

Kyoungjun Park

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EDUCATION

The University of Texas at Austin (UT Austin)

Computer Science / Ph.D. degree

Advisor: Lili Qiu

06.2022 –

Korea Advanced Institute of Science and Technology (KAIST)

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

Advisor: Myungchul Kim

03.2017 –

02.2019

Chung-Ang University

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

Advisor: Sungrae Cho

03.2013 –

02.2017

RESEARCH INTERESTS

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

EMPLOYMENT

Microsoft Research Asia @ Shanghai

Research Intern

07.2022 –

08.2022

TmaxData Co., Ltd. @ South Korea

For military service (Technical Research Personnel)

Research Engineer & Team Leader (06.2021 – 06.2022)

02.2019 –

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

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] Elems 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

Real/Fake Video Discriminator

- Introduced VidGuard-R1, 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 on this dataset via Group Relative Policy Optimization (GRPO), incorporating two specialized reward models focused on temporal artifacts and generation complexity

01.2025 –

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