JAEKWON IM

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Homepage | Google Scholar

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 enhancement 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

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

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 (expected end date)
Co-founder & AI / SW Engineer
- Contributed to the research and development of VOX Factory, an online singing voice synthesizer
- AI: neural vocoder, singing voice synthesis/conversion — Frontend: SolidJS

DCASE 2023 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

Gaudio lab, Remote Nov 2022 - Feb 2023
Internship in AI group
○ Proposed and co-organized the DCASE 2023 Foley Sound Synthesis Challenge

ETRI, Daejeon, South Korea Jul 2019 - Aug 2019
Internship in Autonomous Driving Intelligence Research department

Purdue University, Indiana, United States Jan 2019 - Mar 2019
CNU Global SW Track Program

ADVISING, TEACHING & SERVICE

- 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

- 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

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