

Jeho Lee

Ph.D. Candidate (expected graduation: Dec 2026)
Department of Computer Science and Engineering, Yonsei University
Seoul, Republic of Korea

🏠 [jeho-lee.github.io](https://github.com/jeho-lee) [🌐 linkedin.com/in/jeho-lee](https://www.linkedin.com/in/jeho-lee) ✉ jeholee@yonsei.ac.kr

RESEARCH INTERESTS

- On-Device AI
- Mobile and Embedded Systems

EDUCATION

Yonsei University, Seoul, Korea Ph.D. Candidate in Computer Science (Advisor: Hojung Cha)	Mar 2020 – Present
Ajou University, Suwon, Korea B.S. in Computer Engineering	Mar 2015 – Feb 2020 GPA: 4.0/4.5

PUBLICATIONS

Conference and Journal Publications (*Co-first authors)

8. Ember: Task Wakeup Sequence-Based Energy Optimization for Mobile Web Browsing
Seonghoon Park, Jiwon Kim, **Jeho Lee**, Hojung Cha
ACM SIGBED International Conference on Embedded Software (**EMSOFT 2025**)
7. SecureRide: Detecting Safety-threatening Behavior of E-Scooters Using Battery Information
Jiwon Kim, Geon Kim, **Jeho Lee**, Thiemo Voigt, Hojung Cha
ACM SIGBED International Conference on Embedded Software (**EMSOFT 2025**)
6. ARIA: Optimizing Vision Foundation Model Inference on Heterogeneous Mobile Processors for Augmented Reality
Jeho Lee*, Chanyoung Jung*, Gunjoong Kim, Jiwon Kim, Seonghoon Park, Hojung Cha
ACM International Conference on Mobile Systems, Applications and Services (**MobiSys 2025**)
Best Paper Award
5. Panopticus: Omnidirectional 3D Object Detection on Resource-constrained Edge Devices
Jeho Lee, Chanyoung Jung, Jiwon Kim, Hojung Cha
ACM International Conference on Mobile Computing and Networking (**MobiCom 2024**)
4. Vulture: Cross-Device Web Experience with Fine-Grained Graphical User Interface Distribution
Seonghoon Park, **Jeho Lee**, Yonghun Choi, Hojung Cha
IEEE Conference on Computer Communications (**INFOCOM 2024**)
3. OmniLive: Super-Resolution Enhanced 360° Video Live Streaming for Mobile Devices
Seonghoon Park, Yeonwoo Cho, Hyungchol Jun, **Jeho Lee**, Hojung Cha
ACM International Conference on Mobile Systems, Applications and Services (**MobiSys 2023**)
2. Crow API: Cross-device I/O Sharing in Web Applications
Seonghoon Park, **Jeho Lee**, Hojung Cha
IEEE Conference on Computer Communications (**INFOCOM 2023**)
1. MAUI: Enhancing Assistive Web Interaction through GUI Abstraction
Jeho Lee, Seonghoon Park, Yoonha Cha, Hojung Cha
Under Review, IEEE Transactions on Human-Machine Systems (**THMS**)

Other Publications

2. Towards Accurate, Adaptive, and Real-time Machine Perception on Resource-constrained Platforms
Jeho Lee
ACM International Conference on Mobile Systems, Applications and Services (**MobiSys 2025 Rising Star**)
1. Poster: Mixture of Class-aware Experts for Efficient AIoT Inference
Hyemin Jeong, **Jeho Lee**, Seunghyeok Jeon, Hojung Cha
ACM International Conference on Mobile Systems, Applications and Services (**MobiSys 2025 Poster**)

PROJECTS

Development of On-device DNN Inference System for Real-time 3D Perception with Mobile 360-degree Camera

National Research Foundation of Korea (NRF)

May 2024 – Present

- Designed a BEV (bird's-eye-view) 3D object detection system that dynamically selects optimal inference paths per camera view, achieving $2.1\times$ latency reduction and 62% higher accuracy under 33 ms real-time constraints on NVIDIA Jetson devices, implemented with PyTorch, TensorRT, and CUDA (MobiCom '24)
- Built a mobile 3D perception testbed with 360-degree camera, LiDAR, and IMU sensors; created a nuScenes-compatible dataset across urban scenes, including sensor synchronization, calibration, and annotation: github.com/jeho-lee/Panoptic3D
- Initiated and led the project as a primary student researcher; secured \$540 K in national funding by designing a 3-year research plan and leading a team of 10 graduate students

Task Relation Graph Prediction based on RNN

Samsung Electronics, Republic of Korea

Mar 2023 – Feb 2024

AWARDS AND HONORS

Best Paper Award, ACM MobiSys 2025

SIGMOBILE Student Travel Grant, ACM MobiSys 2025

Rising Star, ACM MobiSys 2025

PATENTS

3. I/O Sharing Device and Method
Seonghoon Park, **Jeho Lee**, and Hojung Cha
Patent No. 10-2823808 (Republic of Korea; granted Jun. 18, 2025)
2. Method for Omnidirectional 3D Object Detection, Program Performing the Method, and Computing Device Executing the Program
Jeho Lee, Chanyoung Jung, Seonghoon Park, Hyungchol Jun, and Hojung Cha
Patent Pending, Patent Application No. 10-2024-0120347 (Republic of Korea; filed Sep. 04, 2024)
1. System and Operating Method for Cross-Device Experiences using In-Browser Virtual Proxy
Seonghoon Park, **Jeho Lee**, and Hojung Cha
Patent Pending, Patent Application No. 10-2024-0112156 (Republic of Korea; filed Aug. 21, 2024)

SKILLS

Programming: Python, C/C++, Java, JavaScript

Languages: English (Professional Working), Korean (Native)

Frameworks: Android, Qualcomm Neural Processing SDK (QNN), TensorRT, PyTorch, TensorFlow Lite, MMDetection3D, ROS, Node.js

Hardware Platforms: Qualcomm Snapdragon SoCs, NVIDIA Jetson SoCs

EXPERIENCE

CSIRO, Pulteney, Australia

Summer 2019

Undergraduate Research Intern – Data61 Robotics and Autonomous Systems Group

- Developed a real-time fish detection system using TensorFlow to monitor coral trout in fish tanks
- Trained and evaluated Faster R-CNN and SSD MobileNet models on a custom-labeled dataset; optimized configurations to reduce overfitting and improve mAP

TEACHING EXPERIENCE

Guest Lecturer, Yonsei University

Spring 2024

On-Device Intelligence for 3D Perception: Challenges and Innovations

Teaching Assistant, Yonsei University

Spring 2023

Operating Systems (CSI3101)

Teaching Assistant, Yonsei University

Fall 2022

Introduction to Computer Science (CSI2106)

MENTORING EXPERIENCE

Dasol Yoon, Master student at Yonsei Univ., working on an on-device AI project

2025 – Present

Jaehye Kim, Master student at Yonsei Univ., working on an on-device AI project

2025 – Present

Hyemin Jeong, Master student at Yonsei Univ., a MobiSys 2025 poster

2025 – Present

Gunjoong Kim, Master student at Yonsei Univ., a MobiSys 2025 paper

2024 – Present

Chanyoung Jung, Master student at Yonsei Univ., a MobiSys 2025 paper

2024 – Present

Chanyoung Jung, Undergraduate student at Yonsei Univ., a MobiCom 2024 paper

2022 – 2023

Software Capstone Design, Yonsei Univ.

Spring 2021, Fall 2021, Spring 2022, Spring 2023, Fall 2023

ACADEMIC SERVICES

Student Volunteer, MobiSys 2024