

# JAEKWON IM

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

jakeoneijk@kaist.ac.kr

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

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I am a Ph.D. candidate at KAIST, under the supervision of Professor Juhan Nam. My research focuses on advancing the quality and efficiency of **generative models for audio generation and processing**, with a particular emphasis on audio restoration and acoustic transfer. Previously, I was the co-founder and an AI/SW Engineer at AudAI, where I contributed to developing advanced voice synthesis technologies, including voice conversion and singing voice synthesis modules.

## RESEARCH INTEREST

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Audio Generation, Audio Restoration, Music Information Retrieval

## PUBLICATIONS

### **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

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

Junwon Lee, **Jaekwon Im**, Dabin Kim, Juhan Nam

arXiv preprint, 2024

## EDUCATION

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

2022 - present

Ph.D Student 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

### **AudAi**, South Korea

May 2023 - Jul 2025

Co-founder & AI / SW Engineer

o Contributed to the research and development of [VOX Factory](#), an online singing voice synthesizer

o 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> , Remote Internship in AI group	Nov 2022 - Feb 2023
◦ Proposed and co-organized the DCASE 2023 Foley Sound Synthesis Challenge	
<b>ETRI</b> , Daejeon, South Korea Internship in Autonomous Driving Intelligence Research department	Jul 2019 - Aug 2019
<b>Purdue University</b> , Indiana, United States CNU Global SW Track Program	Jan 2019 - Mar 2019

## 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