

TAEKYUNG KI

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RESEARCH INTERESTS

I am interested in generative models and their applications to creating real-world impact for human. My current research focuses on **controllable, interactive, and reliable video generation** toward the broader goal of **video-based world models**. My previous work spans human video generation, including audio-driven avatar generation for video dubbing [C2], diverse real-time controllability [C4], user-interactive head avatar generation [C6], NeRF-based parametric head reenactment [C3], and training-free methods for controllable and reliable video diffusion sampling [C5, P1].

EDUCATION

Ph.D. in Artificial Intelligence, KAIST

- Advisor: [Prof. Sung Ju Hwang](#)

Sep. 2025 - Present

Seoul, South Korea

M.S. in Mathematics, Yonsei University

- Thesis: Deep Scattering Transform with Max-pooling

Mar. 2019 - Feb. 2021

- Advisor: [Prof. Youngmi Hur](#)

Seoul, South Korea

B.S. in Mathematics, Kookmin University

- Ranked 1st in department of mathematics.

Mar. 2015 - Feb. 2019

- Advisor: [Prof. Won-Kwang Park](#)

Seoul, South Korea

PUBLICATIONS

*: Equal contribution / †: Corresponding author / C: Conference publication / P: Preprint

[P1] Self-Refining Video Sampling

[Sangwon Jang*](#), [Taekyung Ki*](#), Jaehyeong Jo*, Saining Xie, Jaehong Yoon†, and Sung Ju Hwang†
ArXiv 2026 (Under review)

[C6] Avatar Forcing: Real-Time Interactive Head Avatar Generation for Natural Conversation

[Taekyung Ki*](#), Sangwon Jang*, Jaehyeong Jo, Jaehong Yoon, and Sung Ju Hwang†
Conference on Computer Vision and Pattern Recognition (**CVPR**) 2026

[C5] Frame Guidance: Training-Free Guidance for Frame-Level Control in Video Diffusion Model

Sangwon Jang*, [Taekyung Ki*](#), Jaehyeong Jo, Jaehong Yoon, Soo Ye Kim, Zhe Lin, and Sung Ju Hwang†
International Conference on Learning Representations (**ICLR**) 2026

[C4] FLOAT: Generative Motion Latent Flow Matching for Audio-driven Talking Portrait

[Taekyung Ki](#), Dongchan Min, and Gyeongsu Chae

International Conference on Computer Vision (**ICCV**) 2025
Audio-Visual Generation & Learning Workshop at ICCV (**AVGenL @ ICCV**), 2025

[C3] Learning to Generate Conditional Tri-plane for 3D-aware Expression Controllable Portrait Animation

[Taekyung Ki](#), Dongchan Min, and Gyeongsu Chae

European Conference on Computer Vision (**ECCV**) 2024

[C2] **StyleLipSync: Style-based Personalized Lip-sync Video Generation**

Taekyung Ki* and Dongchan Min*

International Conference on Computer Vision (**ICCV**) 2023

[C1] **Deep Scattering Network with Max-pooling**

Taekyung Ki and Youngmi Hur[†]

IEEE Data Compression Conference (**DCC**) 2021

TALKS

Motion Latent Flow Matching for Real-time Audio-driven Talking Portrait

Aug. 2025

at [Pika Labs](#) (Host: [Chenlin Meng](#), CTO)

Remote

RESEARCH AND WORKING EXPERIENCE

KAIST

Mar. 2025 - Aug. 2025

Visiting Researcher

- MLAI, Research on video diffusion models (Advisor: Prof. Sung Ju Hwang)

DeepBrain AI Inc. (Alternative Military Service, South Korea)

Dec. 2023 - Mar. 2025

Research Scientist

- Developing novel frameworks for human video generation

AITRICS (Alternative Military Service, South Korea)

Mar. 2022 - Dec. 2023

Research Scientist

- Working with Prof. Sung Ju Hwang and Prof. Eunho Yang

- Developing novel frameworks for human video generation

JENTI Inc.

Feb. 2021 - Dec. 2021

Research Engineer

- OCR and NLP-based document analysis

Wavelets and Approximation Lab. at Yonsei University

Aug. 2019 - Feb. 2021

Graduate Student Researcher (Advisor: Prof. Youngmi Hur)

- Mathematical analysis on deep neural networks

Scientific Computing Lab. at Kookmin University

Mar. 2018 - Feb. 2019

Undergraduate Student Researcher (Advisor: Prof. Won-Kwang Park)

- Analysis (PDEs)

TEACHING

Teaching Assistant at Yonsei University

Mar. 2019 - Dec. 2020

Calculus 1-2, Linear algebra, Mathematics and biology, and Engineering mathematics (Vector calculus, Fourier analysis, Linear PDEs and statistics, etc.)

AWARDS AND SCHOLARSHIPS

1st Prize Winner at AI Grand Challenge 2021, Ministry of Science and ICT

Oct. 2021

BK 21 Scholarship, Department of Mathematics, Yonsei University

Sep. 2020 - Feb. 2021

Top Honors in Mathematics, Department of Mathematics, Kookmin University

Feb. 2019

Academic Scholarship, Department of Mathematics, Kookmin University

Sep. 2015 - Feb. 2019

ACADEMIC SERVICES

Conference Reviewer

Computer Vision and Pattern Recognition (CVPR)	2025 - 2026
International Conference on Computer Vision (ICCV)	2025 -
European Conference on Computer Vision (ECCV)	2026 -
British Machine Vision Conference (BMVC)	2026 -
Association for Computational Linguistics Rolling Review (ACL ARR)	2026 -

REFERENCES

Prof. Sung Ju Hwang Associate Professor, Graduate School of AI, KAIST
- E-mail: sungju.hwang@kaist.ac.kr

Prof. Youngmi Hur Full Professor, Department of Mathematics, Yonsei University
- E-mail: yhur@yonsei.ac.kr

Prof. Won-Kwang Park Full Professor, Department of Mathematics, Kookmin University
- E-mail: parkwk@kookmin.ac.kr