

# JAEKWON IM

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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 audio acoustics 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, Source Separation, Music Informational 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 Detection and Classification of Acoustic Scenes and Events 2023 Workshop (DCASE2023)

### 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

### 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

May 2023 - Jun 2025

South Korea

Co-founder & AI / SW Engineer

### DCASE 2023

Dec 2022 - Jun 2023

Organizer of Challenge task 7 (Foley Sound Synthesis)

### Gaudio lab

Nov 2022 - Feb 2023

Remote

Internship in AI group

**Electronics and Telecommunications Research Institute (ETRI)**

Jul 2019 - Aug 2019

Daejeon, South Korea

Internship in Autonomous Driving Intelligence Research department

**Purdue University**

Jan 2019 - Mar 2019

Indiana, United States

CNU Global SW Track Program

**ADVISING & TEACHING ACTIVITY**

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- 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