development of Integrated Development Framework that supports Automatic Neural Network Generation and Dept for Runtime Environment (04/2021–12/2025) Quantum Hyper-Driving: Quantum-Inspired Hyper-Connected and Hyper-Sensing Autonomous Mobility (03/202 Korea-Japan Joint Seminar Project for Generative and Multi-Modal AI Technologies (10/2023–09/2024) Integrated Perception Technology Developments for Public Safety Platforms (06/2019–05/2023) Development of Quantum Deep Reinforcement Learning Algorithm using QAOA (10/2019–04/2022) mmWave Radar and Deep Reinforcement Learning based Optimal Policy Autonomous Driving (06/2019–02/2022) Development of Privacy-Reinforcing Distributed Transfer-Iterative Learning Algorithm (07/2019–12/2021) Virtual Presence in Moving Objects through 5G (PriMO-5G) (06/2018–06/2021) Distributed Secure Platform for Scalable Clinical OMOP CDM Models (04/2019–12/2020) 	NRF IITP 2026) IITP loyment optimized IITP 22–02/2025) NRF NRF NRF

• Feasibility Study of 60 GHz IEEE 802.11ad for Virtual Reality (VR) Platforms (04/2017–12/2017)	IITP
Government-Funded Research Institute Projects	
• LEO Satellite Routing Research using Large Language Model and Reinforcement Learning (05/2025–11/2025)	ETRI
• Research on Generative Quantum Machine Learning Models (04/2025–10/2025) ETRI Affiliated Resea	rch Institute
• Quantum Reinforcement Learning for Satellite Backhaul Routing in Disaster Networks (05/2024–11/2024)	ETRI
• NOMA-based Resource Allocation Research in Space-Air-Ground Integrated Networks (09/2023–11/2023)	ETRI
• Autonomous Intelligent COA Search Methods for Cyber-Attacks (12/2021–11/2022)	ADD
• Research on Intelligent Agent-based CPS Security and Reliability (04/2021–11/2021)	TTA
• Multi-GPU based Automotive HPC Platform Development (04/2020–10/2020)	ETRI
• Cooperative Deep Reinforcement Learning for Online Game Multi-Agents (04/2020–08/2020)	ETRI
• Verification Testbed Implementation for Privacy-Preserving Trust Data Generation (10/2019–11/2019)	ETRI
 Measurement and Analysis of Multi-Task GPU Scheduling Delays (05/2019–10/2019) 	ETRI
• Probabilistic Decision Making and Econometric Methods for Micro-Grid (05/2017–04/2019) KEPCO Resea	rch Institute

mmWave High-Speed Networking Platform Design for Next-Generation Convergence Services (06/2016–05/2019)

University of Southern California, Selected Projects

• Video Aware Wireless Networks (VAWN) Research Program

Intel Labs, Verizon Wireless, Cisco Systems

Disney Research Zürich

NRF

ETRI

ETRI

ETRI

60 GHz Real-Time Wireless Video Broadcasting
 Annenberg Graduate Fellowship Award

University of Southern California

Korea University (KU), Selected Projects

AI Teaching Assistant Research for LLM-based Large-Scale Education (10/2024–02/2025)
 Autonomous Mobility Control using Quantum Deep Learning (03/2023–02/2024)
 Mobile Access Algorithm Design using Economic Theory and AI (03/2020–02/2021)
 KU University College KU University College
 KU Insung Research Grant
 KU Future Research Grant

Selected Publications

• 9872+ Citations (H-index: 49+, i10-index: 208+), obtained from Google Scholar Profile (as of June 26, 2025)

<u>Books</u>

• Fundamentals of 6G Communications and Networking, Springer (2023) (Editors: X. Lin, J. Zhang, Y. Liu, J. Kim)

GPU Scheduling Performance Analysis under Queueing Delay Considerations (05/2018–10/2018)

Parsing Techniques for Artificial Neural Network (ANN) Data Processing (09/2017–11/2017)

• Improving Massive Deep Learning Training via Computation and Communication Acceleration (04/2018–10/2018)

