

TAEKYUNG KI

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RESEARCH INTERESTS

I am interested in generative models and their applications to computer vision. Currently, I am working **diffusion models**, **flow models**, and **one-step models** to develop **interactive video generation system**, e.g., conversational virtual avatar agent system. I am also interested in **foundation video generation models** and their applications, and **multimodal representation learning** including audio-visual, vision-language, and vision-language-action learning.

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

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

Mar. 2019 - Feb. 2021

Seoul, South Korea

B.S. in Mathematics, Kookmin University

- Ranked 1st in department of mathematics. Graduated with top honors.

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

Mar. 2015 - Feb. 2019

Seoul, South Korea

PUBLICATIONS

*: Equal contribution / †: Corresponding author

[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[†]

Under Review, ArXiv 2025

[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

FLOAT: Flow Matching for Audio-driven Talking Portrait Video Generation

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

Aug. 2025

Remote

RESEARCH AND WORKING EXPERIENCE

MLAI Lab at KAIST <i>Research Associate</i> - Research on video diffusion models (Advisor: Prof. Sung Ju Hwang)	<i>Mar. 2025 - Aug. 2025</i>
DeepBrainAI (Mandatory military service, South Korea) <i>Research Scientist</i> - Developing novel frameworks for human video generation	<i>Dec. 2023 - Mar. 2025</i>
AITRICS (Mandatory military service, South Korea) <i>Research Scientist</i> - Working with Prof. Sung Ju Hwang and Prof. Eunho Yang - Developing novel frameworks for human video generation	<i>Mar. 2022 - Dec. 2023</i>
JENTI <i>Research Engineer</i> - OCR and NLP-based document analysis	<i>Feb. 2021 - Dec. 2021</i>
Wavelets and Approximation Lab. at Yonsei University <i>Graduate Student Researcher</i> (Advisor: Prof. Youngmi Hur) - Mathematical analysis on deep neural networks	<i>Aug. 2019 - Feb. 2021</i>
Scientific Computing Lab. at Kookmin University <i>Undergraduate Student Researcher</i> (Advisor: Prof. Won-Kwang Park) - Analysis	<i>Mar. 2018 - Feb. 2019</i>

TEACHING

Teaching Assistant at Yonsei University Calculus 1-2, Linear algebra, Mathematics and biology, and Engineering mathematics (Vector calculus, Fourier analysis, Linear PDEs and statistics, etc.)	<i>Mar. 2019 - Dec. 2020</i>
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AWARDS AND SCHOLARSHIPS

1st Prize Winner at AI Grand Challenge 2021 , Ministry of Science and ICT	<i>Oct. 2021</i>
BK 21 Scholarship , Department of Mathematics, Yonsei University	<i>Sep. 2020 - Feb. 2021</i>
Top Honors in Mathematics , Department of Mathematics, Kookmin University	<i>Feb. 2019</i>
Academic Scholarship , Department of Mathematics, Kookmin University	<i>Sep. 2015 - Feb. 2019</i>

ACADEMIC SERVICES

Conference Reviewer - International Conference on Computer Vision (ICCV) - Computer Vision and Pattern Recognition (CVPR)	<i>2025</i> <i>2025</i>
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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