

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)

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|---|------------------|
| • 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 (Totally, 15,795,033 USD \approx 15,795,033,875 KRW)

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

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| • 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)

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|---|---|
| • 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

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| • 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

- **9494+ Citations** (H-index: 48+, i10-index 202+), obtained from Google Scholar Profile (as of April 10, 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)

■ IEEE Journals and Magazines (**104** publications)

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

- [IOTJ'.accepted] Privacy-Preserving Uncertainty Calibration using Perceptual Encryption in Cloud-Edge Collaborative Artificial Intelligence of Things, *IEEE Internet of Things Journal* (I. Ahmad, J. Kim, S. Shin)
- [TAES'.accepted] 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)
- [TON'.accepted] Slimmable Federated Reinforcement Learning for Energy-Efficient Proactive Caching, *IEEE/ACM Transactions on Networking* (H. Baek, G. S. Kim, S. Park, A. F. Molisch, 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)
- [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 (2025) (S. Park, G. S. Kim, J. Kim)
- [IOTJ'25.06] Entanglement-Controlled Quantum Federated Learning, *IEEE Internet of Things Journal*, 12(12):ppp–ppp (2025) (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 (2025) (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):ppp–ppp (2025) (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 (2025) (E.J. Roh, H. Baek, D. Kim, J. Kim)
- [CM'24.12] The Matrix: Quantum AI for Interacting Two Worlds in Prioritized Metaverse Spaces, *IEEE Communications Magazine*, 62(12):97–103 (2024) (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 (2024) (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 (2024) (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 (2024) (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 (2024) (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 (2024) (J. Kim, S. Park, U. Jo, T. Kim, S. Jung, 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 (2024) (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 (2024) (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 (2024) (S. Park, C. Park, S. Jung, M. Choi, J. Kim)
- [CM'24.06] Quantum Multi-Agent Reinforcement Learning for Autonomous Mobility Cooperation, *IEEE Communications Magazine*, 62(6):106–112 (2024) (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 (2024) (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 (2024) (S. Park, S. Jung, J. Kim)
- [Access'24.04] Quantum Reinforcement Learning for Spatio-Temporal Prioritization in Metaverse, *IEEE Access*, 12:54732–54744 (2024) (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 (2024) (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 (2024) (M. Choi, W.J. 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 (2024) (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 (2024) (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 (2024) (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 (2023) (W.J. Yun, Y. Kwak, H. Baek, S. Jung, M. Ji, M. Bennis, J. Park, 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 (2023) (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 (2023) (S. Jung, C. Park, M. Levorato, J.-H. Kim, J. Kim)
- [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 (2023) (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 (2023) (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 (2023) (C. Park, G.S. Kim, S. Park, S. Jung, 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 (2023) (W.J. Yun, J.P. Kim, S. Jung, J.-H. Kim, J. Kim)
- [Access'23.05] Entropy-Aware Similarity for Balanced Clustering: A Case Study with Melanoma Detection, *IEEE Access*, 11:46892–46902 (2023) (S.B. Son, S. Park, J. Kim)
- [Access'23.03] Audio-to-Visual Cross-Modal Generation of Birds, *IEEE Access*, 11:27719–27729 (2023) (J.Y. Shim, J. Kim, J.-K. Kim)
- [Access'23.02] Workload-Aware Scheduling using Markov Decision Process for Infrastructure-Assisted Learning-Based Multi-UAV Surveillance Networks, *IEEE Access*, 11:16533–16548 (2023) (S. Park, C. Park, S. Jung, J.-H. Kim, J. Kim)
- [TITS'23.01] Self-Configurable Stabilized Real-Time Detection Learning for Autonomous Driving Applications, *IEEE Transactions on Intelligent Transportation Systems*, 24(1):885–890 (2023) (W.J. Yun, S. Park, J. Kim, D. Mohaisen)
- [JCN'22.12] Neural Myerson Auction for Truthful and Energy-Efficient Autonomous Aerial Data Delivery, *Journal of Communications and Networks*, 24(6):730–741 (2022) (H. Lee, S. Kwon, S. Jung, J. Kim)
- [JCN'22.12] Parallelized and Randomized Adversarial Imitation Learning for Safety-Critical Self-Driving Vehicles, *Journal of Communications and Networks*, 24(6):710–721 (2022) (W.J. Yun, M. Shin, S. Jung, S. Kwon, J. Kim)
- [TII'22.10] Cooperative Multi-Agent Deep Reinforcement Learning for Reliable Surveillance via Autonomous Multi-UAV Control, *IEEE Transactions on Industrial Informatics*, 18(10):7086–7096 (2022) (W.J. Yun, S. Park, J. Kim, M. Shin, S. Jung, D. Mohaisen, J.-H. Kim)
- [TVT'22.07] Joint Pilot Design and Channel Estimation using Deep Residual Learning for Multi-Cell Massive MIMO under Hardware Impairments, *IEEE Transactions on Vehicular Technology*, 71(7):7599–7612 (2022) (B. Lim, W.J. Yun, J. Kim, Y.-C. Ko)
- [ISJ'22.06] Securing Heterogeneous IoT with Intelligent DDoS Attack Behavior Learning, *IEEE Systems Journal*, 16(2):1974–1983 (2022) (N.-N. Dao, T. Phan, U. Sa'ad, J. Kim, T. Bauschert, D.-T. Do, S. Cho)
- [CSM'22.06] Recent and Future Evolution of Wi-Fi, *IEEE Communications Standards Magazine*, 6(2):8–11 (2022) (E. Au, L. Wilhelmsson, T. Baykas, 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)

■ 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)

■ 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)

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)
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References

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