Selected Papers

■ Top-Tier Conferences: Quantum AI and Deep Learning

[NeurIPS'25] (Double Blind Review) (S. Oh, C. Im, S. Park, J. Kim)

[CIKM'25] (Double Blind Review) (E. J. Roh, C. Im, H. Baek, S. Park, J. Kim)

[CIKM'25] (Double Blind Review) (E. J. Roh, J. Kim)

[CIKM'25] (Double Blind Review) (S. B. Son, S. Y.-C. Chen, J. Kim, S. Park)

[CIKM'25] (Double Blind Review) (G. Youn, J. Lee, J. Kim, C. Yoo)

[IPDPS'25] AQUA: Hardware-Agnostic Qubit Allocation for Quantum Multi-Programming, (X. Piao, J. Shim, <u>J. Kim</u>, J. Kim)

[CIKM'24] Hands-On Introduction to Quantum Machine Learning, (S. Y.-C. Chen, J. Kim)

[CIKM'23] Quantum Split Learning for Privacy-Preserving Information Management, (S. Park, H. Baek, J. Kim)

[CIKM'23] Logarithmic Dimension Reduction for Quantum Neural Networks, (H. Baek, S. Park, J. Kim)

[AAAI'23] Quantum Multi-Agent Meta Reinforcement Learning, (W. Yun, J. Park, J. Kim)

[CIKM'22] Hierarchical Reinforcement Learning using Gaussian Random Trajectory Generation in Autonomous Furniture Assembly, (W. Yun, D. Mohaisen, S. Jung, J.-K. Kim, J. Kim)

[IJCAI'19] Randomized Adversarial Imitation Learning for Autonomous Driving, (M. Shin, J. Kim)

■ Top-Tier Conferences: Communications, Networks, and Mobility Control

[WiOpt'25] Stabilized Robust Control for Lightweight Autonomous Aircraft Mobility: A Quantum Reinforcement Learning Approach, (G. S. Kim, J. Chung, T. Q. Duong, S. Park, J. Kim)

[WiOpt'24] Advanced Taxiing Path Guidance using Multi-Agent Reinforcement Learning for Air Traffic Management, (S. Lee, G. S. Kim, S. Park, J. Kim)

[WiOpt'22] Cooperative Video Quality Adaptation for Delay-Sensitive Dynamic Streaming using Adaptive Super-Resolution, (M. Choi, W. Yun, J. Kim)

[INFOCOM'22] Joint Superposition Coding and Training for Federated Learning over Multi-Width Neural Networks, (H. Baek, W. Yun, Y. Kwak, S. Jung, M. Ji, M. Bennis, J. Park, J. Kim)

[ICDCS'20] Understanding the Potential Risks of Sharing Elevation Information on Fitness Applications, (Ü. Meteriz, N. F. Yildiran, <u>J. Kim</u>, D. Mohaisen)

[ICDCS'18] ShmCaffe: A Distributed Deep Learning Platform with Shared Memory Buffer for HPC Architecture, (S. Ahn, <u>I. Kim</u>, E. Lim, W. Choi, A. Mohaisen, S. Kang)

[MM'17] REQUEST: Seamless Dynamic Adaptive Streaming over HTTP for Multi-Homed Smartphone under Resource Constraints, (J. Koo, J. Yi, J. Kim, M. A. Hoque, S. Choi)

■ *Journals and Magazines* (totally, <u>147</u> publications; among them, <u>108</u> IEEE publications)

