

HOJEONG LEE

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1205 University Ave, Madison, WI 53706, USA

EDUCATION

University of Wisconsin–Madison

Ph.D. in Department of Computer Sciences

Sep 2025 - Present

Madison, WI, USA

Korea University

M.S. in Department of Computer Science and Engineering

Emphasis on Artificial Intelligence Applications

Mar 2022 - Aug 2025

Seoul, Korea

Korea University

B.E. in Department of Computer Science and Engineering

Mar 2016 - Feb 2022

Seoul, Korea

EXPERIENCE

WiNGS Lab, University of Wisconsin–Madison

Research Assistant, advised by Prof. Suman Banerjee

Sep 2025 - Present

Madison, WI, USA

Wireless Data Communications Lab, Korea University

Research Assistant, advised by Prof. Hyogon Kim

Mar 2022 - Aug 2025

Seoul, Korea

Internet Systems Lab, University of Colorado Boulder

Visiting Scholar, advised by Prof. Sangtae Ha and Prof. Seyeon Kim

Fully funded by Korea University

Mar 2024 - Mar 2025

Boulder, CO, USA

Carnegie Mellon University

Collaborating Visitor, AI-Related Project-Focused Intensive Program

Selected on merit-basis in national competition process

Fully funded by the Korean Government

Aug 2022 - Feb 2023

Pittsburgh, PA, USA

Wireless Data Communications Lab, Korea University

Undergraduate Research Intern, advised by Prof. Hyogon Kim

Jun 2021 - Feb 2022

Seoul, Korea

RESEARCH INTERESTS

Network Systems

Volumetric video streaming [14], 3D Gaussian splatting, augmented reality, virtual reality, (live) video streaming

Skills: Python, C++, Open3D, Draco, PCL, FFmpeg, Intel Realsense SDK

Wireless Networks

LTE, 5G, 6G, vehicle-to-everything (V2X) communications [1-3, 5, 7-13], satellite communications [6]

Skills: 3GPP & SAE standards, Matlab (LTEV2Vsim), Python, C++

Artificial Intelligence

Deep learning [1, 2, 4, 5], reinforcement learning [8, 11]

Skills: Python, PyTorch, TensorFlow, CUDA, Docker, NumPy

PUBLICATIONS

14. **Hojeong Lee**, Yu Hong Kim, Sangwoo Ryu, James Won-Ki Hong, Sangtae Ha, and Seyeon Kim. DeltaStream: 2D-Inferred Delta Encoding for Live Volumetric Video Streaming. ACM MobiSys, Anaheim, California, USA, 2025.
13. **Hojeong Lee**, Seungmo Kang, and Hyogon Kim. Causality-sensitive scheduling to reduce latency in vehicle-to-vehicle interactions. Sensors, 24 (22), 2024.
12. Seungmo Kang, **Hojeong Lee**, and Hyogon Kim. Mitigating Latency Inflation in V2C Transactions Using Periodic Sidelink Communication. IEEE VNC, Kobe, Japan, 2024.

11. **Hojeong Lee**, Chanwoo Kim, Eugene Yang, and Hyogon Kim. Distributed Joint Congestion Control for V2X Using Multi-agent Reinforcement Learning. IEEE ICMLCN, Stockholm, Sweden, 2024.
10. **Hojeong Lee** and Hyogon Kim. Improving One-Shot Transmission in NR Sidelink Resource Allocation for V2X Communication. arXiv preprint arXiv:2312.15914, 2023.
9. **Hojeong Lee** and Hyogon Kim. Rethinking Transmit Power Control for SAE J3161/1 Congestion Control Algorithm. IEEE VTC2023-Fall, Hong Kong, 2023.
8. Yeomyung Yoon, **Hojeong Lee**, and Hyogon Kim. Deep reinforcement learning-based dual-mode congestion control for cellular V2X environments. Electronics Letters, 59 (20), 2023.
7. Kyeongnam Park, **Hojeong Lee**, and Hyogon Kim. Speed-Aware V2X Congestion Control. IEEE VTC2023-Fall, Hong Kong, 2023.
6. Kyeongnam Park, Kyungha Kim, Hyungjoon Shin, **Hojeong Lee**, and Hyogon Kim. Strategically Positioning On-Board PEPs in LEO-based NTN for TCP Throughput Improvement. IEEE VTC2023-Fall, Hong Kong, 2023.
5. Hyeonji Seon, **Hojeong Lee**, and Hyogon Kim. Predicting CAM generation times through machine learning for cellular V2X communication. ICT Express, 9 (5), 2023.
4. Joseph Konan, Ojas Bhargave, Shikhar Agnihotri, **Hojeong Lee**, Ankit Shah, Shuo Han, Yunyang Zeng, Amanda Shu, Haohui Liu, Xuankai Chang, Hamza Khalid, Minseon Gwak, Kawon Lee, Minjeong Kim, and Bhiksha Raj. Improving Perceptual Quality, Intelligibility, and Acoustics on VoIP Platforms. arXiv preprint arXiv:2303.09048, 2023.
3. Hyeonji Seon, **Hojeong Lee**, and Hyogon Kim. Packet Delivery Impact of Predictive Resource Allocation for Quasi-Periodic Cellular V2X Communication. IEEE VTC2023-Spring, Florence, Italy, 2023.
2. Jonghwan Na, **Hojeong Lee**, and Hyogon Kim. Inferring Human Driver Intent in Partial Deployment of Connected Autonomous Vehicles: the Lane Change Case. IEEE VTC2023-Spring, Florence, Italy, 2023.
1. Hyeonji Seon, **Hojeong Lee**, and Hyogon Kim. Prediction of vehicle dynamics-based aperiodic message generation times in cellular V2X communication. Annual Conference of KIPS, Seoul, Korea, 2022. **OUTSTANDING PAPER AWARD**

AWARDS & GRANTS

Teaching Assistant, University of Wisconsin–Madison

Introduction to Computer Networks, Spring 2026

Foundations of Mobile Systems and Applications, Fall 2025

Scholarships for Internationalization, Korea University

Fall 2024

Conference Student Travel Grants

IEEE ICMLCN 2024, IEEE VTC2023-Fall

Research Assistant, Korea University

Fall 2023

Teaching Assistant, Korea University

Internet Protocol, Spring 2023

Computer Network, Spring 2022

Department Merit Based Scholarship, Korea University

Fall 2021, Spring 2021, Fall 2020

Korean Government Scholarship

Fall 2021, Spring 2021, Fall 2020, Fall 2016

EXTRACURRICULAR ACTIVITIES

Volunteer, ACM IMC 2025

Oct 2025

Coach, NAVER Corporation

Jan 2021 - Aug 2021

Boost Course PY4E (Python programming) and Harvard CS50
Selected as an excellent coach in PY4E

Software Education Volunteer, Korea University

Aug 2020 - Dec 2020

Software camp instructor and mentor for middle and high school students
Software-related educational video production and Arduino project coaching

Military Service, Republic of Korea Army

Jul 2018 - Mar 2020

Division Commander's Award, 3rd Place, division combat mission-focused physical training competition

Overwatch Professional Gamer, Team LW Red

Jan 2017 - Dec 2017

Runner-up, Overwatch National University Tournament Season 2
Winner, Overwatch APEX Challengers Season 4

Sep 2017

Jul 2017