

Kyoungjun Park

2317 Speedway, Austin, TX 78712

kjpark@cs.utexas.edu | <https://kyoungjunpark.github.io>

EDUCATION	
The University of Texas at Austin (UT Austin) <i>Computer Science / Ph.D. degree</i> <i>Advisor: Lili Qiu</i>	06.2022 –
Korea Advanced Institute of Science and Technology (KAIST) <i>School of Computing / M.S. degree (Outstanding Thesis Award, 3.95 / 4.3)</i> <i>Advisor: Myungchul Kim</i>	03.2017 – 02.2019
Chung-Ang University <i>Computer Science Engineering / B.S. degree (Summa Cum Laude, 4.36 / 4.5)</i> <i>Advisor: Sungrae Cho</i>	03.2013 – 02.2017
RESEARCH INTERESTS	
Mobile and Ubiquitous Computing, Multimedia, Reinforcement Learning, Generative AI, and Next-generation Networking.	
EMPLOYMENT	
Microsoft Research Asia @ Shanghai <i>Research Intern</i>	07.2022 – 08.2022
TmaxData Co., Ltd. @ South Korea <i>For military service (Technical Research Personnel)</i> <i>Research Engineer & Team Leader (06.2021 – 06.2022)</i>	02.2019 – 06.2022
AWARDS & HONORS	
Best Research Award @ Tmax Group <i>1st place among the first-year research engineers at the Tmax group</i>	01.2020
Outstanding Thesis Award @ KAIST's School of Computing <i>For a master's thesis titled "Environment-Aware Video Streaming Optimization of Power Consumption"</i>	02.2019
The DLive Scholarship <i>\$3K support for the presentation of the international conference (IEEE INFOCOM)</i>	01.2019
Qualcomm-KAIST Innovation Awards <i>\$5K research grant awarded by Qualcomm to challenging and creative science and engineering students</i>	09.2018
Chung-Ang University Scholarship <i>Merit-based scholarships for seven semesters</i>	09.2013 – 02.2017
PUBLICATIONS	
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 to analyze data (**Application filed in the USA & KR**)

Kyoungjun Park, Youngkwang Lee, Saemaro Moon, Changho Hwang

Method and apparatus of video streaming (Korean title: 비디오 스트리밍 방법 및 장치)

Myungchul Kim, Kyoungjun Park

South Korea, 10-2153801

09.2020 –

TEACHING EXPERIENCES

[CS356] Computer Networks @ UT Austin

Teaching Assistant

Fall 2024

[CS303E] Elms of Computers/Programming @ UT Austin

Teaching Assistant

Spring 2024

[CS378] Introduction to Human-Computer Interaction @ UT Austin

Teaching Assistant

Fall 2023

[CS331] Algorithms and Complexity @ UT Austin

Teaching Assistant

Spring 2023

[CS371M] Mobile Computing @ UT Austin

Teaching Assistant

Fall 2022

[CS360] Instruction to Database @ KAIST

Teaching Assistant

Spring 2018

[CS408] Computer Science Project @ KAIST

Teaching Assistant

Fall 2017

RECENT PROJECTS

World Models with Signals

- Generated more accurate video from stable video diffusion 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 –

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

Video Streaming Optimization using Reinforcement Learning

- Video analysis through various observations such as network traffic, and similarity between video frames when streaming videos
- Used the A3C technique for the training algorithm, which is the latest actor-critic method including two neural networks.

07.2018 –
01.2021