- [JS.accepted] Enhancing Quantum Distributed Learning with Infidelity Codistillation for Accurate and Fast Convergence, *The Journal of Supercomputing*, v:ppp-ppp (S. Oh, J. Kim, J. Park, H. Baek, H. Lee, J. Kim, S.-L. Kim)
- [MM.minor] Quantum Jump to Virtual Worlds: High-Quality Multiple Virtual Meta-Space Realization in Metaverse, *IEEE Multimedia*, (Minor Revision) (S. Park, J. Kim)
- [TIV.accepted] Adaptive Quantum Federated Learning for Autonomous Surveillance Multi-Drone Networks, *IEEE Transactions on Intelligent Vehicles*, v(n):ppp-ppp (S. Park, C. Park, S. Jung, J. Kim)
- [TASE.accepted] (Double Blind Review), IEEE Transactions on Automation Science and Engineering, (Conditionally Accepted) (M. Shin, J. Cho, J. Kim, S. Jung)
 - [TON'25.10] Slimmable Federated Reinforcement Learning for Energy-Efficient Proactive Caching, *IEEE Transactions on Networking*, 33(5):ppp–ppp (H. Baek, G. S. Kim, S. Park, A. F. Molisch, J. Kim)
 - [ESWA'25.09] Correlation-Assisted Spatio-Temporal Reinforcement Learning for Stock Revenue Maximization, Expert Systems with Applications, 289:128361 (J. Chung, M. Kim, S. Min, H. Choi, S. Park, J. Kim)
 - [CIM'25.08] Quantum-Eyes: Scalable Quantum Convolutional Neural Networks for Low-Overhead Object Detection, *IEEE Computational Intelligence Magazine*, 20(3):ppp–ppp (*I. Kim*, E. J. Roh, C. Im, S. Park)
 - [TAES'25.08] Quantum Multi-Agent Reinforcement Learning for Joint Cube-Satellites and High-Altitude Long-Endurance Aerial Vehicles in SAGIN, *IEEE Transactions on Aerospace and Electronic Systems*, 61(4):ppp–ppp (G. S. Kim, Y. Cho, S. Park, S. Jung, J. Kim)
 - [JCN'25.08] Stabilized Classification Control using Multi-Stage Quantum Convolutional Neural Networks for Autonomous Driving, *Journal of Communications and Networks*, 27(n):ppp–ppp (E. J. Roh, S. Park, S. Jung, J. Kim)
 - [IOT]'25.08] Joint Interference Approximation and Guard-Band Management for Spectrum-Efficient Integrated NTN-TN Networks, IEEE Internet of Things Journal, 12(15):ppp-ppp (J. Jang. J. Kim, J. Kim, S. Jung)
 - [IOTJ'25.07] Quantum Reinforcement Learning for Lightweight LEO Satellite Routing, IEEE Internet of Things Journal, 12(14):ppp–ppp (G. S. Kim, S. Lee, I.-S. Cho, S. Park, J. Kim)
 - [IOT]'25.07] Carbon-Aware Edge Computing for Internet of Everything Networks: A Digital Twin Approach, *IEEE Internet of Things Journal*, 12(14):ppp–ppp (D. V. Huynh, S. R. Khosravirad, V. Sharma, J. Kim, B. Canberk, T. Q. Duong)
 - [IOT]'25.07] Privacy-Preserving Uncertainty Calibration using Perceptual Encryption in Cloud-Edge Collaborative Artificial Intelligence of Things, *IEEE Internet of Things Journal*, 12(13):25424–25441 (I. Ahmad, J. Kim, S. Shin)
 - [IOT]'25.07] Joint Quantum Reinforcement Learning and Neural Myerson Auction for High-Quality Digital-Twin Services in Multitier Networks, *IEEE Internet of Things Journal*, 12(13):23722–23735 (S. Park, G. S. Kim, J. Kim)
 - [NN'25.07] Quantum Federated Learning with Pole-Angle Quantum Local Training and Trainable Measurement, *Neural Networks*, 187:107301 (S. Park, H. Lee, S. B. Son, S. Jung, J. Kim)
