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)
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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, Department of Cyber Defense)
  – 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
- **IEEE Seoul Section Student Paper Contest**   2024 (Bronze), 2024 (Bronze), 2023 (Bronze), 2020 (Bronze), 2019 (Gold)
- **IEEE VTS Seoul Chapter Award** – *IEEE Vehicular Technology Society*   2022, 2023, 2022, 2021, 2021, 2019

Research and Academic Excellence (Korea Regional)

- **Best Paper Award, The Journal of KICS** – *KICS*   11/2024
- **HFR Paper Award (Area: Quantum Technologies and Quantum Communications)** – *KICS*   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*   12/2018
  For recognizing a researcher under the age of 40 who has made outstanding contributions to IT R&D
- **Outstanding Paper Award** – *LG Electronics CTO Office, Multimedia Research Laboratory*   01/2008
- **RFID Expert Group President Award** – *The 3rd RFID/USN Research Paper Contest*   10/2007
- **ETRI President Award** – *The 2nd RFID/USN Research Paper Contest*   11/2006

- **Korea Association of RFID/USN (KARUS) President Award** – *The 1st RFID/USN Research Paper Contest* 10/2005
- **Scholarships for Academic Excellence** – *Korea University (Computer Science and Engineering)* Fall 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* 03/2025
- **Insung Research Grant Award (Top 5%)** – *Korea University* 01/2023
  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, Fall 2019
- **Best Teaching Award (Top 20%)** Spring 2024, Spring 2024, Spring 2022, Fall 2021, Spring 2021, Fall 2020

Academic and University Services

- **Outstanding Contribution Award** – *KICS* 2024, 2021, 2019
- **Outstanding Contribution Award** – *KIISE Information Network Society* 2023, 2022
- **2022 Best Chapter Award, IEEE Vehicular Technology Society Chapter**, Awarded as a Treasure 2022
- **Outstanding Contribution Award** – *Open Standards and ICT Association (OSIA)* 2021
- **Appreciation Recognition** – *Daegu Gyeongbuk Institute of Science and Technology (DGIST)* 2021
- **Fellow Employee Recognition [#3081146]** – *Intel Corporation* 2014
- **Certificate of Appreciation** – *Department of Computer Science, University of Southern California* 2010

R&D Projects

University-Wide/Center Projects

- *Net-Zero CAFE Research Center (07/2024–12/2031)* **ITRC (Korea Univ) (Center Director)**
- *Intelligent 6G Wireless Access System Research Center (04/2021–12/2025)* **6G AI Research Center (Korea Univ)**
- *K-Starlink: Dynamic Reconfigurable and Intelligent Space-Terrestrial Networks (06/2021–05/2024)* **Basic Research Lab (Ajou)**
- *Nano UAV Intelligence Systems Research Lab (10/2020–08/2023)* **ADD Military Special Research Center (Kwangwoon)**
- *5G/Unmanned Vehicle Research Center (5G/UV-RC) (06/2020–12/2022)* **ITRC (Hanyang)**
- *Human Resource Development for the Biomedical Unstructured Big Data Analysis (08/2018–12/2021)* **ITRC (SNU-Hospital)**
- *Novel Data Science Driven Framework for Efficient Network Design (06/2017–05/2020)* **Basic Research Lab (Chung-Ang)**
- *Intelligent Internet of Energy (IoE) Data Research Center (02/2020–05/2020)* **ITRC (Kookmin)**

