

# JAEKWON IM

Ph.D. candidate @ Music and Audio Computing Lab, KAIST

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[Homepage](#) | [Google Scholar](#)

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I am a Ph.D. candidate at KAIST (Music and Audio Computing Lab) advised by Professor Juhan Nam. My research focuses on improving the quality, efficiency, and controllability of generative models for audio generation and processing. I am passionate about developing audio generative models that achieve high perceptual quality in real-world scenarios, and I have worked on tasks such as video-to-audio generation, audio super-resolution, and acoustic transfer. Previously, I co-founded AudAI, where I contributed to the development of singing voice synthesis, voice conversion, and neural vocoder.

## RESEARCH INTERESTS

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Audio Generation, Multimodal Learning, Audio Enhancement, Music Information Retrieval

## PUBLICATIONS

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### SAGA-SR: Semantically and Acoustically Guided Audio Super-Resolution

Jaekwon Im and Juhan Nam

Under review (ICASSP 2026)

### Video-Foley: Two-Stage Video-To-Sound Generation via Temporal Event Condition for Foley Sound

Junwon Lee, Jaekwon Im, Dabin Kim, Juhan Nam

IEEE/ACM Transactions on Audio, Speech and Language Processing (TASLP), 2025

### FlashSR: One-step Versatile Audio Super-resolution via Diffusion Distillation

Jaekwon Im and Juhan Nam

Proceedings of the IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP), 2025

### DIFFRENT: A Diffusion Model for Recording Environment Transfer of Speech

Jaekwon Im and Juhan Nam

Proceedings of the IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP), 2024

### Foley Sound Synthesis at the DCASE 2023 Challenge

Keunwoo Choi\*, Jaekwon Im\*, Laurie M. Heller\*, Brian McFee, Keisuke Imoto, Yuki Okamoto, Mathieu Lagrange, Shinnosuke Takamichi (\* equal contribution)

Proceedings of the 8th Workshop on Detection and Classification of Acoustic Scenes and Events (DCASE), 2023

### Neural Vocoder Feature Estimation for Dry Singing Voice Separation

Jaekwon Im, Soonbeom Choi, Sangeon Yong, Juhan Nam

Proceedings of the 14th Asia Pacific Signal and Information Processing Association Annual Summit and Conference (APSIPA), 2022

## EDUCATION

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### Korea Advanced Institute of Science and Technology (KAIST)

2022 - present

Ph.D. candidate in Graduate School of Culture Technology

Music and Audio Computing Lab (Advisor: Juhan Nam)

### Korea Advanced Institute of Science and Technology (KAIST)

2020 - 2022

M.S in Graduate School of Culture Technology

Music and Audio Computing Lab (Advisor: Juhan Nam)

### Chungnam National University

2013 - 2020

B.S. in Computer Science & Engineering

## EXPERIENCE

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<b>Sony CSL</b> , Tokyo, Japan (Remote)	Jul 2025 - Sep 2025
Research Collaborator	
◦ Research on video-to-audio/music generation	
<b>AudAi</b> , Seoul, South Korea	May 2023 - Jul 2025
Co-founder & AI / SW Engineer	
◦ Contributed to the research and development of <a href="#">VOX Factory</a> , an online singing voice synthesizer	
◦ AI: neural vocoder, singing voice synthesis/conversion — Frontend: SolidJS	
<b>DCASE 2023</b>	Dec 2022 - Jun 2023
Organizer of Challenge task 7 (Foley Sound Synthesis)	
◦ Prepared baseline model and training dataset	
◦ Developed submission template, and co-managed the challenge pipeline	
<b>Gaudio lab</b> , Seoul, South Korea (Remote)	Nov 2022 - Feb 2023
Internship in AI group	
◦ Proposed and co-organized the DCASE 2023 Foley Sound Synthesis Challenge	
<b>ETRI</b> , Daejeon, South Korea	Jul 2019 - Aug 2019
Internship in Autonomous Driving Intelligence Research department	
<b>Purdue University</b> , Indiana, United States	Jan 2019 - Mar 2019
CNU Global SW Track Program	

## ADVISING, TEACHING & SERVICE

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- Reviewer, TASLP, ICASSP
- TA, GCT634 Musical Applications of Machine Learning (Mar 2024 - Jun 2024)
- TA, CTP431 Fundamentals of Computer Music (Sep 2023 - Dec 2023)
- TA, GCT731 Topics in Music Technology<Generative AI for Music> (Mar 2023 - Jun 2023)
- Mentor, Daejeon Science High School Research & Education (Mar 2022 - Dec 2022)
- TA, GCT634 Musical Applications of Machine Learning, KAIST (Sep 2022 - Dec 2022)
- TA, GCT535 Sound Technology for Multimedia, KAIST (Mar 2022 - Jun 2022)

## AWARDS

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- KAIST Lab Startup 2nd Place Excellence Prize (2022)
- E\*5 KAIST Final Development Award (2021)
- Korea Computer Congress (KCC) 2019 encouragement award (2019)
- CNU ‘Thinking Programming Competition’ first prize (2019)

## LANGUAGES & SKILL & INTERESTS

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- English(fluent), Korean(native)
- Python (Pytorch), Solid.js, React.js, HTML/CSS, C++, Java
- Music producing