 - [IOTJ'25.06] Entanglement-Controlled Quantum Federated Learning, IEEE Internet of Things Journal, 12(11):18318–18330 (S. Park, H. Lee, S. Jung, J. Park, M. Bennis, J. Kim)
 - [JS'25.06] SQUAD: Software Testing for Quantum Distributed Learning Software, *The Journal of Supercomputing*, 81:1071 (S. Park, J. H. Cho, H. J. Yook, G. S. Jhun, Y. K. Lee, J. Kim, S. Park)
 - [TVT'25.05] Dynamic Quantum Federated Learning for UAV-based Autonomous Surveillance, *IEEE Transactions on Vehicular Technology*, 74(5):8158-8170 (S. Park, S. B. Son, S. Jung, J. Kim)
- [TNSM'25.04] Intelligent Extra Resource Allocation for Cooperative Awareness Message Broadcasting in Cellular-V2X Networks, *IEEE Transactions on Network and Service Management*, 22(2):1677–1689 (S. Jung, J.-H. Kim, J. Kim)
 - [TMC'25.02] Fast Quantum Convolutional Neural Networks for Low-Complexity Object Detection in Autonomous Driving Applications, *IEEE Transactions on Mobile Computing*, 24(2):1031–1042 (E. J. Roh, H. Baek, D. Kim, J. Kim)
 - [JS'25.02] Hybrid Quantum-Classical 3D Object Detection using Multi-Channel Quantum Convolutional Neural Network, *The Journal of Supercomputing*, 81(3):455 (E. J. Roh, J. Y. Shim, J. Kim, S. Park)
 - [EL'25.01] Fast Batch Gradient Descent in Quantum Neural Networks, IET Electronics Letters, 61(1):e70162 (J. Y. Shim, J. Kim)
 - [CM'24.12] The Matrix: Quantum AI for Interacting Two Worlds in Prioritized Metaverse Spaces, *IEEE Communications Magazine*, 62(12):97–103 (S. Park, H. Baek, J. Kim)
 - [TON'24.12] Spatio-Temporal Multi-Metaverse Dynamic Streaming for Hybrid Quantum-Classical Systems, *IEEE/ACM Transactions* on *Networking*, 32(6):5279–5294 (S. Park, H. Baek, J. Kim)
 - [TMC'24.12] Joint Quantum Reinforcement Learning and Stabilized Control for Spatio-Temporal Coordination in Metaverse, *IEEE Transactions on Mobile Computing*, 23(12):12410–12427 (S. Park, J. Chung, C. Park, S. Jung, M. Choi, S. Cho, J. Kim)
 - [IOT]'24.12] Markov Decision Policies for Distributed Angular Routing in LEO Mobile Satellite Constellation Networks, *IEEE Internet of Things Journal*, 11(23):38744–38754 (S. Park, G. S. Kim, S. Jung, J. Kim)
 - [TIV'24.11] Neural Myerson Auction for Truthful and Distributed Mobile Charging in UAV-Assisted Digital-Twin Networks, *IEEE Transactions on Intelligent Vehicles*, 9(11):ppp–ppp (S. Jung, H. Baek, J. Kim)
 - [CM'24.10] Quantum Multi-Agent Reinforcement Learning is All You Need: Coordinated Global Access in Integrated TN/NTN Cube-Satellite Networks, *IEEE Communications Magazine*, 62(10):86–92 (S. Park, G. S. Kim, Z. Han, J. Kim)
- [Access'24.10] Sensing-to-Sky Intermittent Connectivity Realization for LTE-Enabled Drone Platforms: Embedded Design, Measurement Study, and Positioning Applications, *IEEE Access*, 12:137360–137372 (*J. Kim, S. Park, U. Jo, T. Kim, S. Jung, J. Kim*)
- [FGCS'24.10] AQUA: Analytics-driven Quantum Neural Network (QNN) User Assistance for Software Validation, Future Generation Computer Systems, 159:545-556 (S. Park, H. Baek, J. W. Yoon, Y. K. Lee, J. Kim)
- [ETRI'24.10] Trends in Quantum Reinforcement Learning: State-of-the-Arts and the Road Ahead, ETRI Journal, 46(5):748-758 (S. Park,

