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 (R&D Positions)

- **Korea University**, Seoul, Republic of Korea
  - *Associate Professor (03/2021–Present)*, *Assistant Professor (09/2019–02/2021)*, School of Electrical Engineering
  - *Adjunct Professor (03/2023–02/2028 (Expected))*, Department of Communications Engineering (with **Samsung Electronics**)
  - *Adjunct Professor (11/2022–02/2028 (Expected))*, Department of Future Science and Technology Business (Graduate School)
  - *Adjunct Professor (03/2021–02/2026 (Expected))*, Department of Semiconductor Engineering (with **SK Hynix**)
- **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), California, USA
  - *Systems Engineer (09/2013–02/2016)*, WiGig & mmWave Standards and Advanced Technology (SAT) Team
- **University of Southern California (USC) – Viterbi School of Engineering**, Los Angeles, California, 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 (CSI)
  - *Teaching Assistant (01/2012–05/2013)*, Computer Science and Electrical Engineering Departments (CSCI455x and EE579)
- **InterDigital**, San Diego, California, USA
  - *Intern (05/2012–08/2012)*, 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

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 Research Achievement Award –*Korea University, School of Electrical Engineering*	03/2025
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
Insung Research Grant Award – *Korea University*	01/2023
For recognizing professors in research excellence during the first 3 years at Korea University (Top 5%)	
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

Teaching Excellence at Korea University (11 Times)

- **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

- **9577+ Citations** (H-index: 48+, i10-index: 203+), obtained from Google Scholar Profile (as of April 27, 2025)

Books

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

Selected Papers

■ *Top-Tier Conferences*

[IPDPS'25] AQUA: Hardware-Agnostic Qubit Allocation for Quantum Multi-Programming, **IPDPS (2025)** *(X. Piao, J. Shim, J. Kim, J. Kim)*

[WiOpt'25] Stabilized Robust Control for Lightweight Autonomous Aircraft Mobility: A Quantum Reinforcement Learning Approach, **WiOpt (2025)** *(G.S. Kim, J. Chung, T.Q. Duong, S. Park, J. Kim)*

[CIKM'24] Hands-On Introduction to Quantum Machine Learning, **CIKM (2024)** *(S.Y.-C. Chen, J. Kim)*

[WiOpt'24] Advanced Taxiing Path Guidance using Multi-Agent Reinforcement Learning for Air Traffic Management, **WiOpt (2024)** *(S. Lee, G.S. Kim, S. Park, J. Kim)*

[CIKM'23] Quantum Split Learning for Privacy-Preserving Information Management, **CIKM (2023)** *(S. Park, H. Baek, J. Kim)*

[CIKM'23] Logarithmic Dimension Reduction for Quantum Neural Networks, **CIKM (2023)** *(H. Baek, S. Park, J. Kim)*

[AAAI'23] Quantum Multi-Agent Meta Reinforcement Learning, **AAAI (2023)** *(W.J. Yun, J. Park, J. Kim)*

[CIKM'22] Hierarchical Reinforcement Learning using Gaussian Random Trajectory Generation in Autonomous Furniture Assembly, **CIKM (2022)** *(W.J. Yun, D. Mohaisen, S. Jung, J.-K. Kim, J. Kim)*

[WiOpt'22] Cooperative Video Quality Adaptation for Delay-Sensitive Dynamic Streaming using Adaptive Super-Resolution, **WiOpt (2022)** *(M. Choi, W.J. Yun, J. Kim)*

[INFOCOM'22] Joint Superposition Coding and Training for Federated Learning over Multi-Width Neural Networks, **INFOCOM (2022)** *(H. Baek, W.J. 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, **ICDCS (2020)** *(Ü. Meteriz, N.F. Yildiran, J. Kim, D. Mohaisen)*

[IJCAI'19] Randomized Adversarial Imitation Learning for Autonomous Driving, **IJCAI (2019)** *(M. Shin, J. Kim)*

[ICDCS'18] ShmCaffe: A Distributed Deep Learning Platform with Shared Memory Buffer for HPC Architecture, **ICDCS (2018)** *(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, **ACM-MM (2017)** *(J. Koo, J. Yi, J. Kim, M.A. Hoque, S. Choi)*

[MobiSys'10] Energy-Efficient Rate-Adaptive GPS-based Positioning for Smartphones, **MobiSys (2010)** *(J. Paek, J. Kim, R. Govindan)*