Industry-Funded Projects

- *Advancement Technology Development for Torpedo Deception Strategies in Submarines (11/2022–11/2026)* **LIG Nex1**
- *Advancement Tech Dev for Submarine Target Identification and Engagement Support Intelligence (11/2022–11/2026)* **LIG Nex1**
- *Mapping between Real World and VR for End-Edged Cloud Real-Time VR Servers (09/2020–09/2025)* **Samsung Electronics**
- *Research on Learning-based Swarm Mission Planning Algorithms (03/2024–02/2025)* **LIG Nex1**
- *Quantum Machine Learning-based Objection Detection for Point Cloud and its Acceleration (12/2022–04/2024)* **Hyundai Motors**
- *Routing Algorithms for LEO Satellite Networks (12/2022–08/2023)* **Solvit System**
- *Optimal Positioning Algorithms for Wide-Area Relaying Networks (12/2022–08/2023)* **Solvit System**
- *Distributed Learning Algorithms to Build AI Models with Multi-Center Clinical Data (11/2022–02/2023)* **Cipherome**
- *Cellular/Wi-Fi Handover Technology Development (02/2022–12/2022)* **LG Electronics CTO Division (Smart Mobility Lab)**
- *Research Trends in Digital Twin Applications to Autonomous Driving (03/2022–04/2022)* **Hyundai NGV**
- *Distributed Learning System Design and Implementation for Clinical Applications (02/2022–03/2022)* **Cipherome**
- *Super-Resolution Performance Optimization in Mobile Platforms (05/2020–08/2020)* **Samsung SDS**
- *Deep Learning Algorithms for mVOC Concentration Analysis (03/2020–06/2020)* **Samsung Electronics (C-Lab)**
- *Visual Recognition Software Implementation using Deep Learning Tools (05/2019–11/2019)* **Hyundai Motors**
- *A Priori Techniques Research for Efficient Multi-Edge Computing (06/2017–12/2017)* **Samsung Electronics (Software Center)**

Government-Funded Projects

- *Quantum AI Empowered Second-Life Platform Technology (07/2024–12/2031)* **IITP (Software Star-Lab)**
- *Quantum-Empowered Spatio-Temporal Multi-Scale Digital Twin System (03/2025–02/2028)* **NRF**
- *6GARROW: 6G AI-Native Integrated RAN-Core Networks (09/2024–08/2027)* **IITP**
- *AI Bots Collaborative Platform and Self-Organizing Artificial Intelligence Technology Development (04/2022–12/2026)* **IITP**
- *Development of Integrated Development Framework that supports Automatic Neural Network Generation and Deployment optimized for Runtime Environment (04/2021–12/2025)* **IITP**
- *Quantum Hyper-Driving: Quantum-Inspired Hyper-Connected and Hyper-Sensing Autonomous Mobility (03/2022–02/2025)* **NRF**
- *Korea-Japan Joint Seminar Project for Generative and Multi-Modal AI Technologies (10/2023–09/2024)* **NRF**
- *Integrated Perception Technology Developments for Public Safety Platforms (06/2019–05/2023)* **NRF**
- *Development of Quantum Deep Reinforcement Learning Algorithm using QAOA (10/2019–04/2022)* **NRF**
- *mmWave Radar and Deep Reinforcement Learning based Optimal Policy Autonomous Driving (06/2019–02/2022)* **NRF**
- *Development of Privacy-Reinforcing Distributed Transfer-Iterative Learning Algorithm (07/2019–12/2021)* **MHW**
- *Virtual Presence in Moving Objects through 5G (PriMO-5G) (06/2018–06/2021)* **IITP**
- *Distributed Secure Platform for Scalable Clinical OMOP CDM Models (04/2019–12/2020)* **MHW**
- *mmWave High-Speed Networking Platform Design for Next-Generation Convergence Services (06/2016–05/2019)* **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 Research 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 Research Institute**
- *GPU Scheduling Performance Analysis under Queueing Delay Considerations* (05/2018–10/2018) **ETRI**
- *Improving Massive Deep Learning Training via Computation and Communication Acceleration* (04/2018–10/2018) **ETRI**
- *Parsing Techniques for Artificial Neural Network (ANN) Data Processing* (09/2017–11/2017) **ETRI**

University of Southern California (USC) – Viterbi School of Engineering (Ph.D. Research Projects)

- *Video Aware Wireless Networks (VAWN) Research Program* **Intel Labs**, **Verizon Wireless**, and **Cisco Systems**
- *60 GHz Real-Time Wireless Video Broadcasting* **Disney Research Zürich**

