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. In addition to my academic work, I am the co-founder and an AI/SW Engineer at AudAI, where I contribute to developing advanced voice synthesis technologies, including voice conversion and singing voice synthesis modules.

RESEARCH INTEREST

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 Jun 2023 - present
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

- 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