

Kyoungjun Park

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EDUCATION

The University of Texas at Austin (UT Austin)

Computer Science / Ph.D. degree

06.2022 –

Advisor: Lili Qiu

Korea Advanced Institute of Science and Technology (KAIST)

School of Computing / M.S. degree (Outstanding Thesis Award, 3.95 / 4.3)

03.2017 –

02.2019

Advisor: Myungchul Kim

Chung-Ang University

Computer Science Engineering / B.S. degree (Summa Cum Laude, 4.36 / 4.5)

03.2013 –

02.2017

Advisor: Sungrae Cho

RESEARCH INTERESTS

Generative AI, Multimodal LLM, Multimedia, Reinforcement Learning, and Next-generation Networking.

EMPLOYMENT

Amazon @ Seattle

Applied Scientist Intern

09.2025 –

12.2025

Microsoft Research Asia @ Shanghai

Research Intern

07.2022 –

08.2022

TmaxData Co., Ltd. @ South Korea

For military service (Technical Research Personnel)

02.2019 –

06.2022

Research Engineer & Team Leader (06.2021 – 06.2022)

AWARDS & HONORS

Best Research Award @ Tmax Group

1st place among the first-year research engineers at the Tmax group

01.2020

Outstanding Thesis Award @ KAIST's School of Computing

For a master's thesis titled "Environment-Aware Video Streaming Optimization of Power Consumption"

02.2019

The DLive Scholarship

\$3K support for the presentation of the international conference (IEEE INFOCOM)

01.2019

Qualcomm-KAIST Innovation Awards

\$5K research grant awarded by Qualcomm to challenging and creative science and engineering students

09.2018

Chung-Ang University Scholarship

Merit-based scholarships for seven semesters

09.2013 –

02.2017

PUBLICATIONS

BeyondVision: Augmenting Video Generation with Wireless Signals Beyond Visual Cues

Kyoungjun Park, Shicheng Zheng, Yifan Yang, Lili Qiu, Junbo Li

In Submission

Diffusion^2: Turning 3D Environments into RF Heatmaps

Kyoungjun Park, Yifan Yang, Changhan Ge, Lili Qiu, Shiqi Jiang

In Submission

Joint Optimization of Handoff and Video Rate in LEO Satellite Networks
 Kyoungjun Park, Zhiyuan He, Cheng Luo, Yi Xu, Lili Qiu, Changhan Ge, Muhammad Muaz
 IEEE International Conference on Computer Communications (INFOCOM) 2026

VidGuard-R1: AI-Generated Video Detection and Explanation via Reasoning MLLMs and RL
 Kyoungjun Park, Yifan Yang, Juheon Yi, Shicheng Zheng, Muhammad Muaz, Yifei Shen, Dongqi Han, Caihua Shan, Lili Qiu
 The Fourteenth International Conference on Learning Representations (ICLR) 2026

Real-Time Neural Video Recovery and Enhancement on Mobile Devices
 Zhaoyuan He, Yifan Yang, Lili Qiu, Kyoungjun Park, Yuqing Yang
 ACM International Conference on Emerging Networking Experiments and Technologies (CoNEXT) 2024

NeuSaver: Neural Adaptive Power Consumption Optimization for Mobile Video Streaming
 Kyoungjun Park, Myungchul Kim, Laihyuk Park
 IEEE Transactions on Mobile Computing (TMC) 2022

EVSO: Environment-aware Video Streaming Optimization of Power Consumption
 Kyoungjun Park, Myungchul Kim
 IEEE International Conference on Computer Communications (INFOCOM) 2019 (acceptance ratio = 19.7%, 288/1464)

Energy-Efficient Mobile Charging for Wireless Power Transfer in Internet of Things Networks
 Woongsoo Na, Junho Park, Cheol Lee, Kyoungjun Park, Joongheon Kim, Sungrae Cho
 IEEE Internet of Things Journal 2018

PATENTS

Method and apparatus of video streaming (Korean title: 비디오 스트리밍 방법 및 장치)
 Myungchul Kim, Kyoungjun Park
 South Korea, 10-2153801

09.2020 –

Services

Graduate Admissions Student Committee (Fall 2026)
 TA at UT Austin: [CS392E] Elems of Mobile Computing (Spring 2025), [CS356] Computer Networks (Fall 2024),
 [CS303E] Elems of Computers/Programming (Spring 2024), [CS378] Introduction to Human-Computer Interaction (Fall 2023),
 [CS331] Algorithms and Complexity (Spring 2023), [CS371M] Mobile Computing (Fall 2022)
 TA at KAIST: [CS360] Instruction to Database (Spring 2018), [CS408] Computer Science Project (Fall 2017)

RECENT PROJECTS

Real/Fake Video Discriminator

- Introduced the first multi-modal large language model (MLLM)-based video authenticity detector capable of delivering both highly accurate judgments and insightful reasoning.
- Fine-tuned Qwen-VL via Group Relative Policy Optimization (GRPO), incorporating two specialized reward models focused on temporal artifacts and generation complexity.

01.2025 – 06.2025

World Models with Signals

- Generated contextual-aligned video with various signals, i.e., lidar, radar, and Wi-Fi.
- Identified more effective scenarios when utilizing signal information than when using only video.

02.2024 – 12.2024

RF Signal Generation using Diffusion Methods

- Embedded both 2d room image and 3d features into the diffusion model using multi-scale design.
- Ablation studies comparing the result with the existing mmWave simulator that generates the heatmap of the signal strength using raytracing.

08.2023 – 02.2024

Optimized Decision of Handover and Bit Rate in LEO Satellite Networks

- The first exploration of video streaming in LEO satellite networks; it is important to design a handover strategy to explicitly consider video performance.
- Our algorithms include (i) model predictive control (MPC) based approach and (ii) reinforcement learning (RL) based approach, i.e., PPO.

06.2022 – 06.2023