Awards and Fellowship Funds

- *Insung Research Grant Award* (03/2023–02/2024) **Korea University**
  For recognizing Korea University professors in research excellence during the first 3 years at Korea University (Top 5%)
- *Annenberg Graduate Fellowship Award* (08/2009–06/2013) **University of Southern California**
  Awarded Fund: 4 Year Full Scholarship (Tuition Waiver and $120,000 Stipend ($30,000/year for 4 years))

Selected Publications

- **9790+ Citations** (H-index: 49+, i10-index: 208+), obtained from Google Scholar Profile (as of June 4, 2025)

Books

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

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)*
[IPDPS'25] AQUA: Hardware-Agnostic Qubit Allocation for Quantum Multi-Programming, *(X. Piao, J. Shim, J. Kim, 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, J. Kim, D. Mohaisen)*
[ICDCS'18] ShmCaffe: A Distributed Deep Learning Platform with Shared Memory Buffer for HPC Architecture, *(S. Ahn, J. Kim, 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)*
[MobiSys'10] Energy-Efficient Rate-Adaptive GPS-based Positioning for Smartphones, *(J. Paek, J. Kim, R. Govindan)*

■ *Journals and Magazines* (totally 146 publications; among them, 108 IEEE publications)

[MM.*minor*] Quantum Jump to Virtual Worlds: High-Quality Multiple Virtual Meta-Space Realization in Metaverse, *IEEE Multimedia*, (Minor Revision) *(S. Park, J. Kim)*

[JS.*accepted*] SQUAD: Software Testing for Quantum Distributed Learning Software, *The Journal of Supercomputing*, v(n)ppp–ppp *(S. Park, J. H. Cho, H. J. Yook, G. S. Jhun, Y. K. Lee, J. Kim, S. Park)*

[IOTJ.*accepted*] Joint Interference Approximation and Guard-Band Management for Spectrum-Efficient Integrated NTN-TN Networks, *IEEE Internet of Things Journal*, v(n):ppp–ppp *(J. Jang. J. Kim, J. Kim, S. Jung)*

[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)*

[TIV.*accepted*] Neural Myerson Auction for Truthful and Distributed Mobile Charging in UAV-Assisted Digital-Twin Networks, *IEEE Transactions on Intelligent Vehicles*, v(n):ppp–ppp *(S. Jung, H. Baek, 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)*

[IOTJ.*accepted*] Quantum Reinforcement Learning for Lightweight LEO Satellite Routing, *IEEE Internet of Things Journal*, v(n):ppp–ppp *(G. S. Kim, S. Lee, I.-S. Cho, S. Park, 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 *(J. 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)*

[IOTJ'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)*

[IOTJ'25.07] Privacy-Preserving Uncertainty Calibration using Perceptual Encryption in Cloud-Edge Collaborative Artificial Intelligence of Things, *IEEE Internet of Things Journal*, 12(13):ppp–ppp *(I. Ahmad, J. Kim, S. Shin)*

[IOTJ'25.07] Joint Quantum Reinforcement Learning and Neural Myerson Auction for High-Quality Digital-Twin Services in Multi-Tier Networks, *IEEE Internet of Things Journal*, 12(13):ppp–ppp *(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)*

[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)*

[IOTJ'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)*

[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, J. 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, J. Kim)*

[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, J. Kim)*

[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, J. Kim, 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)*

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Academic Activities

Research Supervision

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■ **M.S. Alumni**
- **Kyeongseon Kim** (09/2017–08/2019), POSTECH
- **Dohyun Kwon** (03/2018–02/2020), Hyundai Motors Group
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- **MyungJae Shin** (03/2018–02/2020), Naver
- **Jaeho Choi** (03/2019–02/2021), Korea Meteorological Administration [Military Service Exception]
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■ **Postdoctoral Scholars**
- **Dr. Minseok Choi** (09/2018–02/2019, jointly with Prof. Andreas F. Molisch (USC)), Kyung Hee University (Professor)
- **Dr. Soyi Jung** (03/2021–08/2021, jointly with Prof. Marco Levorato (UC-Irvine)), Ajou 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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