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– 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–), Department of Communications Engineering (with **Samsung Electronics**)
 - Adjunct Professor (11/2022–), Department of Future Science and Technology Business (Graduate School)
 - Adjunct Professor (03/2021–), Department of Semiconductor Engineering (with **SK Hynix**)
 - Director (07/2024–12/2031), Net-Zero CAFE Research Center (University ICT Research Center (ITRC) by IITP)
 - 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), Awarded with Ph.D. Admission (Full Scholarship)
 - 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), AAI 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

- 9594+ Citations (H-index: 48+, i10-index: 203+), obtained from Google Scholar Profile (as of April 28, 2025)

Books

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

Selected Papers

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

- [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)
- [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)
- [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)
- [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 Multimedia (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)

■ Top-Tier Conferences: Quantum AI and Deep Learning

- [IPDPS'25] AQUA: Hardware-Agnostic Qubit Allocation for Quantum Multi-Programming, **IPDPS (2025)** (X. Piao, J. Shim, J. Kim, J. Kim)
- [CIKM'24] Hands-On Introduction to Quantum Machine Learning, **CIKM (2024)** (S.Y.-C. Chen, 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)
- [IJCAI'19] Randomized Adversarial Imitation Learning for Autonomous Driving, **IJCAI (2019)** (M. Shin, J. Kim)

■ Journals and Magazines (totally 140 publications; among them, 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)
- [IOTI'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)
- [IOTI'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*, 187:107301 (S. Park, H. Lee, S.B. Son, S. Jung, J. Kim)
- [IOTI'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*, 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)
- [IOTI'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)
- [IOTI'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)
- [IOTI'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 Networks*, 225:109669 (H.-C. Jo, H.-W. Jin, J. Kim)
- [ComNet'23.04] Truthful and Performance-Optimal Computation Outsourcing for Aerial Surveillance Platforms via Learning-based Auction, *Computer Networks*, 225:109651 (S. Jung, J.-H. Kim, D. Mohaisen, J. Kim)
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Academic Activities

Research Supervision

■ Ph.D. Alumni

- **Dr. Soohyun Park** (03/2019–08/2023 (MS-PhD), 09/2023–02/2024 (Postdoc)), **Sookmyung Women's University (Professor)**
- **Dr. Hankyul Baek** (03/2021–02/2024 (MS-PhD), 03/2024–03/2025 (Postdoc)), **ETRI AI Safety Institute (Researcher)**
- **Dr. Gyu Seon Kim** (03/2023–02/2026 (MS-PhD)), **Korea University (Postdoctoral Scholar)**

■ M.S. Alumni

- **Kyeongseon Kim** (09/2017–08/2019), **POSTECH**
- **Dohyun Kwon** (03/2018–02/2020), **Hyundai Motors Group**
- **Dohyun Kim** (03/2018–02/2020), **Naver Webtoon**
- **MyungJae Shin** (03/2018–02/2020), **Naver**
- **Jaeho Choi** (03/2019–02/2021), **Korea Meteorological Administration [Military Service Exception]**
- **Anna Yoo Jeong Ha** (03/2021–02/2023), **The University of Chicago (Ph.D. Student in Computer Science)**
- **Jaehyun Chung** (09/2023–08/2025), **Korea University (Ph.D. Student in Electrical and Computer Engineering)**

■ 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)**
- **Dr. Ju-Hyung Lee** (03/2022–02/2023, jointly with Prof. Andreas F. Molisch (USC)), **Nokia USA (Principal Engineer)**
- **Dr. Joo Yong Shim** (03/2024–08/2025, 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)
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