■ *Journals and Magazines* (totally 140 publications; 104 IEEE publications)

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

[IOT.*accepted*] Carbon-Aware Edge Computing for Internet of Everything Networks: A Digital Twin Approach, *IEEE Internet of Things Journal* *(D.V. Huynh, S.R. Khosravirad, V. Sharma, J. Kim, B. Canberk, T.Q. Duong)*

[JCN.*accepted*] Stabilized Classification Control using Multi-Stage Quantum Convolutional Neural Networks for Autonomous Driving, *Journal of Communications and Networks* *(E.J. Roh, S. Park, S. Jung, J. Kim)*

[TIV.*accepted*] Adaptive Quantum Federated Learning for Autonomous Surveillance Multi-Drone Networks, *IEEE Transactions on Intelligent Vehicles* (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* (S. Jung, H. Baek, J. Kim)

[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)

[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* (G.S. Kim, Y. Cho, S. Park, S. Jung, J. Kim)

[IOTJ'25.08] Privacy-Preserving Uncertainty Calibration using Perceptual Encryption in Cloud-Edge Collaborative Artificial Intelligence of Things, *IEEE Internet of Things Journal*, 12(16):ppp–ppp (I. Ahmad, J. Kim, S. Shin)

[IOTJ'25.08] Joint Quantum Reinforcement Learning and Neural Myerson Auction for High-Quality Digital-Twin Services in Multi-Tier Networks, *IEEE Internet of Things Journal*, 12(15):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 (Elsevier)*, 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(12):ppp–ppp (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):ppp–ppp (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 (Springer)*, 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 (Elsevier)*, 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 (Wiley)*, 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 (Springer)*, 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.J. 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 Transac-

[TMC'24.01] *tions on Neural Networks and Learning Systems*, 35(2):2510–2521 *(W.J. 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.J. 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.J. 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 (Wiley)*, 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 (Wiley)*, 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 (Wiley)*, 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 (Elsevier)*, 165:860-867 *(H. Baek, W.J. 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.J. 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 (Elsevier)*, 9(3):486-491 *(Y. Kwak, W.J. Yun, J.P. Kim, H. Cho, J. Park, M. Choi, S. Jung, J. Kim)*

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Academic Activities

Research Supervision

■ **Ph.D. Alumni**

- **Dr. Soohyun Park** ('19.03–'23.08 (MS-PhD), '23.09–'24.02 (Postdoc)), Sookmyung Women's University (Professor)
- **Dr. Hankyul Baek** ('21.03–'24.02 (MS-PhD), '24.03–'25.03 (Postdoc)), ETRI (Researcher)
- **Dr. Gyu Seon Kim** ('23.03–'26.02 (MS-PhD)), Korea University (Postdoctoral Scholar)

■ **M.S. Alumni**

- **Kyeongseon Kim** ('17.09–'19.08), POSTECH
- **Dohyun Kwon** ('18.03–'20.02), Hyundai Motors Group
- **Dohyun Kim** ('18.03–'20.02), Naver Webtoon
- **MyungJae Shin** ('18.03–'20.02), Naver
- **Jaeho Choi** ('19.03–'21.02), Korea Meteorological Administration [Military Service Exception]
- **Anna Yoo Jeong Ha** ('21.03–'23.02), The University of Chicago (Ph.D. Student in Computer Science)
- **Jaehyun Chung** ('23.09–'25.08), Korea University (Ph.D. Student in Electrical and Computer Engineering)

■ **Postdoctoral Scholars**

- **Dr. Minseok Choi** ('18.09–'19.02, jointly with Prof. Andreas F. Molisch (USC)), Kyung Hee University (Professor)
- **Dr. Soyi Jung** ('21.03–'21.08, jointly with Prof. Marco Levorato (UC-Irvine)), Ajou University (Professor)
- **Dr. Ju-Hyung Lee** ('22.03–'23.02, jointly with Prof. Andreas F. Molisch (USC)), Nokia USA (Principal Engineer)
- **Dr. Joo Yong Shim** ('24.03–'25.08, jointly with Prof. Jong-Kook Kim (Korea Univ))

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**
- *Guest Editor*, **Journal of Communications and Networks** (S.I. on Quantum Technologies for Communication Systems)
- *Guest Editor*, **IEEE Communications Standards Magazine** (S.I. on Recent and Future Evolution of Wi-Fi)

References

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