I. Kim)

- [TNSM'24.08] Cooperative Multi-UAV Positioning for Aerial Internet Service Management: A Multi-Agent Deep Reinforcement Learning Approach, *IEEE Transactions on Network and Service Management*, 21(4):3797–3812 (*J. Kim*, S. Park, S. Jung, C. Cordeiro)
- [Access'24.08] Enhancing Cost-Effective 5G Virtualized RAN Pooling Gain on Clouds: An Intelligent Auto-Scaling Approach, *IEEE Access*, 12:111322–111333 (K. Cho, J. Kim, S. Jung)
 - [TVT'24.07] Age-of-Information Aware Caching and Delivery for Infrastructure-Assisted Connected Vehicles, *IEEE Transactions on Vehicular Technology*, 73(7):10681–10696 (S. Park, C. Park, S. Jung, M. Choi, J. Kim)
- [MTAP'24.07] Stabilized Performance Maximization for GAN-based Real-Time Authentication Image Generation over Internet, *Multimedia Tools and Applications*, 83(22):62045-62059 (J. Y. Shim, S. Jung, J. Kim, J.-K. Kim)
 - [CM'24.06] Quantum Multi-Agent Reinforcement Learning for Autonomous Mobility Cooperation, *IEEE Communications Magazine*, 62(6):106–112 (S. Park, J. P. Kim, C. Park, S. Jung, J. Kim)
 - [TVT'24.04] Learning-Based Cooperative Mobility Control for Autonomous Drone-Delivery, *IEEE Transactions on Vehicular Technology*, 73(4):4870–4885 (S. Park, C. Park, J. Kim)
- [Access'24.04] Dynamic Quantum Federated Learning for Satellite-Ground Integrated Systems using Slimmable Quantum Neural Networks, *IEEE Access*, 12:58239–58247 (S. Park, S. Jung, J. Kim)
- [Access'24.04] Quantum Reinforcement Learning for Spatio-Temporal Prioritization in Metaverse, *IEEE Access*, 12:54732–54744 (S. Park, H. Baek, <u>I. Kim</u>)
- [TWC'24.03] Joint User Clustering, Beamforming, and Power Allocation for mmWave-NOMA with Imperfect SIC, *IEEE Transactions on Wireless Communications*, 23(3):2025–2038 (B. Lim, W. Yun, J. Kim, Y.-C. Ko)
- [TGCN'24.03] Joint Delay-Sensitive and Power-Efficient Quality Control of Dynamic Video Streaming using Adaptive Super-Resolution, *IEEE Transactions on Green Communications and Networking*, 8(1):103–117 (M. Choi, W. Yun, S. B. Son, S. Park, J. Kim)
 - [TIV'24.02] Intelligent Caching for Seamless High-Quality Streaming in Vehicular Networks: A Multi-Agent Reinforcement Learning Approach, *IEEE Transactions on Intelligent Vehicles*, 9(2):3672–3686 (M. Choi, T. Xiang, J. Kim)
- [TNNLS'24.02] Hierarchical Deep Reinforcement Learning-based Propofol Infusion Assistant Framework in Anesthesia, *IEEE Transactions on Neural Networks and Learning Systems*, 35(2):2510–2521 (W. Yun, M. Shin, D. Mohaisen, K. Lee, <u>J. Kim</u>)
 - [TMC'24.01] Learning Location from Shared Elevation Profiles in Fitness Apps: A Privacy Perspective, *IEEE Transactions on Mobile Computing*, 23(1):581–596 (U. Meteriz, N. F. Yildiran, <u>I. Kim</u>, D. Mohaisen)
 - [TON'23.12] SlimFL: Federated Learning with Superposition Coding over Slimmable Neural Networks, *IEEE/ACM Transactions on Networking*, 31(6):2499–2514 (W. Yun, Y. Kwak, H. Baek, S. Jung, M. Ji, M. Bennis, J. Park, J. Kim)
 - [EL'23.12] Two-Stage Architectural Fine-Tuning for Neural Architecture Search in Efficient Transfer Learning, *IET Electronics Letters*, 59(24):e13066 (S. Park, S. B. Son, Y. K. Lee, S. Jung, J. Kim)
