

TAEKYUNG KI

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RESEARCH INTERESTS

I am interested in generative models and their applications in computer vision. 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 [U1], NeRF-based parametric head reenactment [C3], and training-free methods for controllable and reliable sampling in video diffusion models [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

Seoul, South Korea

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

B.S. in Mathematics, Kookmin University

- Ranked 1st in department of mathematics.

Mar. 2015 - Feb. 2019

Seoul, South Korea

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

PUBLICATIONS

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

[U1] Avatar Forcing: Real-Time Interactive Head Avatar Generation for Natural Conversation

[Taekyung Ki*](#), Sangwon Jang*, Jaehyeong Jo, Jaehong Yoon, and Sung Ju Hwang†

Under review 2025

[P1] Frame Guidance: Training-Free Guidance for Frame-Level Control in Video Diffusion Models

Sangwon Jang*, [Taekyung Ki*](#), Jaehyeong Jo, Jaehong Yoon, Soo Ye Kim, Zhe Lin, and Sung Ju Hwang†

ArXiv 2025 (Under review)

[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

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

Aug. 2025
Remote

RESEARCH AND WORKING EXPERIENCE

MLAI Lab at KAIST

Mar. 2025 - Aug. 2025

Research Associate

- 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 Inc. (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

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