

# TAEKYUNG KI

Homepage | [Google Scholar](#) | [GitHub](#) | [LinkedIn](#) | E-mail: [taekyung.ki@kaist.ac.kr](mailto:taekyung.ki@kaist.ac.kr)

## RESEARCH INTERESTS

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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

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**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 1<sup>st</sup> in department of mathematics. Graduated with top honors.

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

*Mar. 2015 - Feb. 2019*

Seoul, South Korea

## PUBLICATIONS

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\*: 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<sup>†</sup>

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<sup>†</sup>

IEEE Data Compression Conference (DCC) 2021

## TALKS

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**FLOAT: Flow Matching for Audio-driven Talking Portrait Video Generation**  
at Pika Labs (Host: [Chenlin Meng](#), CTO)

Remote  
Aug. 2025

## RESEARCH AND WORKING EXPERIENCE

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### MLAI Lab at KAIST

Mar. 2025 - Aug. 2025

Research Associate

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

### DeepBrainAI (Mandatory military service, South Korea)

Dec. 2023 - Mar. 2025

Research Scientist

- Developing novel frameworks for human video generation

### AITRICS (Mandatory military service, South Korea)

Mar. 2022 - Dec. 2023

Research Scientist

- Working with [Prof. Eunho Yang](#) and Prof. Sung Ju Hwang

- Developing novel frameworks for human video generation

### JENTI

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

## TEACHING

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### 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

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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

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### Conference Reviewer

- International Conference on Computer Vision (ICCV)

2025

- Computer Vision and Pattern Recognition (CVPR)

2025

## REFERENCES

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**Prof. Sung Ju Hwang** Associate Professor, Graduate School of AI, KAIST

- E-mail: sungju.hwang@kaist.ac.kr

**Prof. Eunho Yang** Associate Professor, Graduate School of AI, KAIST

- E-mail: eunhoy@kaist.ac.kr

**Prof. Youngmi Hur** Full Professor, Department of Mathematics, Yonsei University

- E-mail: yhur@yonsei.ac.kr

**Won-Kwang Park** Full Professor, Department of Mathematics, Kookmin University

- E-mail: parkkw@kookmin.ac.kr