 - [IOTJ'23.11] Quantum Multiagent Actor–Critic Networks for Cooperative Mobile Access in Multi-UAV Systems, *IEEE Internet of Things Journal*, 10(22):20033–20048 (C. Park, W. Yun, J. P. Kim, S. Park, T. K. Rodrigues, S. Jung, J. Kim)
 - [TVT'23.11] Two-Stage Self-Adaptive Task Outsourcing Decision Making for Edge-Assisted Multi-UAV Networks, *IEEE Transactions* on Vehicular Technology, 72(11):14889–14905 (S. Jung, C. Park, M. Levorato, J.-H. Kim, J. Kim)
 - [ETRI'23.10] Joint Frame Rate Adaptation and Object Recognition Model Selection for Stabilized Unmanned Aerial Vehicle Surveillance, ETRI Journal, 45(5):811–821 (G. S. Kim, H. Lee, S. Park, J. Kim)
 - [ETRI'23.10] Two Tales of Platoon Intelligence for Autonomous Mobility Control: Enabling Deep Learning Recipes, ETRI Journal, 45(5):735–745 (S. Park, H. Lee, C. Park, S. Jung, M. Choi, J. Kim)
 - [ETRI'23.10] Special Issue on Autonomous Unmanned Aerial/Ground Vehicles and their Applications, ETRI Journal, 45(5):731-734 (J. Kim, Y.-C. Lee, J. H. Lee, J. S. Choi)
 - [IC'23.09-10] EQuaTE: Efficient Quantum Train Engine for Run-Time Dynamic Analysis and Visual Feedback in Autonomous Driving, IEEE Internet Computing, 27(5):24–31 (S. Park, H. Feng, C. Park, Y. K. Lee, S. Jung, J. Kim)
 - [OJCS'23.09] Real-Time High-Quality Visualization for Volumetric Contents Rendering: A Lyapunov Optimization Framework, IEEE Open Journal of the Computer Society, 4:243–252 (H. Baek, R. Lee, S. Jung, J. Kim, S. Park)
 - [TIV'23.08] Multi-Agent Reinforcement Learning for Cooperative Air Transportation Services in City-Wide Autonomous Urban Air Mobility, *IEEE Transactions on Intelligent Vehicles*, 8(8):4016–4030 (C. Park, G. S. Kim, S. Park, S. Jung, J. Kim)
 - [NN'23.08] Stereoscopic Scalable Quantum Convolutional Neural Networks, Neural Networks, 165:860-867 (H. Baek, W. Yun, S. Park, J. Kim)
 - [IOTJ'23.06] Quantum Multiagent Actor-Critic Neural Networks for Internet-Connected Multirobot Coordination in Smart Factory Management, *IEEE Internet of Things Journal*, 10(11):9942–9952 (W. Yun, J. P. Kim, S. Jung, J.-H. Kim, J. Kim)
 - [ICTE'23.06] Quantum Distributed Deep Learning Architectures: Models, Discussions, and Applications, ICT Express, 9(3):486-491 (Y. Kwak, W. Yun, J. P. Kim, H. Cho, J. Park, M. Choi, S. Jung, J. Kim)
- [Access'23.05] Entropy-Aware Similarity for Balanced Clustering: A Case Study with Melanoma Detection, *IEEE Access*, 11:46892–46902 (S. B. Son, S. Park, J. Kim)
- [ComNet'23.04] Self-Adaptive End-to-End Resource Management for Real-Time Monitoring in Cyber-Physical Systems, Computer
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Academic Activities and Research Supervision

Research Supervision

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- **Dohyun Kwon** (03/2018–02/2020), Hyundai Motors Group
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- Dr. Minseok Choi (09/2018–02/2019, jointly with Prof. Andreas F. Molisch (USC)), Kyung Hee University (Professor)
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IEEE Activities (Membership, Editorial Boards, and Services)

- *Senior Member* (2018–), *Member* (2006–2017)
- Associate Editor (2025–), IEEE Communications Surveys and Tutorials
- Editor (2023–), IEEE Internet of Things Journal
- Associate Editor (2020–), IEEE Transactions on Vehicular Technology
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